The First Thesis about Cupping submitted for M.SC. Degree in

Medical Microbiology & Immunology

The Great Missing Therapy

By
Dr. Sahbaa M. Bondok

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Cupping

The Great Missing Therapy

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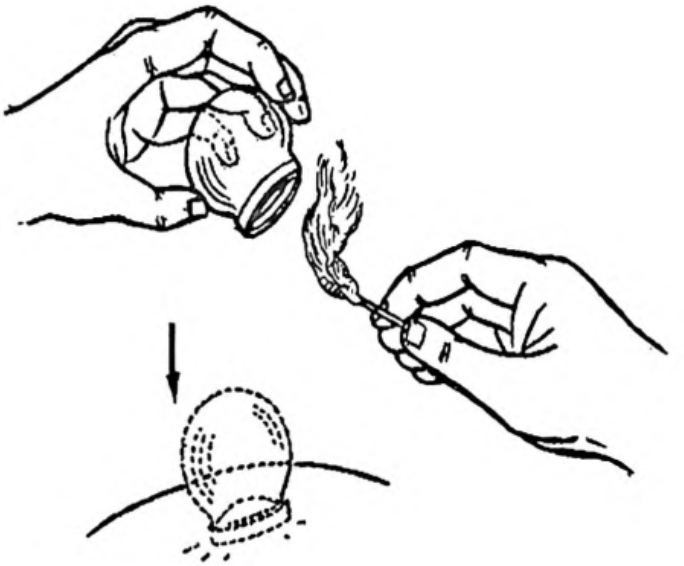

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In the Name of Allāh,
the Most Gracious, the Most Merciful

﴿ ٱلْحَمْدُ لِلَّهِ ٱلَّذِى هَدَىٰنَا لِهَٰذَا وَمَا كُنَّا لِنَهْتَدِىَ لَوْلَآ أَنْ هَدَىٰنَا ٱللَّهُ ﴾

"All the praises and thanks are Allāh's, Who has guided us to this, and never could we have found guidance, were it not that Allāh had guided us!" [Al-A'rāf 7: 43]

Dedication

To the moon who lighted up my life, my beloved teacher Muhammad ﷺ[1], who inspired me to search and study "Cupping", the project I had been working on for approximately four years.

To my dear parents, my most devoted teachers, who had unfailingly supported me at all times, and had never lost their patience with me. My words stand short of my supreme gratitude and thanks to both of you.

To my beloved husband, who has added many new dimensions to my life and suffered a lot during the preparation of this work, your precious time and effort, your continuous support and encouragement made it possible for me to fulfill this work.

To all the brothers and sisters who are proud of being part of the eternal message of Muhammad. The seal of the prophets, and Allāh's[2] Messenger to all mankind.

Dr. Sahbaa M. Bondok

Cairo, 2006

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[1] ﷺ: Peace and blessings of Allāh be upon him. In Arabic "*Sallallahu 'alaihi wa Sallam*".

[2] Allāh: The name of the One and only God, the Creator, Who is perfect in all Characteristics, worthy of worship and Who has sent the prophets.

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List of Abbreviation

- **ACR:** American College of Rheumatology.
- **ACTH:** Adrenocorticotrophic Hormone [corticotropin].
- **AD:** Stands for Anno Domini, which is Latin for "year of our Lord," and it means the number of years since the birth of Jesus Christ.
- **ADCC:** Antigen Dependent Cell- mediated Cytotoxicity.
- **AIDS:** Acquired Immunodeficiency Syndrome.
- **APC:** Antigen Presenting Cell.
- **BC:** Before Christ: No. of years before the birth of Jesus Christ peace be upon him.
- **β-endorphin:** Beta Endorphin.
- **BLC:** Bloodletting Cupping.
- **CAM:** Complementary and Alternative Medicine.
- **CD:** Cluster of Differentiation.
- **CFIDS:** Chronic Fatigue Immune Deficiency Syndrome.
- **CFS:** Chronic Fatigue Syndrome.
- **CRF:** Corticotrophin-Releasing Factor.
- **CRP:** C-Reactive Protein.
- **DAS:** Disease Activity Score.
- **DIP:** Distal Interphalangeal Joints.
- **DMARD:** Disease Modifying Antirheumatic Drug.
- **DNA:** Deoxyribonucleic Acid.
- **EAP:** Electro–Acupuncture.
- **ELISA:** Enzyme Linked Immuno Sorbent Assay.
- **ESR:** Erythrocyte Sedimentation Rate.
- **EULAR:** European Leagues Against Rheumatism.

- **Hb:** Haemoglobulin.
- **HIV:** Human Immunodeficiency Virus.
- **HsIL-2R:** Human soluble interluken-2 Receptor.
- **Ig:** Immunoglobulin.
- **IgG:** Immunoglobulin G.
- **IgM:** Immunoglobulin M.
- **IL:** Interleukin.
- **IL-2Rα:** Interleukin-2 receptor alpha chain.
- **MCP:** Metacarpophalangeal.
- **MHC:** Major Histocompatibility Complex.
- **MOAB:** Monoclonal antibody.
- **MS:** Multiple Sclerosis.
- **MTX:** Methotrexate.
- **NK cell:** Natural Killer cell.
- **NKA:** Natural Killer Activity.
- **NSAIDs:** Non-Steroidal Anti-Inflammatory Drugs.
- **NLM:** National Library Museum.
- **PBMC:** Peripheral Blood Mononuclear Cell.
- **PC:** Platelet Count.
- **PCR:** Polymerase Chain Reaction.
- **PGA:** Patient's Global Assessment [of disease or health].
- **PGE2:** Prostaglandin-E2.
- **PIP:** Proximal Interphalangeal.
- **PMN:** Polymorphonuclear Neutrophils.
- **RA:** Rheumatoid Arthritis.

- **RCC:** Red Cell Count.
- **RF:** Rheumatoid Factor.
- **SIL-2R:** Soluble Interleukin Receptor.
- **SF:** Synovial Fluids.
- **SJC:** Swollen Joint Count.
- **SLE:** Systemic Lupus Erythematosus.
- **TCGF:** T Cell Growth Factor.
- **TLC:** Total Leucocytic Count.
- **TCM:** Traditional Chinese Medicine.
- **TCR:** T Cell Receptor.
- T_{H1}: T-Helper1-.
- T_{H2}: T Helper2-.
- **TJC:** Tender Joint Count.
- **TL:** T Lymphocytes.
- **TNF:** Tumor Necrosis Factors.
- **TNF-a:** Tumor Necrosis Factor-alfa.
- **TPs:** Trigger Points.
- **U.K.:** United Kingdom.
- **U.S.A:** United States of America.
- **UTI:** Urinary Tract Infections.
- **VAS:** Visual Analogue Scale.
- **WHO:** World Health Organization.

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First and foremost I feel always indebted to Allāh the Most Compassionate, The Most Merciful, to Whom I relate any success in achieving any work in my life.

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Most of all, I owe my warmest thanks to my husband; **Dr. Muhammad Aref,** the time spent on this thesis has been time taken away from him. His kindness and honest encouragement made this work possible. My sincere thanks are also due to my parent, **Muhammad Bondok** and **Najah Salama** for their continuous encouragement & support during the years of this work.

In Allāh's Hands are all means of success. Praise be to Allāh, the Lord of the Worlds and Peace be upon the Master of the Apostles Muḥammad, his family, companions, and those who followed them with diligence up to the Day of Judgment.

Dr. Sahbaa M. Bondok

Cairo; January 2006

Preface

Faith and Science; the Ultimate Integration

All praise be to Allāh the Lord of the Worlds, the Living, the Absolute, Whom prophet Ibrāhīm described:

﴿وَإِذَا مَرِضْتُ فَهُوَ يَشْفِينِ ۝٨٠﴾

"And when I am ill, it is He who cures me." [Ash-Shu'ara' 26: 80] and Who sent down the diseases as well as their remedies in order to teach people to seek knowledge and to place their confidence in His Superior.

Prayers and peace be upon our Master & teacher Muhammad ﷺ, His Servant & Messenger, and upon his family, companions and followers.

One of the therapies that became increasingly available to the public is cupping [*Hijama* Therapy]. A treatment that stimulates specific points on the body by creating a vacuum in a suction cup placed at various points on the body leading to an increase in the flow of blood in the area. This is thought to draw out "harmful" excess blood from diseased tissues nearby and so promote healing

When cupping is combined with bloodletting this is called "bloodletting cupping therapy" [BCT] or "wet cupping". In BCT the skin is previously scarified, so that blood would actually flow into the cup and could be removed.

Although cupping is an ancient art of healing, it is still being practiced in many rural areas exactly as it was practiced thousands of years ago. It is just now gaining publicity in the western world and United States. What will really surprise you is the fact that cupping is one of the most famous medical prophetic recommendations!!

This book is an in-depth study of the medical importance of these greatly missing prophetic recommendations, which has been found to be in perfect accord with modern medical science. It identifies and treats the basic tenets of this true faith in the light of current knowledge. It is written for both the general and the specialized reader.

blood cells and boosting the body's natural immunity by increasing number of natural killer [NK] cells, the elite troops of the innate immune system and its most aggressive soldiers which fight infections and attack tumors.

Clinically, the study has demonstrated a definite therapeutic effect of cupping. Patients with rheumatoid arthritis [RA] responded more effectively to combine cupping and conventional treatment compared with conventional treatment alone.

Therefore, modern scientific knowledge therefore allows us [as indicated in my present work in this book] to understand certain "*aḥadīth*" in the light of science, which until recently, has been impossible to interpret. This proves that the Messenger of Allāh Muḥammad ﷺ hasn't talked, being inspired by his feelings, as this was only a revelation sent down called "the Holy *Sunnah*".

The presence of scientific statements in the Holy *Sunnah* represents a permanent challenge to all disbelievers. You cannot find a single error in the *Sunnah* and you have to ask yourself; if a man was the author of "*aḥadīth*" quoted above how could he have said facts in the seventh century A.D. that today are shown to be in keeping with modern scientific knowledge?

He was neither a physician nor a scientist, he was an illiterate, envoy who received and transmitted the Message. Allāh Most High says in the Qur'ān:

﴿ وَمَا كُنتَ تَتْلُوا۟ مِن قَبْلِهِۦ مِن كِتَٰبٍ وَلَا تَخُطُّهُۥ بِيَمِينِكَ ۖ إِذًا لَّٱرْتَابَ ٱلْمُبْطِلُونَ ﴿٤٨﴾
بَلْ هُوَ ءَايَٰتٌۢ بَيِّنَٰتٌ فِى صُدُورِ ٱلَّذِينَ أُوتُوا۟ ٱلْعِلْمَ ۚ وَمَا يَجْحَدُ بِـَٔايَٰتِنَآ إِلَّا
ٱلظَّٰلِمُونَ ﴿٤٩﴾ ﴾

"Neither did you [O Muḥammad ﷺ] read any book before it [this Qur'ān], nor did you write any book [whatsoever] with your right hand. In that case, indeed, the followers of falsehood might have doubted. Nay, but they, the clear Ayāt [i.e. proofs, evidences, verses, lessons, signs, revelations, etc] are preserved in the breasts of those

who have been given knowledge. And none but the Zālimūn [polytheists and wrongdoers] deny Our Ayāt" [Al-'Ankabūt 29: 48-49]

Therefore, I invite my readers to enjoy the spiritual and scientific aspects of this book.

I would be pleased if you would write and let me know that my effort was not in vain. I shall pray that Allāh may realize my hope, show us the Straight Path, and reveal to us the secrets of the holy *Sunnah*, in which the guidance is sure without doubt to those who fear Allāh, believe in the Revelation sent to Prophet Muḥammad ﷺ and in their hearts have the assurance of the Hereafter, those who will prosper. May we be among those who believe and take heed.

I ask Allāh to help us to follow the *Sunnah*. May Allāh bless our Prophet Muḥammad ﷺ.

O Allāh! Forgive us if we come to forget or commit errors. Consolidate our steps on the straight path and receive us with your mercy. Amen

Praise be to Allāh, this is our last invocation.

Dr. Sahbaa M. Bondok

Cairo, 2006

Chapter 1

Meanings & Definitions

Cupping is an ancient treatment that stimulates specific points on the body by creating a vacuum in a suction cup placed at various points on the body leading to an increase in the flow of blood in the area. Cupping is a therapy in its own right, but it has been combined with bloodletting. This section provides a closer look at the definition and meaning of both "cupping" and "bloodletting" terms, then briefly describes the other forms of cupping, and other methods of bloodletting.

Meanings & Definitions

Before describing a basic approach to cupping therapy, it is worthwhile to take a closer look at the definition and meaning of both "cupping" and "bloodletting" terms, then briefly describe the other forms of cupping, and other methods of bloodletting.

I. What Is Cupping?

Cupping is an ancient treatment in which evacuated cups are applied to intact or scarified skin in order to draw blood toward or through the skin surface. It was used for disorders associated with an excess of blood, one of the four humors of medieval physiology. [1]

A partial vacuum is created in the cup placed on the skin by either applying a heated cup to the skin allowing it to cool [**Fire Cupping**], or by applying a suction device [**Suction Cupping**][2]. The name "cupping" is referred to using the cup as a tool for therapeutic purposes.

Fig [1]: Fire Cupping

Fig [2]: Suction Cupping

Cupping practitioner may use a cup made of glass, metal, or wood [notably bamboo] and burn alcohol, alcohol-soaked cotton, wool, herbs, paper, or a taper therein. Before or after the burning is complete, the practitioner applies the cup upside- down to a relatively flat body surface and leaves it in this position for five to ten minutes.

Cupping also has several forms, the above description relates to the fire cupping method, also called "**Traditional Cupping**". Other forms

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[1] The American Heritage Dictionary, 3rd edition 1993.

[2] Martin E A: Oxford Concise Medical Dictionary, Oxford University Press, New York, 2002, p. 170.

of cupping include the air pumping method, in which the air inside the cups is pumped either manually or by means of a machine [a suction device] for creation of a vacuum.

1. Wet or Dry?

Cupping may be wet or dry. **Dry Cupping** is the application of a suction cup over an area of intact skin. The cups are applied to the skin with heat from a flame to make a vacuum in the cup or by any other method to create negative pressure. The idea is to draw underlying blood and fluid to the surface of the skin, away from the area of inflammation. This method relieved the congestion from the inflamed area, but did not remove fluid from the body. No cut [incision] is made in dry cupping.

When cupping is combined with bloodletting this is called "**Wet Cupping**". In wet cupping, the skin is previously incised, with a special lancet at selected points or sites followed by applying cups over the sites that were cut, so that blood would actually flow into the cup and could be removed.

Wet Cupping is also called "**Cupping & Letting Therapy**" or "**Bloodletting Cupping**" [BLC]. More details about BLC will be discussed latter.

> Dry cupping involves using suction to move blood away from the inflammatory site without an incision. Alternatively, wet cupping referrers to the pricking or incising of the skin followed by suction to enhance bleeding [i.e. for the purpose of releasing blood].

2. Virtues of Cupping

Results of cupping include erythema [reddening of the skin due to capillary expansion], edema [excessive fluid accumulation in tissue spaces], and ecchymoses [purple discoloration of the skin due to rupture of blood vessels].

Cupping is the best deep tissue massage available. It has been found to affect the body up to four inches into the tissues, when the cup is left in place on the skin for a few minutes, it draws up the un-

derlying tissues causing superficial local congestion and localized healing takes place through allowing tissues to release toxins, activate the lymphatic system, veins, arteries and capillaries.

Fig [3]: The Power of the Suction cup

This technique is said to promote blood circulation, remove stasis, and alleviate swelling and pain. It is employed for a variety of acute ailments and is favored for treatment of arthralgia. It was widespread throughout the whole of Europe and Asia as well as China and also in the Islamic societies where cupping therapy was and still a socially acceptable practice used as a remedy and supported by religious beliefs.

3. Other Names for Cupping

The many forms of practice and schools of thought from various cultures and individuals have given rise to the different terms of cupping. By textual investigation, considerable clear recognition can be reached on the names, cupping instruments, cupping measure, indications and contradictions in different historical stages. Cupping was originally called "**Horn therapy**" in ancient China, but variations of it have been used in Turkey, Greece, France, Italy, and Eastern Europe. There were also many other names for cupping Therapy such as "**Horning**", "**Needle Horn**", "**Sucking Method**", "**Fire- Cupping**", "**Boiling Bamboo Cylinder.**" cupping is also known as "**The Therapy with Sucker**", "**Suction Tube Treatment**" or "**Blood- Stasis Treatment.**"[1]

The Arabs called cupping treatment "*Al- Hijama*", The Arabic word

[1] Jin C, Guangqi Z [1989]: A Survey for Thirty Years Clinical Application of Cupping, Journal of Traditional Chinese Medicine 9 [2]: 151-154.

"*hijama*" means "sucking". It comes from the Arabic root "*Al-hajm*", which means "sucking", and is used for the action of draining the breast when an infant is sucking his mother's breast, as in the Arabic phrase [*hajama al- sabiy thadya ummihi*].[1] "*Al- hajjaam*" is the name given to the cupper, and "*hijama*" is the name given to the profession of cupping. The word "*Al- mihjam*" is the name given to the tool or the vessel in which blood is collected, or to the lancet used by the cupper.[2]

In conclusion, "*hijama*" refers to the extraction of blood from the body by means of cupping using a suitable vessel or whatever modern equipment serves the same purpose.

II. What Is Bloodletting?

Bloodletting is the process of removing blood from the body; over the centuries, most medical practitioners believed that removing blood from the human body served a significant therapeutic function in combating a wide range of diseases and conditions.

The art of bloodletting was flourishing well before **Hippocrates** in the fifth century B.C.[3] [460-377 BC] based on the concept of humoral pathology in former centuries bloodletting was used as remedy to great extent, systematically by puncturing a vein or by scarification and cupping glasses.

By the Middle Ages, both surgeons and barbers were specializing in this bloody practice. Barbers advertised with a red [for blood] and white [for tourniquet] striped pole. The pole itself represented the stick squeezed by the patient to dilate the veins

In the Middle Ages, hair was not the only thing that barbers cut. They also performed surgery, tooth extractions, and bloodletting. Rows of patients were often bled at the same time in special "bleeding houses."[4]

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[1] Al- Fayruz Abady [1998]: *Al- Quamos Al-Moheet*, Dar Al- Resala.
[2] Ibn- Manzoor [1994]: *Lisaan al- 'Arab*; Dar Al- Fikr.
[3] Before Christ: No. of years before the birth of Jesus Christ peace be upon him.
[4] Newman A.: The Illustrated History of Medical Curiosa. New York: McGraw- Hill, 1988: 43-48.

1. Types of Bloodletting

Bloodletting can be listed under the following headings:

a. General Bloodletting
   - Venous [Venesection / Phlebotomy].
   - Arterial [Arteriotomy].

b. Local [cutaneous] Bloodletting
   - Leeches [a type of worm with suckers, used for bloodletting]
   - Scarification [cuts without cup application].
   - Scarification followed by cup application [wet cupping].

2. General Bloodletting

Bloodletting is said to be general when blood is taken using a lance on a vein, often in the leg [i.e. Venesection/ phlebotomy] or on an artery [i.e. Arteriotomy]. Unfortunately, in their already weakened state, many patients simply died from the loss of blood. The first U.S. president, **George Washington**, died from a throat infection in 1799 after being drained of nine pints of blood within 24 hours. The draining of 16-30 ounces [one to four pints] of blood was typical.

Blood was caught in shallow bowls. When the patient became faint, the "treatment" was stopped. Bleeding was often encouraged over large areas of the body by multiple incisions. By the end of the 19th century [1875-1900], phlebotomy was declared quackery.[1]

Fig [4]: The Practice of Bloodletting in the Middle Ages [2]

[1] The data above is based on *Antique Medical Instuments* by C. Keith Wilbur, M.D. [1987]. For more details, see Bloodletting Instruments by A. Davis and T. Appel [1983].
[2] A. Davis and T. Appel [1983]: Bloodletting Instruments.

Venesection or phlebotomy *"Al- Fasid"* in Arabic was flourishing in the Middle Ages in Europe, performed by barbers as well as physicians. One reminder of its importance is the barber's red and white pole. The red advertised the bloodletting, and the white represented the tourniquet to stem, or encourage the bleeding.

The major fields of Arab traditional medicine are Herbal, Cautery, and Bloodletting either general i.e. *Fasid* or local i.e. *Hijama.*

Fasid, which is phlebotomy or venesection, is rarely practiced nowadays in the Arabic countries, but *Hijama*, which is the sucking of blood by cupping, is still practiced since Prophet Muhammed ﷺ had approved the use of *Hijama* as a therapeutic measure. Islamic books state that the Prophet Muhammed ﷺ had stated that there are three methods to cure illness: "a drink of honey, a scratch of cupping [*hijama*] and cautery [*keyy*]." But he was not too keen on the last one.

Fig [5]: Venesection or Phlebotomy "*Al- Fasid*" in Arabic

3. Local Bloodletting

For **local** bloodletting, **leeching** [applying a type of bloodsucker worms or leeches to the patient's skin], and **cupping** have been the most widely used techniques. Slow bleeding with leeches, for example, was recommended for headaches and bruises. From leeches, useful anti-clotting agents were eventually isolated.

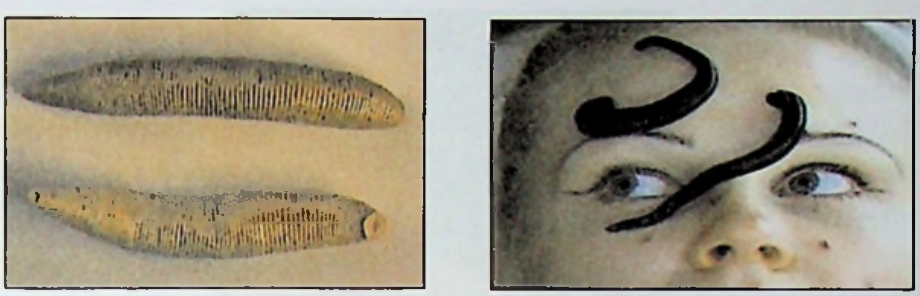

Fig |6|: Leeches [bloodsuckers]

Bloodletting was referred also to **scarification** "lancing", which is the process of making numerous crisscrossing shallow cuts in the skin to let blood ooze out. This method was used for larger swellings and as a counter- irritant.

Fig |7|: Scarification

Scarification may be aided with the application of a cup over the scarified area. **Davis and Appel** reported that during the 17th to 19th centuries, blood was also captured in small flint glass cups. Heated air inside the cups created a vacuum causing blood to flow into the cup - a handy technique for drawing blood from a localized area. This practice was called **"wet cupping"**.[1]

More recently, **Lawrence** had added: "Sometimes the doctors cupped the scarified area: holding a glass or cup upside down, the practitioner burnt a candle or bit of lint inside it to create a space with low air pressure, and then quickly applied the cup to the cut skin. The cup then "drew" the blood out of the surface".[2]

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[1] A. Davis and T. Appel [1983]: Bloodletting Instruments.

[2] Lawrence S C [2003]: Two Millennia of Bloodletting: Part I. D The Debate Over Therapeutic Value; Medical Crossfire, vol. 5, no. 8; p: 23-26.

Fig [8]: Scarification aided with Cupping
[Wet Cupping]

Like its cotemporary treatment of bleeding by the use of leeches, wet cupping works by drawing blood out of the area and thereby causing a movement in the blood, which will relieve stagnation and congestion. This was thought to draw out harmful excess blood from diseased organs nearby and so promote healing and treating certain diseases.

Hence, wet cupping could be considered as another method for drawing blood giving both beneficial bloodletting and cupping effects. This technique is good when cupping would seem useful and when signs of blood stasis, are also present.

The following quotation comes from the Dictionary of Practical Surgery of 1886:

"Bloodletting is said to be general when blood is taken from a vein or an artery so that the amount in the vascular system is materially diminished as shown by diminution on the tension of the blood vessels. It is termed local when, by means of leeches, cupping, or scarification, blood is taken in smaller quantities, with a view of relieving limited congestion and vascular tension. It may be safely said that in these two methods the surgeon possesses the means of treating, in a powerful and beneficial manner, those acute inflammations and engorgements of certain important organs and serous membranes associated with hard pulse, great pain, and distress occurring from injury in persons of healthy constitutions."[1]

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[1] Heath C [1886]: Dictionary of Practical Surgery, London, Smith, Elder, and Company, p: 162.

III. The Old Philosophical System of Cupping & Letting

The medical practices of "cupping" and "bloodletting" seemed logical when the foundation of all medical treatment was based on the four body humors: blood, phlegm, yellow bile, and black bile. Health was thought to be restored by purging, starving, vomiting or bloodletting.

It is easy enough today to see that these medieval "cures" would in fact be totally ineffective. Other medieval medical practices were equally astounding by today's standard. Until **Paracelsus** [1493-1541 AD[1]] and his essentially Renaissance attitude of field observations, doctors believed that if the problem or disease was caused by imbalances or thickening of the humours [when one humour became too plentiful or "thick"], the only thing they could do was to thin the humours out by somehow drawing them out of the body.

Various methods were devised to do this, including "cupping", "leeching", "scarification or lancing" and "bloodletting". Dry cupping was perhaps the most benign, as it actually did nothing: a flame was held to a glass bottle or cup, which was then held to the patient's skin near the afflicted organ. The difference of temperature in the bottle created a vacuum inside it as the air cooled, which in turn pulled the skin into the cup [raising a painful red welt, of course] and thus "drawing" the nearby humours into the cup.[2]

Other methods of thinning humours meant that blood itself [conceived of both as one of the humours and as the vehicle for other humours] had to be drawn from the body. This more invasive procedure could be done by general bloodletting, using a lance on a vein or an artery, or by local bloodletting using simple scarification, wet cupping or by applying bloodsuckers or leeches to the patient's skin.

By examining current medical techniques and modern bleeders, there is little doubt that the practice of bloodletting and cupping has

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[1] Stands for Anno Domini, which is Latin for "year of our Lord," and it means the number of years since the birth of Jesus Christ.

[2] The anthropologist Deborah Blincoe reports her terror when her mother used this technique on her in 1950's, Eastern Kentucky childhood.

had a profound influence on society. It is unlikely that there will ever be resurgence to the days of the Barber- Surgeon. However, it may be only a matter of time before a modern medical treatment does as much harm as that attributed to the history of bleeding.

Today, bloodletting is being practiced at Harvard Medical School and Johns Hopkins Medical Center, two of the most prestigious medical centers in the world.[1]

[1] Skaar E [2004]: Why Bloodletting may actually worked, Science, Sept. vol. 305, pp. 1626-1628.

Chapter 2

Cupping According to *Sunnah*

The best medicine with which you treat yourselves is cupping, or it is one of the best of your medicines. [Collected by Al- Bukhārī, and Muslim]

Cupping According To *Sunnah*

I. Sayings of the Great Prophet Muḥammad ﷺ

The Great Prophet of Islam Muḥammad ﷺ advised cupping in about 28 holy instructions, and urged the people to use it. According to a *ḥadīth* narrated by Anas Ibn Mālik, the Prophet ﷺ said:

"I did not pass by any group on the night of Al- Isrā', unless they said to me, 'O Muḥammad, tell your Ummah to do cupping." [Collected by Ibn Mājah: 3477]

He explained that it is one of the best medicines:

"The best medicine with which you treat yourselves is cupping, or it is one of the best of your medicines." or *"The best treatment you can use is cupping."* [Collected by Al- Bukhārī: 5371]

The Messenger of Allāh ﷺ also said:

"Cupping is the most helpful procedure for human beings to cure themselves." [Collected by Al- Bukhārī 5357, and Muslim 1577]

According to a *ḥadīth* narrated by Jābir, may Allāh be pleased with him, the Prophet ﷺ said:

"If there is any good in your medical treatments, it is in the blade of the cupper, drinking honey, or cauterization with fire, as appropriate to the cause of the illness, but I would not like to be cauterized." [Collected by Al- Bukhārī: 5356, and Muslim: 2205]

It was narrated that Jābir Ibn 'Abdullah, may Allāh be pleased with him said, I heard the Messenger of Allāh ﷺ saying:

"If there is anything good in the medicines with which you treat yourselves, it is in the incision of the cupper, or a drink of honey or cauterization with fire, but I do not like to be cauterized." [Collected by Muslim: 2205]

Ibn 'Abbās, may Allāh be pleased with him, narrated that the Prophet ﷺ said:

"Healing is to be found in three things: drinking honey, the blade of the cupper, and cauterization with fire." [Collected by Al- Bukhārī: 5357]

Al- Bukhārī narrated in his *Sahīh* from Sa'eed Ibn Jubayr from Ibn 'Abbās, may Allāh be pleased with them, that the Prophet ﷺ said, *"Healing is in three things: drinking honey, the incision of a cupper, and cauterizing with fire, but I forbid my Ummah to use cauterizing."* [Sahīh Al- Bukhārī: 5269]

The Messenger of Allāh ﷺ said: *"The best treatment is cupping; it removes blood, lightens the back and sharpens the eyesight"* [Collected by Al- Hakim 4/212 and At- Tirmidhī 3053]

Although the sayings of the Messenger of Allāh ﷺ "*ahadīth*" quoted above are from different sources and may be weak to some extent, they give strength to one another.

II. Deeds of the Great Prophet Muhammad ﷺ

The Prophet ﷺ used cupping on his honorable head for migraine[1] and on his honorable hip joint[2] and back of the neck, lateral sides of the neck and between shoulders[3], and said that: *"Cupping on the back of the neck [Elkamahdowa] treat seventy two illness."* [Collected by At- Tabarānī]

Ibn 'Abbās may Allāh be pleased with him, reported that the Prophet ﷺ was treated with cupping, and he paid the cupper his fee. [Collected by Al- Bukhārī 10/124, Muslim: 1202].

Anas Ibn Mālik may Allāh be pleased with him, reported that the Messenger of Allāh ﷺ was treated with cupping by Abu Tayyibah. He commanded that he should be given two measures of food, and he spoke with his tax- collectors, who reduced his taxes.

Anas Ibn Mālik may Allāh be pleased with him, was asked about the earnings of the cupper, and he said: Abu Tayyibah treated the Messenger of Allāh ﷺ with Cupping. He ordered that he should be given two *sā'* of food, and he spoke with his masters so that they reduced what they used to take from his earnings. And he said: *"The best medicine with which you treat yourselves is Cupping, or it is one of the best of your medicines."* [Collected by Al-Bukhārī 5263 and Muslim 2952]

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(1) Collected by Al- Bukhārī.
(2) Collected by Abu- Dawūd.
(3) Collected by Abu- Dawūd, At- Tirmidhī, and Ibn- Mājah.

Anas, may Allāh be pleased with him, narrated that the Messenger of Allāh ﷺ used to have cupping done on the veins on the side of the neck and the upper back. [Collected by At- Tirmidhī]

The above quoted "*ahadīth*" indicate that cupping was practiced by the Prophet ﷺ himself and strongly recommended by him. We ask Allāh to help us to follow the *Sunnah*. May Allāh bless our Prophet Muhammad ﷺ.

Chapter 3

Cupping over the Centuries

[Historical Review]

From ancient times, cupping therapy has played a vital role in the healing traditions of many cultures. This section looks at the practice of bloodletting & cupping in different parts of the world throughout the ages.

A Look Back

Cupping over the Centuries

Cupping is a practice dating back to antiquity and specifically mentioned in both ancient Egyptian papyri and in the Hippocratic writings. It is a socially acceptable practice supported by years of superstitious and religious beliefs.

1. Early History & Ancient Practice

From ancient times, cupping has played a vital role in the healing traditions of many cultures. It dates back to antiquity [more than 5000 years old] and it was widely used in folk medicine around the world by almost all cultures and societies. The followers of Hippocrates in the fifth century B.C. strongly believed in cupping patients, and it is likely that this was done in Egyptian times and probably even before that.

Cupping therapy began with the Egyptians of the River Nile one thousand years B.C., and the tradition spread to the Greeks and Romans; its popularity continued throughout the middle ages.

In addition, cupping was also commonly used by the indigenous peoples of the Americas and Africa, as well as by traditional Asian healers. It reached its zenith during the beginning of the nineteenth century, but it had virtually died as a therapeutic tool by the end of that century.

1. Among Ancient Egyptian [Early records cupping]

Documentations of the cupping technique can be seen as early as the Egyptian papyri, as the ancient Egyptians of the River Nile were the first to use cupping therapy systematically.[1]

Ebers Papyrus, the Egyptian papyrus discovered in the 19th century is thought to be the oldest medical textbook, written in approximately 1550 BC, in Egypt, and describes bleeding by cupping in order to re-

[1] Chirali I Z [1999]: Traditional Chinese Medicine: Cupping Therapy; Churchill Livingstone.

move the foreign matter from the body.[1]

This ancient art was transferred from the Egyptians and spread to the Greeks and Romans; **Hippocrates** [460-377 BC], known as the father of modern medicine, wrote about the two forms of cupping; dry cupping and wet or moist cupping. Textual evidence on cupping can also be found in the writings of **Galen** [131-200AD].[2]

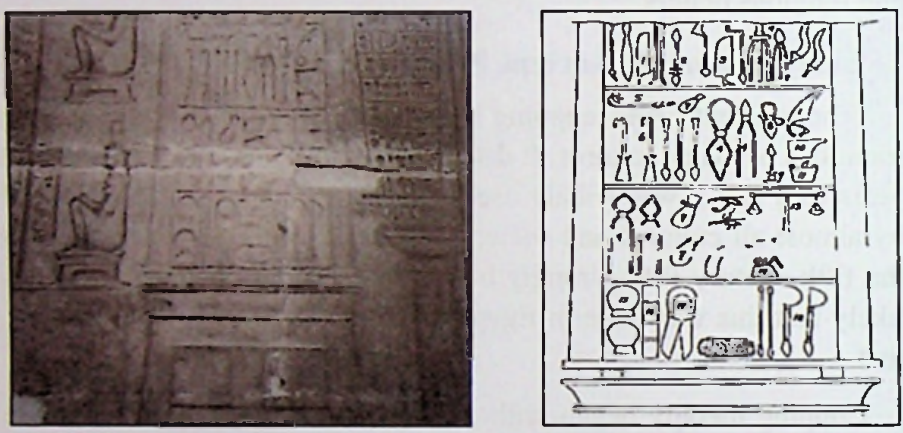

Fig [9]: Drawing on the entrance of an Egyptian tomb Kom Ombo, Egypt Luxor: An offering table with medical instruments illustrates the healing functions associated with the temple. Shown are various forceps, hooks, and cupping instruments[3]

2. As a Part of East Asian Medicine

Cupping has a long history as part of East Asian medicine and as an adjunct to the practice of acupuncture. It has been used in China since the third century B.C and was known as an important and integral part of non- drug folk therapy in traditional Chinese medicine [TCM].[4] The earliest written records of cupping were in **Bo Shu** [an ancient book written on silk], which was discovered in an ancient tomb of the **Han** Dynasty in 1973.

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[1] King. Lester S [1971]: A History of Medicine. P. 193-201, Penguin Books, England.
[2] Bayfield S. [1839]: A Practical Treatise on Cupping. Joseph Butler, London, [51-52]
[3] Ebeid N I [1999]: Egyptian Medicine in the days of the Pharaohs; P: 132, General Egyptian Book Organization.
[4] Yang J [1999]: The History of Cupping Therapy: Zhonghua Yi Shi Za Zhi. The Institute of Basic Theory of TCM, China Academy of TCM, Beijing Apr; 29 [2]: 82-4.

Fig [10]: Ancient Chinese Cupping Practice

The following report is derived mainly from a survey of reported cupping techniques published in 1989[1] supplemented by information from acupuncture text books:[2]

"The earliest use of cupping that is recorded is from the famous Taoist alchemist and herbalist, **Ge Hong** [281–341 A.D.]. The method was described in his book "*A Handbook of Prescriptions for Emergencies*", in which the cups were actually animal horns, used for draining pustules. Because of using horns, cupping has been known as *jiaofa*, or the horn technique. In a **Tang** Dynasty book "*Necessities of a Frontier Official*", cupping was prescribed for the treatment of pulmonary tuberculosis [or a similar disorder]. More recently, **Zhao Xuemin**, during the **Qing** Dynasty [1644-1911], wrote a supplement to "*Outline of Materia Medica*", including an entire chapter on "*huoquan qi*" [fire cupping]. In it, he emphasized the value of this treatment, using cups made of bamboo or pottery, in alleviating headache of wind- cold type, bi syndrome of wind origin, dizziness, and abdominal pain. The cups could be placed over acupuncture needles for these treatments. One of the traditional indications for cupping is dispelling cold in the channels. This indication is partly the result of applying hot cups. For example, bamboo cups would be boiled in an

[1] Jin C, Guangqi Z [1989]: A Survey for Thirty Years Clinical Application of Cupping, Journal of Traditional Chinese Medicine 9 [2]: 151-154.
[2] Xinnong C [1987]: Chinese Acupuncture and Moxibustion, Chapter [15] p: 346-347, Foreign Language Press Beijing.

herbal decoction just prior to applying to the skin [this is one type of "*shuiguanfa*", or liquid cupping, so- called because a liquid is incorporated into the treatment]. Both liquid cupping and cupping over an acupuncture needle are favored for treatment of arthralgia. Cupping also is thought to dispel cold by virtue of its ability to release external pathogenic factors, including invasion of wind, damp, and cold."

Zouhou Fang also introduced some therapeutic cupping methods in his book in about 28 A.D. Cases of treatment of tuberculosis were recorded in Weitaimiyao in 755 A.D. Three hundred years later, another ancient classic, **Susen Liang Fang**, recorded an effective cure for chronic cough and the successful treatment of poisonous snake bites using cupping therapy.[1]

Glass- cupping therapy is also one form of traditional Mongolian medicine, which has a known history of more than 2500 years. Rooted in Tibetan and Indian medicine, traditional Mongolian medicine is part of the broader cultural heritage of the people and reflects their lifestyle as well as geographic and climatic conditions.

Cupping therapy was also known in Bhutanese traditional medicine and Ayurvedic/ Indian medicine, described in the *Susrata Samhita*.

3. In Early Greeks

Cecrops who is the first king of Attica in ancient Greece, transferred this ancient art from the Egyptians to the Greeks. He emigrated with his companion from Egypt established a colony in Greece, and built the city of Athens.

In those days there were two schools of thought as far as disease was concerned: starve the source of the sickness from the body, or bleed to drain it away. Textual evidence on cupping can be found in the writings of **Hippocrates** [460-377 BC], known as the father of modern medicine.

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[1] Chirali I Z: Traditional Chinese Medicine: Cupping Therapy; Churchill Livingstone 1999.

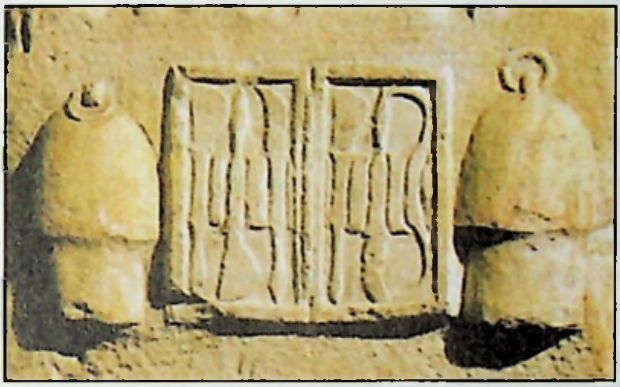

Fig [11]: Surgical and Cupping Instruments. Relief from the Asclepieion, Athens[1]

Hippocrate's Influences [460-377 BC]:

Prior to the time of **Hippocrates** [460 to 377 B.C.], all illness was attributed to one disease with variable symptoms. Careful clinical observations by **Hippocrates** led to the recognition of specific disease states with identifying symptoms. It was during this time that the concept of body humors developed. The four fluid substances of the body were blood, phlegm, yellow bile, and black bile. Health depended on the proper balance of these humors.

Fig [12]: Hippocrates; the Father of Modern Medicine was a great advocate of Bloodletting & Cupping

Bloodletting was, therefore, a method used for adjusting one of the four body humors to achieve proper balance. This clinical concept led to the decline in the doctrine of evil spirits in disease.[2]

Hippocrates recommended cupping for the treatment of angina, menstrual and other disorders. He recommended cupping the breasts in order to relieve excessive menstruation.[3]

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[1] Rome, Museo Della Civiltà Romana.

[2] Seigworth G R [1980]: Bloodletting over the Centuries, New York State Journal of Medicine, December: 2022-2028.

[3] Davis, Audrey Bloodletting Instruments in the National Museum of History and Technology. City of Washington. Smithsonian Institution Press 1979 p: 3-37.

Hippocrates was a minute observer, and he has left us some striking remarks on the shape and application of the cups. He recommended that they should be small in diameter, conical in shape, and light in their weight, even when the disease for which they are applied is deeply seated.

Hippocrates also wrote about two forms of cupping. These are known as dry cupping and wet or moist cupping. Dry cupping pulls the local underlying tissue up into a cupping vessel, whereas in wet cupping, the skin and sometimes deeper is cut to produce a flow of blood and then a cup is applied. The strong drawing action of the cup increases the volume of blood taken. Although he did practice wet cupping, it seems likely that **Hippocrates** advocated dry cupping because it was a gentler and safer technique. [1]

4. In Greco-Roman Medicine

Galen's Influences [131-200 AD]:

While bloodletting served a fairly minor function in Hippocratic texts [c. 480–300 BC], **Galen** [AD 130–201] raised the procedure to one of central significance in his authoritative works.

Fig [13]: Galen; the Giant of Medicine was also a great advocate of Bloodletting & Cupping

From the perspective of the physiological theory of the four humors, bloodletting was one of the most rational therapies available to practitioners. Among all the medical writers of antiquity, Galen presented the most sophisticated version of this theory, which survived to become the basis for learned medicine until the 17th century.[2]

The extreme importance in the ancient system is initially keeping the body free from residues. Hence, constipation, or the suppression of menstrual flow, were regarded as very serious matters because mate-

[1] Bayfield S. [1839]: A Practical Treatise on Cupping. Joseph Butler, London, [51-52].
[2] Lawrence S C [2003]: Two Millennia of Bloodletting: Part I. D The Debate Over Therapeutic Value; Medical Crossfire. Vol. 5. no. 8; P: 23-26.

rial that ought to be eliminated was being retained in the body, and much attention was given to prophylactics. This idea is by no means dead in popular belief even today. Thus, the principal indication for bloodletting is to eliminate such residues, or to divert blood from one part to another by the process known as Revulsion or Derivation.

In Galen's view, there are three main kinds of fever. The ephemeral [short- lived] variety is due merely to temporary overheating of the body. The cause is no longer present, and the doctor's only task is to cool the patient. The inflammatory fevers are more difficult. Here it may be necessary to dissipate the inflammatory focus, and bloodletting is one of the possible measures. However, if the inflammation in a part has hardened, the problems are multiplied. Local cooling remedies are used.[1]

Fig [14]: Galen Treating with Cupping

II. Medieval Practice

Cupping popularity continued throughout the Middle Ages as one of the three medieval practices of surgery included bloodletting, cupping, and cauterization. In the Middle Ages, hair was not the only thing that barbers cut. They also performed surgery, tooth extractions, cupping and bloodletting. Therefore, bleeding & cupping were flourishing in Europe, performed by barbers as well as physicians.

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[1] Chirali I Z [1999]: Traditional Chinese Medicine: Cupping Therapy; Churchill Livingstone.

Although bleeding and cupping had been advocated by no less a figure than **Hippocrates**, they were left to barbers to perform the task in the Middle Ages, as it was deemed too menial for doctors. Subsequently, surgeons evolved to perform these duties.[1]

Throughout European history, most of the populations were treated by local lay practitioners who could charge less and could be consulted more readily than physicians could. Even more convenient was the availability of cupping as a therapy within the household.[2] Rows of patients were often bled at the same time in special "bleeding houses".

French authorities drew a fine distinction between academic surgeons [surgeons of the long robe] and barber surgeons [surgeons of the short robe], but the latter were sufficiently accepted by the fourteenth century to have their own guild, and in 1505 they were admitted to the faculty of the University of Paris. As an indication of their medical importance, Harry Perelman points out that **Ambroise Pare**, "The father of modern surgery and the greatest surgeon of the Renaissance", began as a barber surgeon. This is why the British call their surgeons mister rather than doctor! Because their profession grew out of being barbers first, not medical doctors.

The barber pole as a symbol of the profession is a legacy of bloodletting. The barber surgeon's necessities for that curious custom were a staff for the patient to grasp [so the veins on the arm would stand out sharply], a basin to hold leeches and catch blood, and a copious supply of linen bandages. After the operation was completed, the bandages would be hung on the staff and sometimes placed outside as advertisement. Twirled by the wind, they would form a red & white spiral pattern that was later adopted for painted poles. The earliest poles were surmounted by a leech basin, which in time was transformed into a ball.

One Interpretation of the colors of the barber pole was that Red repre-

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[1] Newman A: The Illustrated History of Medical Curiosa. New York: Mc Graw-Hill, 1988: 43-48.

[2] Finerman, R.: The Forgotten Healers: Women as Family Healers in an Andean Indian Community in CS [1989:25].

sented the blood, Blue the veins, and White the bandages. Which has been retained by the modern Barber-Stylist.

While barbers or cuppers primarily conducted bloodletting, cupping, and cauterization, the topics were discussed in every general medieval medical encyclopedia, for they were treated as aspects of surgery. They were, moreover, the occasional focus of monographs.

Barber-surgeons were different from surgeons in that they were mostly illiterate and their training came entirely from apprenticeship. They performed easier tasks than the surgeons such as cupping, setting simple fractures, and applying poultices. The unlicensed practitioners had no formal training, organization, or regulation. They did a little bit of everything, but without any formal training. All they did, and how they learned, was on a basis of trial and error. Their patients came to them because of their low fees; they were an asset to the lower class because they were less expensive than real physicians.[1]

Fig [15]: Patient in a mediaeval hospital [one having his hair washed, another his back massaged and a third being cupped][2]

[1] Hamilton S: From Haircutters to Hemochromatosis: A history of Bloodletting; Proceedings of the 11th Annual History of Medicine Days. WA Whitelaw – p: 149-155 [2002].

[2] Cochrane, J. An Illustrated History of Medicine, Tiger Books, London. http:// www.healthtraditions.com.

III. Modern Times [15th – 19th Centuries]

The use of cupping was widespread in the West and in the United States in the 18th and 19th centuries.[1] European and American doctors and surgeons were employing wet cupping [bleeding method] to treat a variety of conditions up to the late 1860. The journals even published extensive instructions on performing cupping. Cupping was also still practiced by other practitioners including barber- surgeons and bathhouse attendants.[2]

After 1860, wet cupping decreased in popularity and medical attention shifted to the therapeutic virtues of dry cupping. However, the practice did not subside until the beginning of the 20th century, but its disappearance was gradual and scarcely noticed.[3]

1. Cupping in Public Baths

Bathing in the 15th century was often a communal affair. Many towns and cities had commercial bathhouses, which offered steam baths, water baths, or both. Such bathing was not intended to clean the body's surface in the way baths do today. Rather, its purpose was to heat the body to induce sweating. Bathing, cupping, and bleeding were all considered methods of purifying the body and ridding it of noxious humors.

Cupping technique resurged with the rise of public steam baths in the sixteenth and seventeenth centuries, where bath attendants were often responsible for performing the cupping. It was done usually after a sauna [bathing of patient in a warm environment] and was often preceded by massage. The cupping treatment was performed by the bath keeper. In the years to follow, it became popular to have the patient stand in a basin, while up to forty cuts were applied to the legs.[4]

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[1] Ackerknecht EH [1973]: Therapeutics from the Primitives to the 20th Century. New York: Hafner.

[2] Bayfield, S.: A Practical Treatise on Cupping. Joseph Butler, London. [1839 p.: 51-52].

[3] Chirali I Z: Traditional Chinese Medicine: Cupping Therapy; Churchill Livingstone. 1999.

[4] Hamilton Al. Dissertatio Medica Inauguralis De Synocho Castrensi. Edinburgh: J Ballantyne, 1816.

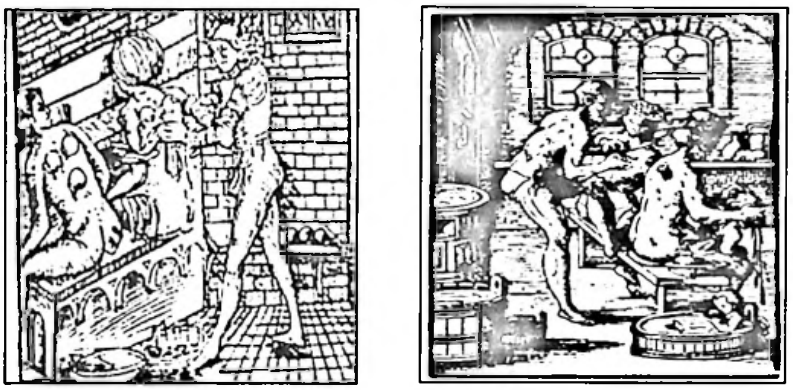

Fig [16]: Cupping in the 16th century[1]

2. Barber- Surgeon Guild Develop

Some of the most vivid portraits displaying the history of bloodletting come from era of the Barber- Surgeons of Western Europe. In 1315, **Lanfranc**, an outstanding French surgeon, complained about the tendency of surgeons to leave the bloodletting to barbers and women, although this tradition would continue through the seventeenth century.

Some surgeons voiced their disapproval that such uneducated workers were permitted to perform the procedure. These complaints were reminiscent of earlier disapproval towards barbers performing bloodletting. For example, **Thomas Mapleson** stated in 1813 that: "The custom which appears to have become prevalent of resorting to these Bagnios, or *Hamums*, to be bathed and cupped, appears to have superceded the practice of this operation by the regular surgeons. Falling into the hands of mere hirelings, who practiced without knowledge, and without any other principle than one merely mercenary, the operation appears to have fallen into contempt, to have been neglected by Physicians, because patients had recourse to it without previous advice, and disparaged by regular Surgeons, because, being performed by others, it diminished the profits of their profession."[2]

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[1] Acupuncture and Electro Therapeutics Research Institute Journal, vol. 7. Pergamopn Press, USA.

[2] Martin E A: Oxford Concise Medical Dictionary, Oxford University Press, New York, 2002, p: 170.

By 1462, in the U.K royal charters had been issued to a variety of medical and non-medical parties [barber- surgeons] to do cupping, bleeding, extractions [advertised today by the red- striped barber pole]; apothecaries to stock and sell simples and compounds recommended by the physicians; physicians to diagnose and administer to the sick short of doing surgery; surgeons to do surgery of any sort. By 1512, the UK parliament promulgated an act regulating practice of medicine only to those graduates of Oxford and Cambridge. This set off a round of turf battles in the courts- physicians charging surgeons of practicing medicine, surgeons were charging the barbers of practicing surgery, and both railing on the apothecaries.[1]

In England, King **Henry VIII** signed a decree to merge the two groups into the Great Company of Barbers and Surgeons. Barbershops became a location where customers could get a dental extraction, bloodletting, and a hair cut, all in a single visit. This is depicted in Rossini's famous opera, The Barber of Seville, where the barber Figaro sings "*Largo al factotum*", which translates to "Make way for the jack of all trades." Eventually, as science progressed the surgeons petitioned to split the two professions, a wish that was granted in England in 1745 and shortly thereafter in France.[2]

While phlebotomy, cupping, and cauterization were primarily conducted by barbers or cuppers, the topics were discussed in every general medieval medical encyclopedia, for they were treated as aspects of surgery.[3]

The Barber- Surgeon Company existed officially in England until 1744. However, barbers and surgeons had a clear separation of function for many years before that. The transition of surgery from disrespect to prominence was led by the French master barber- surgeon **Ambroise Paré** [1510 to 1590] who is considered the father of surgery.[4]

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[1] Griggs, Barbara, Green Pharmacy- The History and Evolution of Western Herbal Medicine, Healing Arts Press, 1997 [2nd ed].

[2] Hamilton AL. Dissertatio Medica Inauguralis De Synocho Castrensi. Edinburgh: J Ballantyne, 1816.

[3] Berkeley, CA: University of California Press and London: Wellcome Institute, 1973.

[4] Sandwith F 1960 Surgeon Compassionate: The Story of Dr William Marsden MD, MRCS. Peter Davis, Great Britain.

IV. In European and American Medicine

Cupping remained a constant in professional medical treatment throughout Europe; it was indeed used in Western hospitals from very early times, and was performed by highly skilled doctors and surgeons. Such famous physicians as **Paracelsus** [1493-1541] and **Ambroise Pare** [1509-90] practiced cupping. The founder of today's Royal Free and Royal Marsden Hospitals in London, surgeon **William Marsden** [1796-1867], also employed paid cuppers in his Royal Free Hospital in Gray's Inn Road, London, during the 1830 s. When he decided to open a hospital and freely treat the poor, he enlisted surgeons and doctors who contributed their time free of charge, with the exception of a paid apothecary and a paid cupper.[1]

European and American doctors and surgeons were employing cupping therapy to treat a variety of conditions up to the late 1860. They mostly used the wet type [bleeding method], which almost always involved some kind of scarification and bloodletting. However, after 1860 interest in the invention of new scarificators declined as wet cupping decreased in popularity and medical attention shifted to the therapeutic virtues of dry cupping.

By the time of the eighteenth and nineteenth centuries, many people in England were coming to the hospital in the spring and fall as part of a maintenance program for good health. During this time, the standard advice to many bloodletters was to "bleed to syncope."

Dr. Martin, Edinburgh physician residing in Paris in 1827 carried out a series of physiological experiments in which he administered strychnine and arsenic under the skin of dogs and rabbits then cupped over the wounds, he concluded that dry cupping prevents almost certain death from poison, once the cups were removed death would ensure unless the poison was surgically removed.[2]

The "minute ledger" of meetings in records of the Annual General Meeting held at the Board Room of the Royal Free, 23 February,

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[1] Chirali I Z [1999]: Traditional Chinese Medicine: Cupping Therapy; Churchill Livingstone.
[2] Ibid.

1832, states: "That surgeon James Davis Lane Esq be persuaded to continue his valuable services as cupper to the institution."[1]

V. Cupping in Islamic Society

Bloodletting, cupping, and cauterization were very old techniques indigenous to the pre- Islamic Near East as well as to ancient Greece. In the Islamic world these practices were to a large extent conducted by barbers and cuppers and others outside the sphere of the learned physicians who composed treatises. It was common to see the village illiterate barber, assume the role of a "doctor". He performed circumcisions, cautery, and cupping [*hijama*].

Fig [17]: Cupping in the Islamic Society: Painting from "*Maqama* [Story] of *Hajr* and *Yamama*- doctor bleeds patient." *Maqamat* of *Al-Hariri* [1054-1122]. Reproduced in Pages of Perfection. This man is being bled with "Cupping / *Hijama*."[2]

Every public bath "*hammam*", or steam bath, had a barber and a cupper or bloodletter in attendance, and often the barber served dual roles. The *hammam* was a vital centre for the maintenance of health and regimen in Islamic society, and every town had one or more of them.[3]

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[1] Royal Free Hospital Archives, London.

[2] The Traditional Healer's Handbook- A Classic Guide to the Medicine of Avicenna, by Chishti, Healing Arts Press, Vermont 1988.

[3] J. Sourdel-Thomine & A. Louis, "*Hammam*", in The Encyclopedia of Islam, 2nd edition, =

Cupping was and still widespread throughout the whole of Islamic society. It is a socially acceptable practice and still used as remedy to great extent, as well as a mean of preserving health supported by religious beliefs and the sayings of the Great prophet of Islam Muḥammad ﷺ who advised cupping in about 28 holy instructions and said: *"The best treatment you can use is cupping."* [Collected by Al-Bukhārī: 5371; Muslim: 1577]

In the Arabian Gulf, cupping [*Hijama*] was used not only for treatment but also for prophylaxis against diseases. The pearl divers in the Arabian Gulf used to undergo *hijama* before the diving season in the belief that the procedure will prevent diseases during the 3 months at sea. It was thought to be very effective against dizziness.

Fig [18]: The traditional cupper [*hajjam*] applied one metal cup by creating the vacuum with sucking and making incision for a second cup using his bare hands.

VI. Women & their Practice of Cupping

Throughout European history, local lay practitioners treated most of the population. Even more convenient was the availability of cupping as a therapy within the household. An important role that women have occupied in traditional societies has been the one who is skilled in the knowledge and application of a broad range of treatments and

= ed. by H.A.R. Gibbs, B. Lewis, Ch. Pellat, C. Bosworth et al., 11 vols. [Leiden: E.J. Brill, 1960-2002].

remedies. Cross-cultural studies show that women and, in particular, female heads of households represent a major source of therapeutic assistance in many societies.[1]

Women usually performed cupping in Greece, Holland, Russia and Turkey. In Viemare, the lay and semi-professional cuppers were all women. In 11th century Europe there were a great many women physicians who were held in high esteem and greatly sought after by patients.[2]

By the thirteenth century, however, universities including medical studies in their curricula excluded women from study. Thereafter there was a notable absence of women in traditional medical histories, because they concentrated on documenting "official medicine", rather than the "popular" medicine practiced by the people. Despite the fact that non- official medicine has been poorly represented, women could be considered to have played a major role in health care delivery and have been more important that men in the use and continuity of cupping practice.[3]

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[1] Finerman, R. [1989] The Forgotten Healers: Women as Family Healers in an Andean Indian Community in CS.
[2] Cumston, CG [1987] The History of Medicine, Dorset Press, UK..
[3] McClain [ed] Women as Healers: Cross Cultural Perspectives, Rutgers University Press, USA.

Chapter 4

Islamic Contribution

Together with cautery and phlebotomy, cupping was central to the Arabic surgery; Giants of Islamic medicine were also great advocates of cupping. This chapter discusses the contributions of Muslim physicians who strongly recommended cupping. The most famous was **Ibn–Sina** who wrote "*The Canon Medicina*", which was seen as the foremost medical textbook in the Middle East, North Africa and Europe up until the 17th Century.

Islamic Contribution

While phlebotomy, cupping, and cauterization were primarily conducted by barbers or cuppers, the topics were discussed in every general Islamic/ medieval medical encyclopedia, for they were treated as aspects of surgery. They were, moreover, the occasional focus of monographs.[1]

Islamic authors advised bloodletting, particularly for fevers. Greeks probably passed the practice to them, when Islamic theories became known in the Latin- speaking countries of Europe, bloodletting become more widespread.

In the fifth century, Muslims introduced cupping therapy to Spain. The interruption of the Goths, Vandals and other barbarians, overturned every seat of learning and put stop to the useful, as well as the polite arts. Medicine also sunk in the general wreck; but in the Ninth Century, after the Muslims had expelled the Goth, we find it in the hands of the Arabs in Spain, by whom it was cultivated for three or four hundred years. Arabic medicine began to extend itself into Italy; for Spaniards they established medical correspondence with the Italian Physicians, and the Greeks immigrating to Italy in the Fifteenth Century, Italy became the favorite field of medical science.

I. East Meets West [Muslims Introducing Cupping to Spain]

Much of **Galen**'s work was translated into Arabic, often with the translators own commentary added to the text. **Al- Razi** or **Rhazes** in Latin [865-925] is an early example, but the most famous was **Ibn–Sina** [Avicenna to the West] [980-1037] who wrote "*The Canon Medicina*", which was seen as the foremost medical textbook in the Middle East, North Africa and Europe up until the 17th Century.[2]

These translations were widely used to inform medical practice across the Arab world and often translated into other languages such as Hebrew and Latin. The doctors mentioned above, illustrated the

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[1] Emilie Savage-Smith, Ph.D., Senior Research Associate, The Oriental Institute, University of Oxford, Pusey Lane, Oxford OX1 2LE, England.
[2] Guthrie D. [1945]: A History of Medicine. Thomas Nelson and Sons Ltd, London.

flourishing of Arabic Medicine over a period of three centuries; they also explained the link between ancient concepts of medicine of the Greek and Roman times and mediaeval Europe and beyond.[1]

Together with cautery and phlebotomy, cupping was central to the Arabic surgery; the key texts "*Kitab Al- Qanun*" and "*At- Tasrif li man 'Ajaza 'an At-ta'lif*" both recommended it.

II. Islamic Medicine Influences

Giants of Islamic medicine were also great advocates of cupping. Among the Muslim physicians who strongly recommended cupping were the following:

1. Ibn Sina [Avicenna 980 – 1037]:

Ibn- Sina was an Islamic philosopher, physician, psychiatrist and a poet. He considered medicine as part of knowledge that must be learned by every scientist. His book "*The Canon*" is well known and was used as a medical textbook for centuries. It was based firmly on Galenical principles and by the 12th century had been translated into Latin and imported back into the west to become one of the leading textbooks in Western medical schools.[2]

Fig [19]: The Muslim Physician, Ibn Sina [from The National Library of Medicine].

Ibn- Sina or Abu Ali Sina the famous doctor, recommended cupping in his most important book "*Kitab Al- Qanun*", or [The Canon of Medicine]. In that famous book, he recommended cupping at certain times of day and times of the year. Cupping was to draw inflammation away from deep parts to the surface and away from important organs, to take away pain, and to bring warmth and blood to an affected organ and take "humors" from it. Cups were applied for 10 to 15 minutes.[3]

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[1] Dealey C; Wound Healing in Moorish Spain, Ewma. Journal. Vol. 2 no. 1; 2002.
[2] Ody P: The Herb Society's Complete Medicinal Herbal; p: 10-11, Dorling Kindersley, 1993.
[3] Chishti; The Traditional Healer's Handbook- A Classic Guide to the Medicine of Avicenna, Healing Arts Press, Vermont 1988.

There are two kinds of cupping used by **Ibn- Sina**: wet and dry. In dry cupping, he applied glasses to the skin with heat. With wet cupping, a small amount of blood is drawn before the cup is applied. This used to be done as a preventative measure in traditional medicine. He did not agree to operate wet cupping to infants under two years of age or to those above 60 years.

Ibn Sina's view was much more comprehensive, as he immediately qualifies his recommendation that surgery "be preceded by purifying [clearing] the body of the bad material [black bile] by purgation, cupping, and maintaining that purity by good food quantitatively and qualitatively and strengthening the defense [resistance] of the organ involved."[1]

The peculiar thing of his own was that he operated wet cupping on the back only when the full moon was high in the sky [based on the concept that this is when fluid inside the body was active, or when the amount of fluid inside the body was increasing]. In addition, he mentioned the best time to perform cupping saying: "and know that its best times are in the day between the second hour and the third hour in the sundown- timing."

In his famous book "*Kitab Al- Qanun*", or [Canon of Medicine], **Ibn Sina**'s made a note that there were six positions the cup should be put in bleeding or wet cupping. The first position- in the furrow at the back of the head, and it will relieve headache especially, and diseases of the eyes, and the filth of the night upon the eyes shall be cleansed, and it will serve or deplete the region of the vein called Cephalic. The second position, namely, between the two shoulder- blades, and it will comfort dyspnoea and the asthma and it does control the area of the vein called Mediana. The third position, namely, on the roots of the forearm and it will draw from the hands and it will relieve the pain that is in them. The fourth position between the kidneys and the buttock, and it will there draw from the organs of nutrition [the digestive system] and it influences the province of the vein called Basilic. The fifth position- on the flat of the hip, against the eruption of the hip and against urinary diseases and against every disease in the parts leading

[1] Ibn–Sina, *Al-Qanun fi Al-Tib*; part 3, Dar-Sader, 1290 A.H- 1873.

thereto. The sixth position, namely, upon the flat of the calf, and that will draw from the feet, and it does the area of the vein called Saphenous.

2. Al -Zahrawi [936 – 1013]

Fig [20]: Al-Zahrawi [936? – 1013]

When Spain [Al- Andalus] was part of the Islamic empire, Many doctors trained in Cordoba, perhaps the most famous of them was **Al- Zahrawi** [936-1013], one of the great, but now largely forgotten, pioneers of surgery. He lived near the capital city of Cordoba and was known as "Abu Al-Qasim", known in Latin as Albucasis. Though in European languages his name is written in over a dozen different ways: Abulcases, Albucasis, Bulcasis, Bulcasim, Bulcari, Alzahawi, Ezzahrawi, Zahravius, Alcarani, Alsarani, Aicaravi, Alcaravius, Alsahrawi etc..[1]

He was a surgeon of some renown whose surgical textbook provided the foundation of surgery in Europe. It is clear from **Al-Zahrawi**'s life history and from his writings that he devoted his entire life and genius to the advancement of medicine as a whole and surgery in particular.

Al- Zahrawi wrote a medical encyclopedia spanning 30 volumes that included sections on surgery, medicine, orthopaedics, ophthalmology, pharmacology, nutrition etc. This book was known as "*At-Tasrif liman 'Ajaza 'an At-ta'lif* " and contained data that **Al- Zahrawi** had accumulated during a career that spanned almost 50 years of training, teaching and practice. Perhaps the most important treatise is the one on surgery.[2]

In this treatise, **Al- Zahrawi** discussed cauterization, bloodletting, midwifery, obstetrics, and the treatment of wounds. "*Al- Tasrif*" was

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[1] Hamareh S K in The Genius of Arab Civilisation, edited by J R Hayes; 2nd edition, 1983; Eurabia [Publishing] Ltd; pp 198-200.
[2] El Afifi. S. Kasr El Aini; Journal of Surgery 1960; I.

translated into Latin in the 12th century and alongside **Ibn- Sina**'s Canon, played a major role as a medical text in the universities of Europe from the 12th to the 17th century AD.

Once "*At- Tasrif*" was translated into Latin in the 12th century, **Al-Zahrawi** had a tremendous influence on surgery in the West and described by **Pietro Argallata** [died 1423] as "without doubt the chief of all surgeons." **Jaques Delechamps** [1513-1588], another French surgeon, made extensive use of *"At- Tasrif"* in his elaborate commentary, confirming the great prestige of **Al- Zahrawi** throughout the Middle Ages and up to the Renaissance.[1]

3. Al- Razi [865-925 AH[2]]

Among **Al-Rhazi** innovations was the use of dry- cupping for apoplexy, he applied cupping with scarification [wet cupping] to a great extent, and by this operation he cured King Hamet of a fit of apoplexy.[3]

He operated cupping to children afflicted by smallpox who were above five months and under fourteen years old. He strictly restricted the ages that can that remedy.

4. Ibn- Al Quff [?- 1286 AD] = [-685 AH]

About 750 years ago, a famous Arabian surgeon called **Ibn– Al Quff** [died in 685 A.H] compiled a book entitled "*Al- Omda fi Al-Jeraha*" [The governor in surgery]. In that book he wrote a separate chapter on cupping therapy under the heading "*Al- Hijama*", and presented a detailed record of the cupping treatment, and described its types, benefits, indications and method of application and emphasized its effectiveness in treatment of many diseases.

In his book, he divided cupping into two types essential and elective. Elective one is used after the middle of the Lunar month, while

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(1) Albucasis; On Surgery and Instruments; English Translation and Commentary by Spink M. S and Lewis G L; 1973.

(2) A.H.[After *Hijrah*]: *Hijrah* is the emigration of the Prophet Muḥammad ﷺ from Mecca to Medina and the beginning of the Islamic calendar.

(3) Chirali I Z [1999]: Traditional Chinese Medicine: Cupping Therapy; Churchill Livingstone.

essential cupping could be used at any time when needed. He recommended special sites for cupping and he did not advise cupping before two years or after sixty years.

He operated cutaneous bloodletting [wet cupping] instead of venous bloodletting [venesection/ phlebotomy] for children and weak patients and asserted that one had to do dry cupping three or four times before cutting the skin.[1]

5. Ibnul- Qayyim [1291-1350 AD] = [691-751 AH]

Imam **Ibnul- Qayyim Al- Jawziyyah** [may Allāh have mercy on him] who was well versed in medicine said: "Cupping on the upper back helps to relieve pain in the shoulder and throat. Cupping on the veins on the side of the neck is beneficial in relieving diseases of the head and its parts such as the face, teeth, ears, nose, throat and eyes which are caused by an excess of blood or corruption thereof, or by both."[2]

Imam **Ibnul- Qayyim** continued: "The doctors agreed that cupping in the second half of the month, especially in the third quarter, is more beneficial than cupping at the beginning or end of the month. But if cupping is done out of necessity it is beneficial at any time, even at the beginning or end of the month. He disliked having cupping done on a full stomach, because that could lead to obstruction and grievous diseases, especially if the food was heavy and fatty."

III. Islamic Medical Manuscripts

U.S. National Library of Medicine [NLM][3], has an Arabic monograph on phlebotomy, [*fasid* in Arabic], bloodletting cupping [wet cupping], by **Ibn Al- Tilmidh** [died in 1165/560 A.H], and a 18th-century Turkish treatise on cupping and bloodletting by **Al- Tafilati, Muhammad Ibn Mahmud**, who flourished about 1758.

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[1] Ibn- Al-Quff; Al-Omdah fi Al-Jeraha; part 1; p: 174-180, Majles Daert Al-Maaref Al-Othmanih- 1st edition; Hidar Abad; Pakistan; 1356 A.H.

[2] Ibn Al-Qayyim Al-Jawziyyah [1986]: Zaad Al-Ma'aad, part 4; p. 52-60; 14th edition; Al-Resalah Foundation.

[3] http://www.nlm.nih.gov/nlmhome.html

Also in the collections of National Library Museum [NLM] is an 18th century Arabic treatise on cupping [*Hijama*] and bloodletting that is within the genre of medical writings called, *"At- Tib An- Nabawi"*, or "*Prophetic Medicine*" which is a genre of medical writing intended as an alternative to the exclusively Greek- based medical systems derivative from **Galen**. The authors were clerics, rather than physicians, advocating the traditional medical practices of the Prophet Muḥammad ﷺ

Chapter 5

Prosperity & Decline

Modern medicine may look at the long history of cupping in disbelief; however, the practice did not subside until the beginning of the 20th century. This chapter looks at the prosperity of cupping, beginning of decline, causes of decline and finally discusses cupping death out.

Prosperity & Decline

Modern medicine may look at the long history of cupping in disbelief; however, the practice did not subside until the beginning of the 20th century were cupping practice had died out in America and Europe and fallen away as a popular method but its disappearance was gradual and scarcely noticed.

It is interesting to note that as the popularity of dry cupping began to fall in the early twentieth century, physicians had passed on the duty of performing the technique to barbers, who would create window signs advertising "*Cups for Colds.*"[1]

I. Prosperity of Cupping [From early to mid 1800s]

Cupping reached unbelievable heights in the early to mid 18th century. It was most popular in the early eighteenth century and was still widely used in its final decades.

Based on the concept of humeral pathology, bloodletting reached its peak in the early nineteenth century; adults with good health from the country districts of England were bled as regularly as they went to market.[2] This was considered to be preventive medicine.[3]

By the early 19th century, there were several ways to remove blood from the body, each of which had its own instruments, indications, and supporters. Specific uses lingered until relatively recently. Wet cupping was a method to remove blood using the cup as a tool.

Research papers were written in the 19th century, and a collaborative effort between the former Soviet Union and China confirmed the clinical efficacy of cupping therapy.[4]

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[1] Martin E A: Oxford concise medical dictionary, Oxford University Press, New York, 2002, p: 170.
[2] Quain, R.: A Dictionary of Medicine, London, Longmans, Green, and Company, 1885, p. 111.
[3] Buchan, W.: "Domestic Medicine," London, printed for W. Strahan, T. Cahill in The Strand, and J. Balfour and W. Creech, at Edinburgh, 1784, p. 623.
[4] Shannon J.A.: Cupping Massage.

II. Beginning of Decline [From the mid to late 1800s]

By the mid to late 1800s, the concepts of cupping had fallen into disfavor. In particular, wet cupping came under increasing attack after 1850, were it was sharply criticized by the medical fraternity and was declared quackery.(1)

Simple cupping, especially dry cupping, continued well into the early 1940 s. It remains, however, a recommended treatment for some conditions such as headache and arthralgia. The last bastions of cupping in the United States were the immigrant sections of large cities. In the Lower East Side of New York in particular, cupping was still flourishing in the 1930 s. By then it was no longer performed by a physician, it is interesting to note that as the popularity of dry cupping began to fall in the early twentieth century, physicians had passed on the duty of performing the technique to barbers. Thus cupping had been relegated to a barber's task. Often an advertisement reading: "*Cups for colds*" could be seen in a barber's shop window.

III. Causes of Decline

Bloodletting cupping [wet cupping] practice went out of fashion 150 years ago. There are a number of complex issues relevant to why this happened:

Firstly, due to the ideological effectiveness of medicine in winning virtual control over all matters related to health and illness. As part of this process, for example, with the Medical Registration Act of 1858, "Parliament had achieved what the doctors never could- it had symbolically at least united the much- divided medical profession, by defining them over and against a common other, not to say enemy." Opposition to cupping was therefore not based on a lack of effectiveness but because of its lack of "fit" with the growing interests and authority of the medical fraternity.(2)

Secondly, because cupping is a surface treatment, it was inconsistent with the new paradigm, which "moved away from the personal contact of the manipulative and hands- on therapies of earlier times."

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(1) Foucalt, M.: The Birth of the Clinic, Tavistock, Great Britain. 1976.
(2) Porter R.: Disease Medicine and Society in England 1550-1860, Macmillan, London 1987.

Thirdly, it was during this period that the newly established scientific model of medicine began discrediting all other previously established traditional therapies in order to gain medical dominance.

Fourthly, the "clinical gaze" which took to define medicine made the body transparent, looked at, and treated the inside in preference to the outside.

Fifthly, it was with the onset of the scientific approach to medical practice and the introduction of medical statistics, also with the development of more stringent diagnostic and treatment techniques, based on consistent and documented experimental methods, that cupping was finally realized to be detrimental to health. In 1885 bloodletting in London had fallen into disfavor.[1].

Sixthly, the invention of various antibiotics and fever- reducing drugs has also contributed to the decline of cupping therapy.

IV. Cupping Death [From the early to mid 1900s]

The 20th century has certainly seen cupping wane in Anglo- Saxon society[2], however, although cupping is no longer generally recommended by physicians, it has remained popular in some areas of Europe, and is still practiced by different people of various nationalities, especially in rural areas. Many Mediterranean peoples, for example, still practice cupping in their homes, especially Turks and Greeks, who include a set of cups in their first aid boxes or, in some cases, merely use jam jars.

Some of the most complex cupping devices were invented in a period when most physicians regarded cupping as ineffectual, most surgical companies advertised cups, scarificators and cupping sets in the 1920s and even as late as the 1930s.[3] The evolution of suction techniques has provided the breast pump for milk collection, and

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[1] Watson, T., and Condie, D.: Watson's Practice of Physic, Philadelphia, Pennsylvania, Blanchard and Lea, 1858, p. 167.
[2] Porter R.: Disease Medicine and Society in England 1550-1860, Macmillan, London 1987.
[3] Chirali I Z [1999]: Traditional Chinese Medicine: Cupping therapy; Churchill Livingstone.

vacutainer for modern venipuncture. In addition, concepts surrounding the removal of blood have led to treatments such as blood transfusion and hemodialysis.[1]

[1] Hamilton Al. Dissertatio Medica Inauguralis De Synocho Castrensi. Edinburgh: J Ballantyne, 1816.

Chapter 6

Renaissance of the Age- Old Technique

Cupping has been used for thousands of years, but has recently gained popularity for its ability to release toxins [i.e. helps tissues to release toxins], enhance blood circulation, stimulate immune system, and reduce stress as it releases chemicals in the brain that reduce stress and depression. This chapter focuses on the new trend toward this age- old treatment.

Renaissance of the Age- Old Technique

A tradition of several thousand years dies hard. The age- old technique had been rediscovered in the twentieth century. The popularity of cupping has seen little resurgence since its fall over the past one and half centuries.

I. Old Treatment, New Trend

For a time, cupping was reduced to the curiosity shelf of the past. However, over the past couple of decades, the tide has turned and people are rediscovering that some practices have plenty of merit, as well as reinstate their own ability for self- care. This was relayed on to a set of social processes that stigmatized cupping and changed people's attitude to many traditional practices.

Public awareness and education have changed, from seeing these as "quack" remedies to more respectable alternative treatments. Of all patients who suffer from arthritis in United States, 26.7% use complementary/alternative medicine [CAM] and 38.5% of those patients, see both a medical doctor and a CAM therapist.

II. New Public Interest in Cupping

Today, as most people seek complementary/alternative therapies to deal with their health problems, many integrative medicine centers offer unconventional care, from meditation to yoga to aromatherapy. Therapies such as aromatherapy, reflexology, chiropractic, osteopathy, Tui- Na, massage, cupping and acupuncture have become popular. However, for many people, cupping has become a therapy of choice, suddenly trendy after actress Gwyneth Paltrow's use of it.[1]

III. Scientific Community Reacts to Cupping

For an operation with about 5,000 years history, cupping has attracted little attention in recent historic accounts of medicine.

Current clinical researchers use bloodletting when it seems necessary to reduce iron levels temporarily in the blood. A report from a

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[1] What Caused Gwyneth's Spots: By Michelle Roberts. BBC News Online health staff. Friday, 9 July, 2004.

meeting on digestive diseases in May of 1999, for example, suggests that lower serum iron levels in patients with untreated hepatitis C virus respond better to interferon.[1] Bloodletting is also being practiced at Harvard Medical School and Johns Hopkins Medical Center, two of the most prestigious medical centers in the world.[2]

In both America and Europe, the education of the complementary/alternative therapist has taken on a new meaning. As a result of the high demand by the public for CAM, academic courses are being taught in medical schools; 60% of medical schools in the U.S.A have begun teaching CAM.[3] Also, classes are now advertised in most towns in the U.K.[4] There are specialist cupping practitioners in Europe, United States, and China. In addition, there are specialist cupping practitioners in Japan. Cupping is also still practiced by different people of various nationalities; it remained popular especially in rural areas.

IV. Cupping Today

Cupping therapy gains popularity as a complementary or alternative medical practice. The following is a worldwide Review illustrate the use of cupping allover the world countries:

1. In China

Traditional Chinese Medicine [TCM] practitioners and naturopathic physicians still use cupping all the time.

2. In Germany

In Germany, between 1987 and 1992, some 32 to 64% of patients with chronic polyarthritis had tried cupping as one of the unconventional procedure for treatment.[5]

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[1] Doctor's Guide to the Internet, Medical & other News, 2003.
[2] Skaar E [2004]: Why Bloodletting may actually worked. Science, Sept. vol 305: pp 1626-1628.
[3] Eisenberg DM, Davis RB, Ettner SI, Appel S, Wilkey S, Van Rompay M et al [1998]: Trends in Alternative Medicine use in the United States, 1990-97. Jama; 280: 1569-1575.
[4] Eisenberg DM, Davis RB, Ettner SI, Appel S, Wilkey S, Van Rompay M et al [1998]: Trends in alternative medicine use in the United States, 1990-97. Jama; 280: 1569-1575.
[5] Miehle W [1995]: Chronic Polyarthritis- Treatment with Alternative Medicine. How Frequent is [self-] Therapy with Alternative Methods?, Fortschr Med. 1995 Mar 10; 113 [7]: 81-5.

3. In United States

Cupping is just now gaining publicity in the United States. As a result of the high demand by the public for cupping therapy, academic courses are being taught in medical schools as a form of complementary medicine.

4. In Ethiopia

Traditional medicine in Ethiopia includes cupping, which is recorded in oral tradition and in early medico- religious manuscripts and traditional pharmacopoeias, which, according to the estimates of some historians, date back to the 15th century A.D. Cupping is largely practiced by traditional medicine practitioners, although, particularly for certain common health problems, it is also practiced at home by the elderly and by mothers.

Over 80% of the Ethiopian populations rely on traditional medicine. This represents the majority of the rural population and sectors of the urban population where there is little or no access to allopathic health care. In 1986, over 6000 practitioners of traditional medicine were registered with the Ethiopian Ministry of Health.[1]

5. In Canada

In Alberta, permissible technical modes of traditional practice are restricted to needle acupuncture, electro- acupuncture, moxibustion, cupping, and acupressure. A research unit is established in the Institute of Traditional Medicine Services. This unit conducts research for further quality control of raw materials and finished products for traditional medicines as well as developing new products. It also ensures the sustainability of traditional medicine services and looks for ways to increase the cost- effectiveness of traditional medicine.

6. In Finland

The Ministry of Social Affairs and Health recognizes the increasing contribution of complementary/ alternative therapies to the Finnish Health Care System. Among older rural Finns, massage, bonesetting,

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[1] Legal Status of Traditional Medicine and Complementary/ Alternative Medicine: A Worldwide Review © World Health Organization 2001.

and cupping are popular; among younger urban Finns, natural medicine, manipulation, acupuncture, and hypnosis are popular.

7. In Mongolia

From the 1930s until the end of the 1980s, traditional medicine was officially ignored. Socio- economic changes in Mongolia during the 1990s led to the development of the national culture, including revival of the traditional medical heritage. Traditional medicine is now more popular and accessible to communities.

Acupuncture, moxibustion and glass- cupping therapy have gradually been recognized as clinically effective in the treatment of disease and in the promotion of health. There is one 100- bed hospital for traditional medicine, 15 small traditional medicine hospitals with 10 to 20 beds, 19 outpatient clinics for traditional medicine near Government health centres, and 81 private clinics and units of traditional medicine. There are also five manufacturing units for traditional medicines. Including those who have taken short- term courses in traditional medicine, there are about 600 from a total of 5875 allopathic physicians providing traditional medicine, acupuncture, and glass-cupping therapy.[1]

8. In Vietnam

There is official recognition for a number of traditional therapies, including cupping, medications made from plants and animals, massage, acupuncture, acupressure, moxibustion, vital preservation, and thread embedding.

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[1] Legal Status of Traditional Medicine and Complementary/ Alternative Medicine: A Worldwide Review © World Health Organization 2001.

Chapter 7

Equipments Used for Cupping

[Past & Present]

Early instruments for cupping included cattle horns and bamboo cups. Sheepskin valves were also used to create suction in the cups. Modern suction cupping is still very similar to old methods, but some new developments include electronic, electrical, and mechanized suction pumps. This chapter displays the information regarding ancient and modern cupping instruments.

Equipments Used for Cupping
[Cupping Tools]

A variety of cupping tools were used to perform cupping operation. The cup is well represented in historical medical collection. Eventually, many different types of equipment used for cupping. The medical application of cupping evolves the refinement of the cupping tool itself.

I. Early Cupping Tools

Most of the information regarding the history of cupping has come from the equipment used to perform the procedure. In past time, various natural resources began to be used to effect suction, which makes good sense because indigenous groups could exploit their natural resources. For example, natives along the west coast of North America, in the vicinity of Vancouver Island, used shells, In Europe, Asia, Africa and North America; hollow animal horns were fashioned to provide an effective cupping device. Sheepskin valves were also used to create suction in the cups.

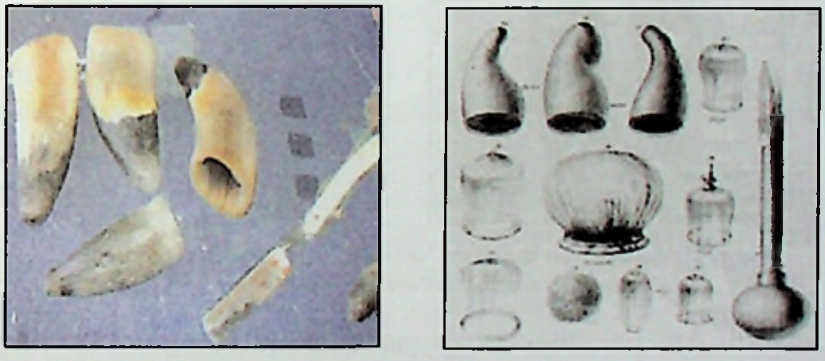

Fig [21]: Cupping developed over time from the original use of hollowed animal horns and shells to drain toxins out of snakebites and skin lesions.

II. The Horn Method

The true origin of using the cup as a tool of therapy remains in obscurity. However, the earliest cupping instruments were made from the hollowed, distal portion of an animal's horn called "*Cupping Horns*" with a small hole at the top, which was used for mouth suction, through which the cupper could suck out the blood from

scarifications previously made by a knife. The hole was made in the pointed end. Once suction was established, the hole was plugged with wax. Such devices were described by **Paré**.[1]

To create a negative pressure inside the horn, fire was ignited to expel the air. Another method was to create a hole in the top of the horn, around which the practitioner would place his lips and physically suck out the air to create a negative pressure. Then the horn is removed and superficial incisions are made within the cupped area. Then, the horn is reapplied and the mouth-end of the horn is vigorous sucked leading to blood accumulation within the horn.

Horn therapy was mentioned in the *Wu Shi Er Bing Fang* text from the **Mawang Dui** graves, dating from 168 B.C, but seems not to have been used systematically until around 300 A.D.[2]

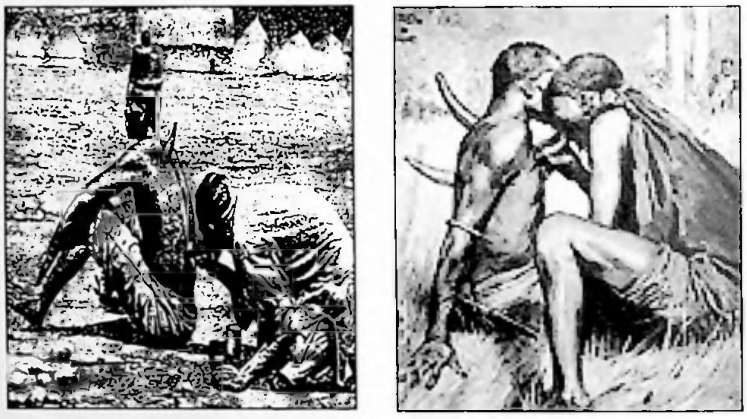

Fig [22]: An African healer or "*shaman*" applying the technique of cupping to a patient using animal horns.[3]

In North America, the natives made their cupping implements by slicing off the point of a buffalo horn. They would then place the base of the horn on the body and suck the air out through the opening at the tip. When a vacuum was achieved, a wad of dried grass would be immediately thrust into the opening by the nimble workings of the

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[1] Johnson, T.: The Works of that Famous Chirurgion Ambrose Parey [Paré], London, printed by T. Cotes and R. Young, 1634, p. 692.
[2] Cui Jin and Zhang Guangqi, A Survey of Thirty Years' Clinical Application of Cupping, Journal of Traditional Chinese Medicine 1989; 9 [3]: 151–154.
[3] Wellcome Institute Library, London.

tongue. By this method the healers, with their powerful facial muscles and considerable agility, can make a very successful job of cupping.[1]

Back in the Jin dynasty, the famous Taoist alchemist and herbalist, **Ge Hong** [281–341 A.D.] in his book *"A Handbook of Prescriptions for Emergencies"* first mentioned the use of animal horns, in the form of jars, as a means of draining pustules and to dispel pus.[2]

Because of using horns, cupping has been known as *jiaofa*, or the horn technique. The animal horn was used along with continual development in clinical practice, the materials for making jars and the methods have been greatly improved.[3]

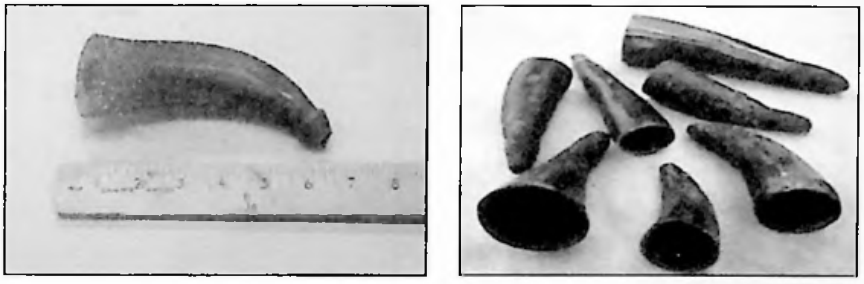

Fig [23]: Horn cup.

During the Babylon- Assyrian Empire [stretching from Iraq to the Mediterranean], massage was practiced as well as "cupping by sucking, with the mouth or by using a buffalo horn."[4] The source of this information was presumably found inscribed on clay tablets, written in one of the earliest written languages, i.e. cuneiform script around 700 BC.[5] Another technique used to withdraw disease was by sucking through a bone tube. Latter on, horns evolved into bamboo cups, which were eventually replaced by glass.

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[1] Brockbank W [1987]: The Ancient Art of Cupping; The British Journal of Chinese Medicine, Vol. 1, and no. 21:22 Windhorse Press, London.
[2] Jin C, Guangqi Z [1989]: A Survey for Thirty Years Clinical Application of Cupping, Journal of Traditional Chinese Medicine 9 [2]: 151-154.
[3] Xinnong C [1987]: Chinese Acupuncture and Moxibustion, Chapter [15] p: 346-347, Foreign Language Press. Beijing.
[4] Mettler, FA, [ed] The History of Medicine, The Blakiston Co., Philadelphia. [1947:320].
[5] Mettler, Cecilia. History of Medicine. Toronto, ON. The Blakiston Co. 1947. p 48, 207, 328-9, 333-5, 507-9, 535-8.

III. Types of Cups [From Animal Horn to Glass]

Cupping could be done using a suitable vessel or whatever modern equipment serves the same purpose. The therapeutic applications of cupping evolved with the refinement of the cup itself, and with the cultures that employed cupping as a healthcare technique.

The first cups were animal horns, and the next generation were made of bamboo or pottery. Only in the 20th century were the current glass cups developed. Cups of bamboo, pottery [ceramic], metal and glass are now available and many ways to procure a partial vacuum in the cup with or without a wee bit of fire have been found. Also, common drinking glasses have been used for this purpose. The public cups were most often dome- shaped glasses.

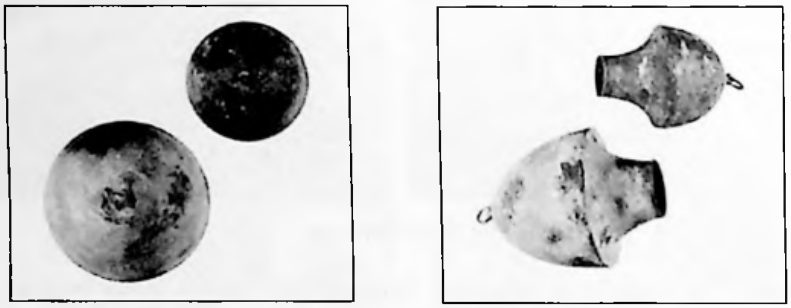

Fig [24]: Ancient metallic vessels for cupping [from two perspectives] [1]

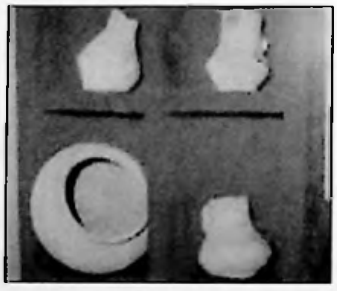

Fig [25]: Ancient pottery vessels for cupping

[1] Image is the property of Historical Collections & Services of the Health Sciences Library, University of Virginia.

Bailey[1] defines a cupping glass as "a sort of glass vial applied to the fleshy part of the body to draw out corrupt blood and windy matter". The same dictionary uses "*cucurbitula*" as a synonym for cupping glass. The word is derived from Latin curcurbita meaning a gourd, or made in the shape of a gourd. It is interesting to note that small gourds were actually used as cupping devices for drawing blood.

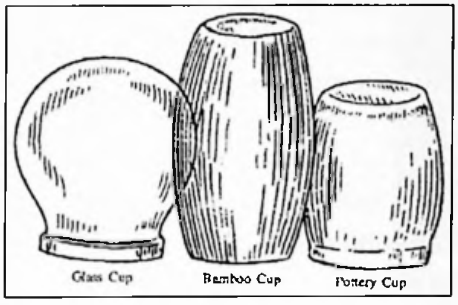

Fig [26]: The commonest types of cups[2]

The larger Cupping vessels have been used for larger areas on the body, such as the back or thighs. The smaller vessels have been applied to the arms. The Arabs called the cupping vessel *"Al- mihjam"* to indicate that it was a vessel that had to be evacuated before it could be applied to suck the skin.

1. Bamboo Cup:

The bamboo cup is light, low- priced and hard to break, but easy to crack to cause air leakage. A bamboo cup is made of a piece of undamaged bamboo cut into a tube with the diameter of 3-5 cm and the length of 6-10 cm. One joint is remained as the bottom and the other is cut off as the opening. The green skin and the inner membrane must be scraped with a knife and shaped like a waist drum. Then the cup is polished with sand paper and the opening is made and smoothed.

Fig [27]: The bamboo cup

[1] Bailey, N.: English Dictionary, London, printed for R. Warf, A. Ward, J. and P. Knapton, and T. Longman, 1742.
[2] Hua W, Qi W, Gang L: Science of Acupuncture and Moxibustion, p: 142-145, Wuhan University Press; 1996.

2. Pottery "Ceramic" Cup:

This kind of cup is made from pottery with the varying caliber. Generally, a shorter cup has a smaller caliber and a longer one has a bigger caliber. This level- and- smooth-mouthed cup has a round belly which is bigger than its mouth and bottom with the shape like a waist drum. Pottery cup has a strong suction, but is quite heavy and easy to break.

Fig [28]: The pottery cup

3. Metallic Cup:

This kind of cups is made from metal with the varying caliber. Metallic cup is too heavy and rarely used nowadays.

Fig [29]: The metallic cup

4. Glass Cup:

This kind of cup is spherical in shape and has a very smooth mouth, and different varieties. Its merit is that the degree of congestion can be observed through the transparent cup in the treatment, so that the correct time of cupping may be followed. But glass cup is also easy to break.

Fig [30]: The glass cup

5. Cup with Squeeze Rubber Top:

This cup is made with a hollow rubber handle attached to the top. The practitioner simply squeezes the rupper handle, and places the cup on the desired point. When the rubber handle is released, a vacuum is created.

A major disadvantage of this cup is that only a limited amount of air can be drawn out of the cup, and therefore the suction obtained remains limited to light and medium strength.

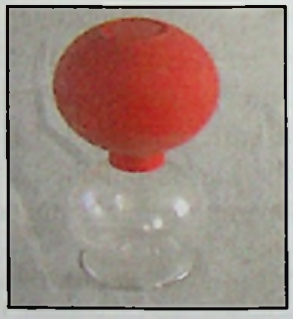

Fig [31]: Cup with squeeze rubber top

This cup is the one preferred for children under 7 years old, it is well tolerated by them, as there is no fire or machine involved. Parents can easily and safely use this type of cups on their kids at home.

6. Rubber Cup:

Fig [32]: Rubber cup[1]

Chirali, the author of the famous book *"Cupping Therapy"*-had introduced a new cup that is completely made of a rubber material.

The cup is corrugated in shape and when the air is pushed out a rather strong suction is obtained. The smooth surface of the mouth of the rubber cup makes it ideal for use on the face, stomach, legs and other tender parts of the body.

Chirali mentioned that this cup gives a good strength of suction and it is versatile in its application. But because of its rubber material, it cannot be boiled or sterilized in a strong solution, so it is recommended for personal use rather than in clinical environment.

7. Screw-top Cup:

Fig [33]: Screw-top Cup[2]

This cup has an adjustable screw-threaded handle located on top of the cup and attached to a piston-like suction pump inside the cup. The level of suction required is obtained by turning the handle anticlockwise and allowing the piston ring inside the cup to touch the patient's skin. The handle is then turned clockwise in order to pull the piston upwards, thereby creating a negative pressure inside the cup.

Using this cup is very easy as neither electricity nor fire is needed. However, a sufficient degree of sterilization cannot be achieved as the cup is lined with a fine lubricant in order to facilitate the movement of

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[1] Chirali I Z [1999]: Traditional Chinese Medicine: Cupping Therapy; Churchill Livingstone.

[2] http://www.chinajnbook.com/cupping/supply.htm

the piston [1]

8. Valve Cup:

This type of cups is usually made of toughened glass or clear hard plastic material and has a valve attached to its top.

Fig [34]: Valve Cup

A pump, which resembles a bicycle pump, is also included with this cupping set. The cup is placed in the desired position and the pump is inserted into the valve, then the air is pumped out of the cup, creating a negative pressure.

This method provides absolute control on the degree of the suction power. Moreover, it is inexpensive and can be sterilized easily and properly.

9. Cup with Magnetic Head:

In this cup, a separate magnetic head is fitted inside the plain [ordinary] cup to activate its suction power. According to some doctors who use of magnetic stimulation during a cupping treatment, magnetic stimulation increases the therapeutic effectiveness of cupping, especially when applied to joints, including the knees and elbows.

Fig [35]: Valve Cup

One of the disadvantages of this sophisticated cup is that it cannot be sterilized as efficiently as the plain cup.

10. Electric Cup:

This cup is attached to an electric cupping apparatus through an umbilical suction cord. Suction degree and duration can all be adjusted and controlled electronically by the

Fig [36]: Electric Cup

[1] Chirali I Z [1999]: Traditional Chinese Medicine: Cupping Therapy; Churchill Livingstone.

doctor. If needed a separate cable can be fitted to activate an electro-magnetic probe inside the cup.

IV. Sucking Methods

There were several ways to create suction in the cupping glass. One was to heat the air in the glass before application to the skin; as the air cooled, a suction developed. Another way was to attach a brass syringe to the glass cup to produce suction. However, the heated cupping glasses remained the favorite method.

The two methods commonly used to create a negative pressure inside the cup are:

1. Fire Cupping [Traditional Cupping]:

In this technique, the air inside the cup is removed with fire. The partial vacuum and suction necessary for cupping is obtained by placing either a lighted object inside the cup or igniting a thin film of flammable liquid, e.g. alcohol, inside the cup. Then the lighted cup is applied rapidly to the skin and allowed to cool.

In past times, suction had been achieved by inserting a torch into a tube for a few seconds before placing it on the patient's skin, resulting in frequent burns and uncomfortable pressure.

Fig [37]: Flash- fire Cupping

As the small fire inside the cup burns up the available oxygen, a partial vacuum is produced which gently draws the skin and flesh up inside the cup. This leads to swelling of the tissues beneath and an increase in the flow of blood in the area. This was thought to draw out harmful excess blood from diseased organs nearby and so promote healing.

The amount of pressure applied varies with the size of the flame. Usually in the West, much less pressure is used than the Chinese would, due to the expected skin colour changes. Several precautions must be taken to avoid burning the patient's skin; the edges of the cupping glass should not to be heated.

2. Air- Extracted "Valved Pump" Cupping:

At the end of the 20th century, another method of suction was developed in which a valve was constructed at the top of the cup and a small hand- operated pump is attached so that the practitioner could suck out air without relying on fire thus avoiding hazards and having greater control over the amount of suction. In this technique, the air inside the cup is removed by pumping or extracting, thus, the modern name for cupping is **"Suction Cup Therapy."**

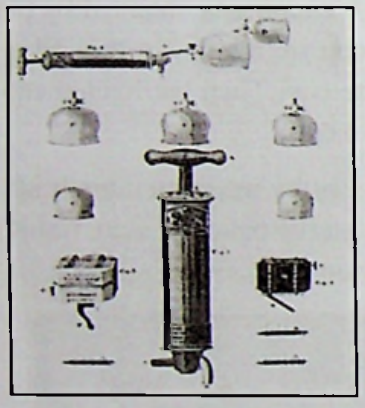

Fig [38]: Syringe applied to cupping[1]

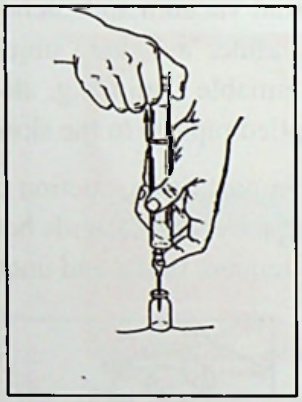

Fig [39]: Air- Extracted Method[2]

The primary advantage of valved pump method is that the amount of suction and thus the amount of force applied to the skin can be precisely controlled. This allows for considerable control over the amount of stimulation applied. This technique is usually adjunctive for symptom control, the amount of pressure delivered for each patient is very important. This degree of control cannot be achieved with the hot-cupping or fire-cupping technique.

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[1] From John Weiss Surgical Instruments, 2nd edition, London, 1831.

[2] Hua W, Qi W, Gang L: Science of Acupuncture and Moxibustion, p: 142-145, Wuhan University Press; 1996.


Fig [40]: Valved Pump Method

V. Cupping Sets

As a result, another product line resulted for the glass and pottery manufacturers. Some of the cupping sets produced were quite decorative and were once a common item in hospitals, pharmacies and homes.


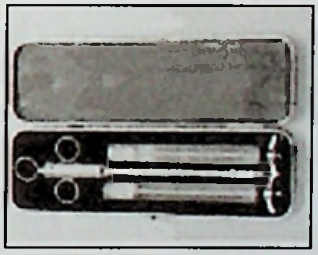

Fig [41]: Set of cupping instrument known as "The Artificial Leech" in a cylindrical leather case

All of the elements of wet and/ or dry cupping were often placed in a complete kit, or cupping set. Therefore, cupping set could be practiced either wet or dry to draw blood to the surface of the skin. In dry cupping, the skin was not broken, but in wet cupping the skin was scored.

These sets often had multiple cups, suction devices, scarificators, spare blades, etc. Several of the pieces illustrated here are present in the History Division's Museum Artifact Collection. Figures: [a, b, c].

Fig 42: a

Fig 42: b

Fig 42: c

Fig [42: a, b, c]: 19th- century European cupping set [English [1860], American [1880], and French [1900] cupping sets respectively].[1]

Other collection does have a variation of a cupping set, known as "The Artificial Leech". Writers of medical history quote figures of sets of cupping instruments. Some of the most complex cupping devices were invented in a period when most physicians regarded cupping as ineffectual. In addition to sophisticated devices, simple cupping, especially dry cupping, continued well into the early 1940s.

Typically, cupping sets - like those pictured [above]- included glass cups, however more rarely they were metal. These cups would be warmed prior to application to the treatment area, creating a vacuum, which kept the cup attached to the skin.

VI. Modern Cupping Tools

In recent years, multi- functional vacuum cupping devices made of high- technical materials marked a great leap forward of the features of cupping devices and sucking measures. However, much of the cupping equipment and methods used today are exactly the same as they were in ancient times. There are just a few exceptions, where for example electronic, electrical or mechanical suction pumps have been introduced.

To overcome the disadvantages of the conventional cup, a modern technology of cupping treatment developed. Cups are now available with built- in valves, which are pumped either manually or by means of a machine [a suction device] for creation of a vacuum. Today manual plastic cupping sets are quite known.

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[1] Antique Medical Instruments by C Keith Wilbur, MD, 1987.

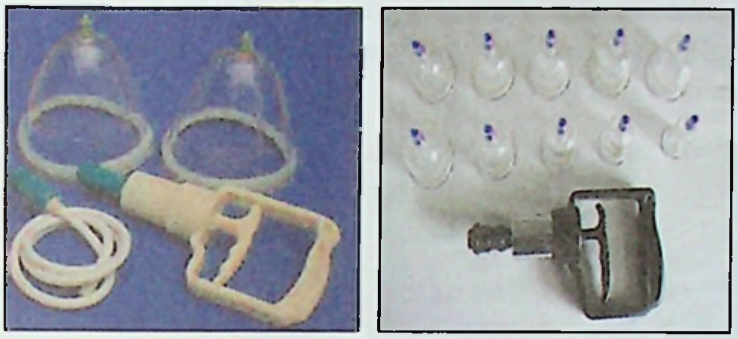

Fig [43]: A plastic set of valved pump cups

Electric pumps are also available i.e. Electric cupping device by which the intensity of vacuum can be brought under control according to the position and nature of the lesion without harming the skin.

In China, the use of electric cupping device involves the patient in additional cost. Also, the electric cupping machine itself is expensive, bulky and impractical as far as mobility is concerned. Theses machines are heavy, and are consequently mounted on a portable table so that they can be taken to the nearest bed and positioned next to the patient. In Chinese TCM hospitals, almost every acupuncture department has an electric cupping machine.[1]

Fig [44]: Electric cupping device

Electromagnetic cupping set has been developed to increase the therapeutic effectiveness of cupping, especially when applied to the joints. However, the majority of people practicing cupping today still use

[1] Chirali I Z [1999]: Traditional Chinese Medicine: Cupping Therapy; Churchill Livingstone.

horn, bamboo or glass cups to a great extent. This is because cupping is generally practiced in rural areas where no or very little modern medicine is available.

Fig [45]: Modern Cupping Sets

Chapter 8

Equipments Used for Bloodletting

[Past & Present]

A variety of devices were used to draw blood. The lancet was the first one used. Eventually, the scarificator emerged. Today, varieties of very fine surgical lancets can be used, as they are disposable and easily handed. This section discusses the old and recent instruments used for bloodletting.

Equipments Used for Bloodletting

[Tools for Cutting]

A variety of devices were used to draw blood. The lancet is well represented in historical surgical collections. However, thorns, pointed sticks, sharpened stones, bones, sharp pieces of flint or shell, and even sharply pointed fish and shark's teeth were among the first instruments used.

Fig [46]: Flint lancets used by native doctors.[1]

Eventually, two classes of equipment emerged: those used for general bloodletting and those used for local bloodletting.

I. The Lancet

The lancet was first used before 5th Century B.C. For general bloodletting the vein was manually perforated by the practitioner. For local bloodletting [wet cupping] many shallow cuts were sometimes made.

The fleam was heavily used during the 18th and 19th centuries. Many varieties exist. Sometimes a wooden "fleam stick" was used to hit the back of the blade and drive it into the vein. The fleam was often used by veterinarians.

Spring loaded lancets came into use during the early 18th Century. The device was cocked and a "trigger" fired the spring-driven blade into the vein.

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[1] Bloodletting Instrument in The National Museum of History & Technology By Davis A & Apple T.

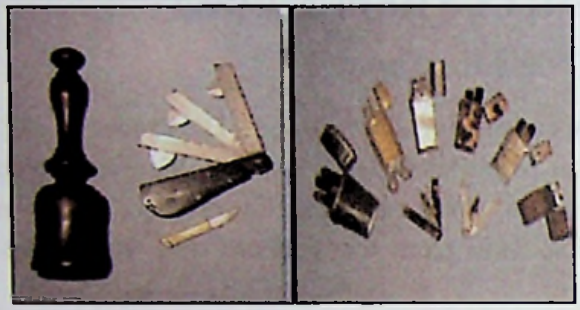

Fig [47]: Lancets for bloodletting

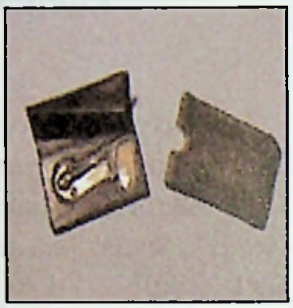

Fig [48]: Spring loaded lancets

Today, varieties of very fine sterile disposable lancets are available and sold in pharmacies. These small surgical lancets are widely as they used are disposable and easily handed.

II. The Scarificator:

The scarificator, a simple square or octagon with multiple blades [a series of twelve blades] was invented in the sixteenth century. This device was introduced somewhere around 1715 and was soon adapted for wet cupping and was widely used as it seems more merciful than the other bloodletting instruments. Scarificators were also in vogue during the 18th Century. They contained spring-loaded knives which made multiple incisions to the treatment area.

The scarificator was cocked and the trigger released spring-driven rotary blades, which caused many shallow cuts. The blades could be used up to twenty times, being cleaned and greased after each procedure by springing it into a piece of mutton fat.

Most of scarificators were cube- shaped, brass boxes containing multiple small knives operated by a spring mechanism, some of which were cylindrical in shape, containing from 1 to 20 blades; however, most had 12 small knives. The direction of the incision was to correspond to the course of the muscular fibers.[1]

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[1] Druitt, R.: Modern Surgery, Philadelphia, Pennsylvania, Blanchard and Lea, 1860, p. 602.

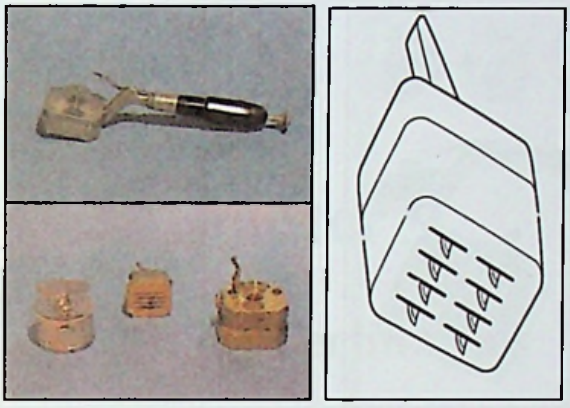

Fig [49]: Scarificator

Among the early nineteenth century attempts to improve cupping technology is the bloodletting set which contained cups made of glass; scarificator, and spirit heater.

As the popularity of bloodletting cupping decreased in the mid-nineteenth century, interest was lost in scarification and the effort turned to creating a more effective air- tight syringe to create suction for dry cupping.

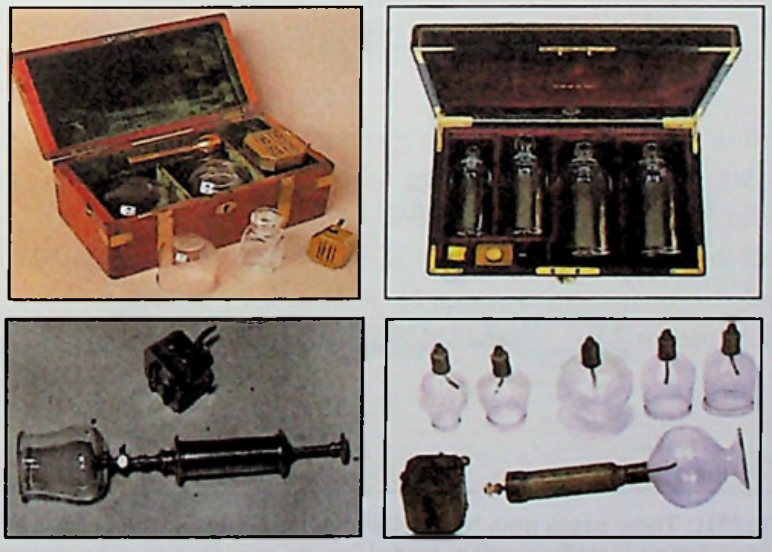

Fig [50]: Sets of bloodletting cupping instruments, consisting of a scarificator, spirit heater and glass cups

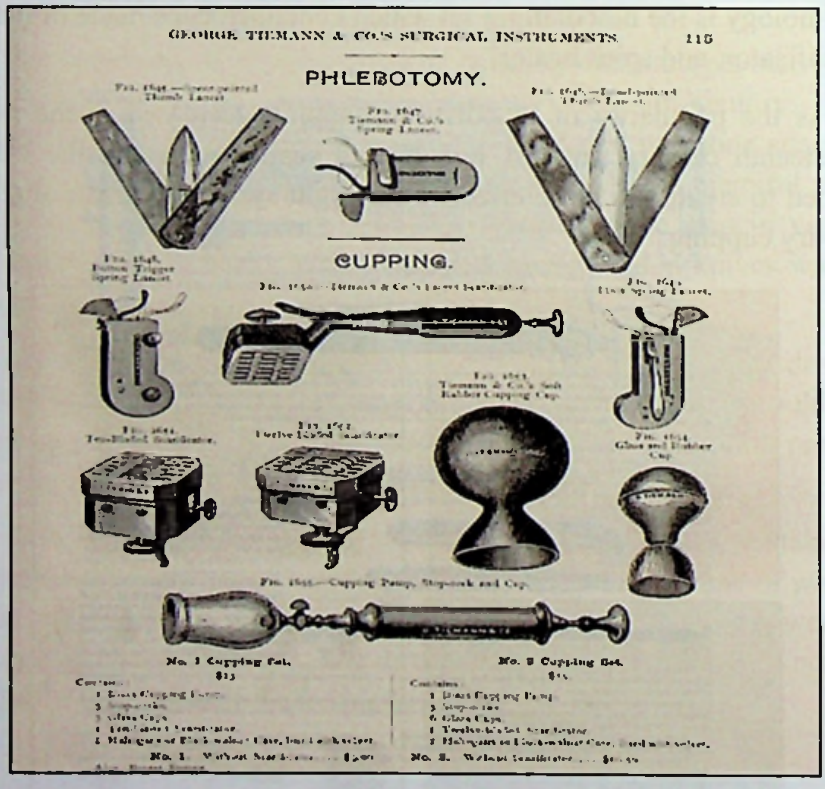

Fig [51]: These pages from textbook shows the various instruments used for bloodletting including spring- loaded lancets, scarificators and cupping.[1]

[1] Bloodletting Instrument in The National Museum of History & Technology by Davis A & Apple T.

Chapter 9

Cupping Techniques

Many techniques of cupping are used to attain results. These techniques could be classified into two main types, simple and combined one. The doctor can decide how to use the cups depending on the patients and the presenting condition. This chapter looks at over ten methods used to treat dozens of acute or chronic diseases by cupping.

Cupping Techniques

Cupping techniques involves applying over ten methods that can be classified into two main types, simple and combined one.

Simple cupping involves three methods known as Momentary [quick] cupping, retained [sustained] cupping, and sliding [movable] cupping. These methods are used to treat dozens of acute or chronic diseases by stimulating the cupping points mainly of the back.

Combined cupping also involves fives techniques; bloodletting needle, moxa, herbal and watery cupping.

The doctor can decide how to use the cups depending on the patients and the presenting condition. For example, if it is a child with asthma, flash cupping techniques would be used [which they usually find very enjoyable]; the cups are applied and pulled off in quick succession creating a popping sound not unlike popcorn.

For more chronic cases, e.g., a frozen shoulder or joint pain, a longer application would be use with a stronger pull.

I. Simple [Dry] Cupping Techniques

Simple cupping is the application of a suction cup over an area of intact skin; the idea is to draw underlying blood and fluid away from the area of inflammation to the surface of the skin. No incision is made in simple cupping; no other therapeutic tool is added. Simple cupping is also called "dry" or "empty" cupping.

This method relieved the congestion from the inflamed area, but did not remove fluid from the body. In addition, the cup can be placed against specific skin zones- reflex zones- usually on the back, abdomen or legs. Stimulating these zones by drawing blood flow to them in turn stimulates the tissues and internal organs to which the zones are believed to correspond. Also, the negative pressure inside the cups create minor bruising; this triggers the immune system, which must respond to the "injury".

Simple cupping is primarily used for people with a weak constitution and low blood pressure; it is never for patients with high blood

pressure. There are three forms of simple cupping which differ according to the length of time the cups are left on the skin:

1. Momentary [Flash or Quick] Cupping:

This method involves applying the cups to the selected points or areas, and then almost immediately releasing the pressure, [i.e. cups are retained for a very short period of time and removed at once].

Fig [52]: Momentary Cupping

A medium to strong negative pressure is applied with short treatments. The process is repeated many times over the same area until the desired result is achieved i.e., until the skin becomes reddish. This treatment is commonly used for treating children and weak patients.

This method is good for drawing local congestion to the surface and is used mostly for disorders involving some kind of hypo function of underlying organs. It is also stimulate the immune system and is applied for:

1. Tender point that is stubborn and does not cure.
2. Skin numbness.
3. The location where the muscles are relaxed and the cup cannot be absorbed tightly or where it is difficult to retain the cup.

2. Retained [Sustained] Cupping:

This method involves applying the cups to the selected points or areas, and retaining them for one to ten minutes before removing them. i.e. cups are retained for a moderate to lengthy period of time.

Fig [53]: Retained Cupping

In summer, and where the skin and muscles are thin, or for the large cup

that has strong sucking power, the duration should not be too long lest it scald the skin. This is probably the most commonly used cupping method and is widely employed for many different disorders.

Different degrees of negative pressure could be applied. Therefore, three forms of retained cupping can be used. They differ according to the degree of negative pressure the cups produced on the skin:

- **Weak [Light] Cupping**

The negative pressure used in this method is less intense and therefore so is the suction, making it a gentle treatment that can be used on patients of any age. This method is intended to mobilize deep blood congestion and activate blood circulation providing better general health of the body without harming in the weak or elder patients.

Weak [light] cupping can improve physical and mental stress conditions. It is also, effective for gastrointestinal tract [GIT] problems, or neurological conditions e.g. post- stroke weakness.

- **Medium Cupping**

The suction in medium cupping is firmer than the light method and can be safely administered to children over age 7 as well as adults. Muscular pains, stress- related conditions and children's ailments can all benefit from medium cupping treatments. Like weak cupping, it will also act in enhancing and improving the general health of the body.

- **Strong Cupping**

The suction in this method is the firmest. Because strong cupping manipulates significant amounts of blood, it often leaves marks on the patient. The purpose of such a treatment would be to remove blood congestion from deep muscle to the skin surface by the suction force thus improving the blood circulation within the affected area providing better chance for healing and regeneration. This method can be effective in treating painful, swollen joints as well as Frozen Shoulder Syndromes.

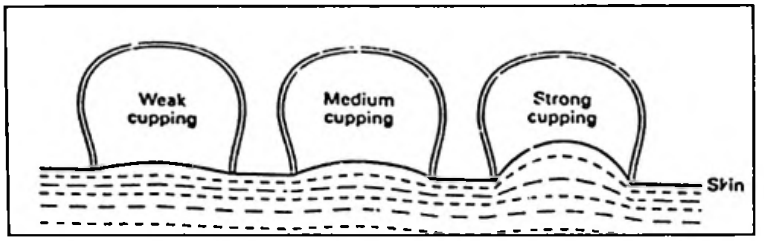

Fig [54]: Section of the skin showing weak, medium and strong cupping.[1]

3. Sliding [moving] Cupping

This treatment has some relation to certain massage techniques, such as rapid skin pinching along the back.[2] It combines two different methods of treatment: cupping and Guasha [scraping]. Where cups are moved about over the surface of the skin, the cup can be moved while the suction of skin is active; causing a regional pulling of the skin and muscle.

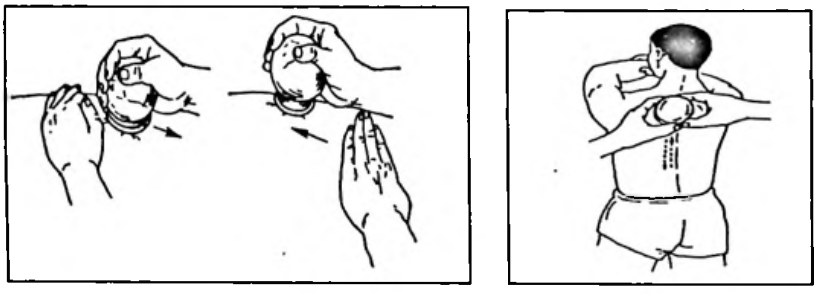

Fig [55]: Sliding [moving] Cupping.[3]

Moving cupping applies strong suction to a larger area of the body, usually on the back. It is usually applied at a wide flat area where the muscle is thick This method can be used to prevent muscle atrophy [shrinking of muscles], as it promotes the local blood circulation that helps supply more oxygen, hormones and essential enzymes to the local tissues and joints. Then the hormones, oxygen and enzymes are interacted liberating energy to feed the local nerves and cells, and to

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[1] Chirali I Z [1999]: Traditional Chinese Medicine: Cupping Therapy; Churchill Livingstone.

[2] Jiang L [1996]: A Miraculous Spinal Pinching Therapy, Journal of Traditional Chinese Medicine; 16 [3]: 228–229.

[3] Hua W, Qi W, Gang L: Science of Acupuncture and Moxibustion, p: 142-145, Wuhan University Press; 1996.

keep the local tissues warm and to increase elasticity and flexibility of the muscle and joints. It also benefits muscular pains by relaxing spastic muscle fibers and bringing up the blood circulation to the surface of the skin.

This method is also effective for neurological conditions, such as numbness and post-stroke weakness that could be improved by using this complementary treatment.

II. Combined Cupping Techniques

Cupping is usually used on its own, but can be combined with other therapies. When cupping is combined with other therapies this is called "Combined Cupping Therapies". Combined cupping involves fives techniques; bloodletting, needle, moxa, herbal and watery cupping.

1. Bloodletting Cupping [BLC]:

Bloodletting, wet, or full cupping is another cupping technique, which involves scarification of the skin so that blood could be extracted. With wet cupping, small cuts on the skin [usually on the back, but sometimes on the head or elsewhere] are made then cupping is applied creating a suction to pull out a small amount of blood.

BLC cupping was employed by all practitioners, especially in Europe, to purge foul blood [toxins], considered the cause of disease, from the body. Today, it is commonly used for sudden increase in blood pressure, discharging pus from boils and furuncles and other problems. There are two primary techniques of BLC:[1]

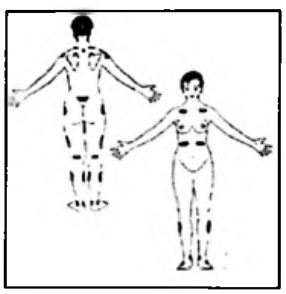

Fig [56]: Areas of vascular spider formation.

- **Vascular BLC:**

This method involves piercing and draining out quantities of blood from very small superficial visible blood vessels called "spider nevi". Once these spider nevi has been selected, small

[1] Birch S and Ida J [1998]: Japanese Acupuncture; a Clinical Guide [181-2242], Paradigm Publications.

cuts are applied, then cupping technique is used to reinforce the effect of bleeding.

- **Cutaneous BLC:**

In this method, instead of piercing small visible blood vessels to remove blood, small cuts are applied to specific areas [locations] of skin. Once the skin area has been selected and the small cuts applied, cupping technique is used to aid in blood flow as it can reinforce the effect of bleeding.

Fig [57]: Bloodletting cupping

Like its cotemporary treatment of bleeding by the use of leeches, BLC works by drawing blood to the area and thereby causing a movement in the blood, which will relieve stagnation and congestion. This technique is good when cupping would seem useful and when signs of blood congestion, are present. However, despite the benefits of BLC cupping, simple cupping is much advocated because it was a gentler and safer technique. The cups are just sucked on the skin.

2. Needle Cupping

Further variation include a combination of cupping with acupuncture, whereby, a needle is inserted and a cup then placed over it while it is in place.[1] Needle cupping is used by acupuncture practitioners especially for red and painful knee and elbow joints. It stops the pain and removes stiffness at the same time.

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[1] Seager M [2001]: Acupuncture: Techniques for Successful Point Selection; Chapter 9, P: 87-88; Reed Educational and Professional Publishing Ltd.

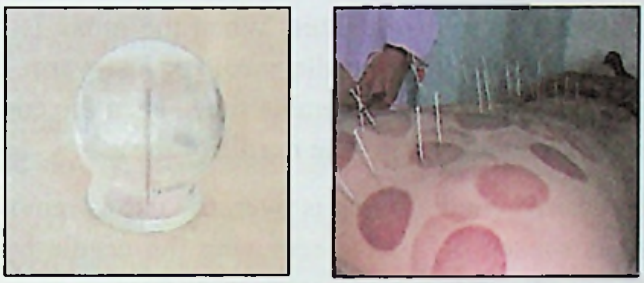


Fig [58]: Needle cupping

3. Moxa Cupping:

Moxa is a great warming herb that comes in the loose type, the round, conical, and long cigar shaped type.

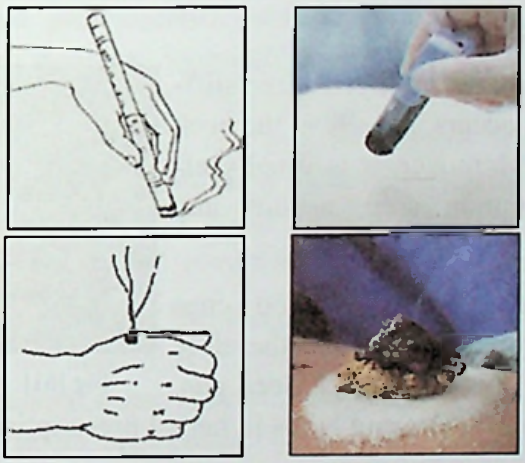


Fig [59]: Types of Moxa

This technique requires a great deal of care and patience. 1.5-inch long needles are applied to the desired points; about 1 inch of moxa roll is cut and inserted on the coil of the needle. A small piece of paper placed under the needle and on the skin to provide protection from falling ash. Then moxa is lightened and the practitioner waits until it burns out completely.

Fig [60]: Moxa inserted on the needle.

This might take up to 10 minutes. When the moxa is completely burnt out, the ash on top of the needle is cold or just warm. The needle however, remains hot for a considerable time. Then the cup is applied over the needle without touching the needle or the ash.

When the desired cupping time is over, the cup is removed gently; then the ash is shaken off before removing the needle by holding a tray under the needle and tapping gently on its base.

Moxa cupping relieves arthritic joint pains, backaches and cold. It also treats conditions from nocturnal enuresis [bed-wetting] to sexual complaints such as impotence. Acupuncture practitioners also use moxa cupping for the common cold and flu.

4. Herbal Cupping:

Herbal cupping is employed when stiffness and aching occurs, usually in the neck and shoulders. Moreover, it is usually effective for common cold, asthma and cough.

Fig [61]: Herbal cupping

This method requires bamboo cups [glass cups become too hot and therefore not suitable for this method], a deep pan, water, metal clamps, fire and herbs [a herbal prescription based on the diagnosis].

The herbs and the bamboo cups are immersed into a deep pan of water, the water is boiled for 30 minutes. One cup is lift out of the boiling water with a metal clamp, when the practitioner ensure that the cup is not too hot, the cup is applied in the normal fashion using fire and cotton wool. The herbs are absorbed by the bamboo cups, which in turn transfer their healing properties to the patient.

This method is not often practiced as it requires a long time to prepare and administer, therefore it is not practical in a busy clinic.

5. Water [Liquid] Cupping

Water cupping treatments require an experienced practitioner. This

method involves filling a glass or bamboo cup one- third full with warm water, and continuing the cupping process in a quick fashion. When performed properly, no water spillage occurs. If the application is performed slowly, some water spillage is inevitable.

This method is beneficial for dry coughs, asthma, rheumatic conditions, localized swellings, and pain.

III. Who Performs Cupping?

Cupping is a successful method as seen by the thousands of patients who use it. However, as with all medical treatments it is important to seek out a registered practitioner.

Only trained professionals medical doctor who is experienced should perform cupping. Licensed doctors are the only health care professionals trained to perform cupping. Especially if it is to be used in the treatment of diseases, certain fundamentals are necessary, like proper diagnosis, an understanding of the causing factors, and advising other suitable treatment some times the patient needs to avoid cupping procedures. Only licensed medical doctor can decide.

A sound knowledge of the theories of Traditional Chinese Medicine [TCM] is not needed to be proficient at cupping as the cups can be applied to general areas. However, cupping practitioner needs some basic training in its application, indications, contraindications, and cupping point or locations.

Sadly, most of the local people working in traditional cupping are unaware of many of the procedural limitations that can render cupping ineffective and may also cause some harm. Many restrictions as to who is not suited for cupping, when bloodletting cupping [BLC] can be performed, and how much blood to take are not being followed because, generally speaking, practitioners are completely unaware of them.

“ It is important to seek out a registered cupping practitioner ”

IV. Advantages in Using Cupping

1. **Safe**: cupping is generally safe as long as it is done by a licensed practitioner. In case cupping is combined with bloodletting, strict sterilization should be applied to avoid blood-transmitted diseases.

2. **Simple and Easy to use**: Acupuncture needles need more experience or supplies while the cupping uses its negative pressure to stimulate cupping points and it is also simple, easy to use.

3. **Relatively painless:** Wet cupping may be uncomfortable and slightly painful. It causes pain or bleeding while dry cupping causes neither pain nor bleeding.

5. **Cheaper cost**: cupping sets are low cost. Cups for wet cupping can be used only in a short term after sterilization or disposable while cups for dry cupping can be used again and again for many years.

V. Cupping Complications

Cupping is generally safe as long as it is done by licensed practitioners. However it may, have the following complications:

1. Cupping is considered relatively painless. No pain should be felt during of after a cupping treatment. However, if the cupped person feels vigorous annoying pain during cupping, it is possible that he needs to avoid cupping procedures in the future.

2. Because cupping draws blood to the treated area, minor circle bruises [purplish ring- marks] may be left on the skin after treatment. These bruises are normal and should dissipate within a few days.

3. Cupping can also leave a swelling around the cupped area. Normally these swellings fade away after several days.

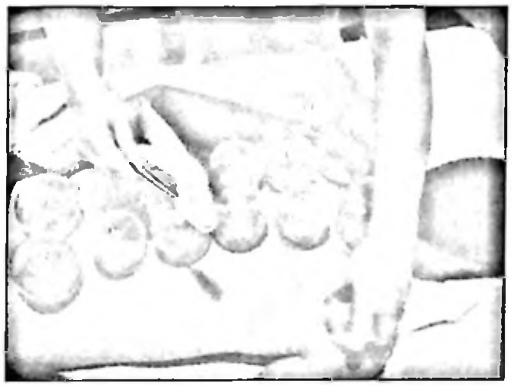
4. In case cupping is combined with bloodletting, strict sterilization should be applied to avoid blood-transmitted diseases.

5. The patient may get a feeling of light headache and some thirst following treatment.

Chapter 10

Areas to be Cupped

[Diagnosis and Therapy are Meeting on Common Ground]



Cupping points are more or less specific to the ailments of the patient. They can be divided into local and distal points. A few minutes' therapy is quite sufficient and the far-reaching effects are impressive. This section looks at the therapeutic and diagnostic values of these points.

Areas to be Cupped

[Cups for Treatment]

Cupping could be applied to any part of the body; cupping points are more or less specific to the ailments of the patient. However; the back, neck, behind the ears and the base of the spine were especially popular sites for cupping.

I. Cupping Points & Their Therapeutic Effects

In actual therapeutic practice, a single cup can be used for a lesion of limited size or many cups for wider diseased areas. Cupping points can be divided into local "painful" points and distal "remote" points. A combination of both local and distal points is usually used:

1. Local/ Painful Points

They are the points of maximum pain; they have an effect on the area immediately surrounding it. These points should be cupped whenever present; this principle is the first consideration that should govern the selection of the points. Many specialists agree that patients report benefit when the cups are placed near the site of the pain.

Usually the local point and areas of swelling is chosen and cupped. Point above or below the site of the lesion may also be used; this is applicable to soft tissue rheumatism including torticollis, sprain of lumbar muscle, injuries of the chest and back, and that of muscles and joints of extremities. To locate the local points, patient should be asked to do the most aching action, followed by searching for the most painful spot in maintaining the most aching posture.

Suggestions about how cupping [negative pressure] or acupuncture [needling] treats painful or local points are based on the "gate control" theory of pain perception, first proposed in [1965] by **Melzack & Wall.**[1]

According to more recent research conducted in [1998] by **Baldry,** pain messages arise from the activation of nociceptors [peripheral nerve receptors which receive and transmit noxious stimuli] in skin and muscle, and travel via "C" nerve fibers through the dorsal horn up

[1] Melzack R, Wall P D 1965 Pain Mechanisms: A New Theory. Science 150: 971–979.

the spine to the brain [reticular formation, thalamus, then cortex]. These impulses can in certain conditions be abolished by stimulating cutaneous and subcutaneous Ad nerve fibers [mechanothermal nociceptors in the skin].[1]

Cupping procedure blocks pain input to the spine by activating enkephalinergic inhibitory interneurons in the dorsal horn. Since free b-endorphins and also seemingly metenkephalin [endogenous opioids] are released when negative pressure is applied to an appropriate point.

The mechanism underlying this "gate control" theory of pain inhibition is detailed in [Fig. 62]. Cup negative pressure [like needling] causes information to be transmitted along Ad nerve fibers and then up the spine to the thalamus [1], from where it is further projected up to the cortex [2] and becomes conscious. In the midbrain [hypothalamus] these axons give off a collateral branch [3] to the periaqueductal grey matter [PAG]. The PAG projects down to the brainstem [4] and this in turn sends serotonergic [5HT] fibers to special cells called stalked cells [St] [5]; these last cells trigger an enkephalinergic [ENK] mechanism [6] to prevent noxious [pain] information arriving along C fibres from skin nociceptors from being transmitted to cells deep in the spinal grey matter and thence up to the brain reticular formation [RF] [7]. The PAG is also influenced by opioid endorphinergic fibers descending from the hypothalamus [8] [OP = opioids], which in turn receives projections from the prefrontal cortex [9].

[1] Baldry P E 1998 Trigger point acupuncture. In: Filshie J White A [eds] Medical acupuncture: a Western scientific approach. Churchill Livingstone, New York, p 38.

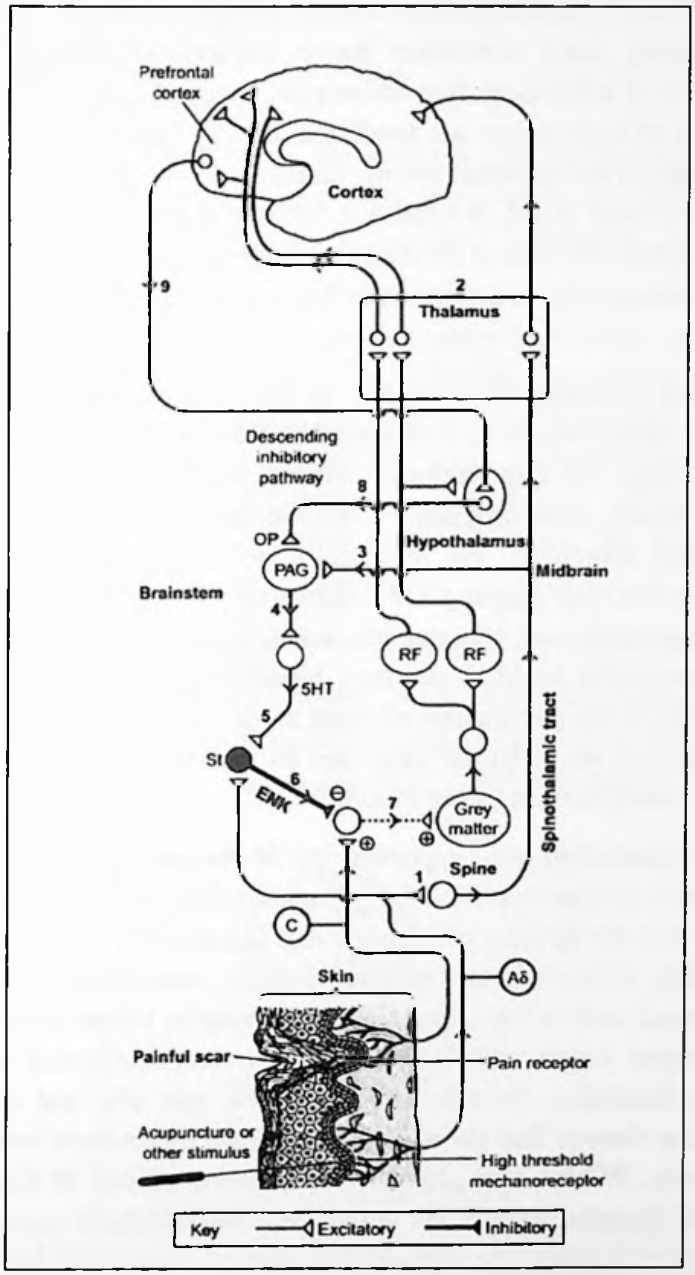


Fig [62]: Diagram to illustrate the gate control theory of pain control and the serotonergic mechanism of acupuncture and manual therapies [1]

[1] Thompson J W, Filshie J 1993 Tens and Acupuncture. In: Doyle D, Hanks G, MacDonald N [eds] Oxford Textbook of Palliative Medicine. Oxford University Press, Oxford, ch 4–2–8.

In addition to pain inhibition effects, the greater blood supply on a local cupping point stimulates tissue metabolism and allows fast elimination of substances that cause pain. According to **Jayasuriya**[1] the effects of local points are mediated also by local reflex arcs causing changes in the regional micro- circulation. When a suction cup is placed at a local point; it creates a vacuum that draws toxins to the skin's surface. The skin is the body's largest organ and it can clear the body toxins quickly and efficiently because it has the richest circulation.

Cupping naturally draws blood to the external capillaries of the body; the aim of this is to encourage the flow of blood in the area beneath the cup. The cup works on subcutaneous tissue by vacuum on capillary blood, removing acids from the capillary region and the entire ground substance. By moving blood, local stagnation can be cleared. In this way cupping has a cleansing effect on the capillaries as the vacuum sucks out and extracts acids from the capillaries and the whole connective tissue. Therefore, bloodletting cupping [BLC] may have a role in the elimination of these acids which had been collected locally around an inflamed joint due to chronic inflammatory processes [de- acidification of the blood].[2]

This explanation was approved by **Montazer** who compared of biochemical factors in phlebotomy [venesection] and wet cupping. He reported that the density of biochemical factors of blood in BLC was statistically different from phlebotomy. In summary 40 volunteers were cupped and at the same time their venous blood was sampled. Then cupped blood and venous samples were compared regarding blood triglycerides, cholesterol, sugar, urea, uric acid and creatinine. The results showed that there were significant differences between the components of blood in phlebotomy [venous blood] in comparison with BLC [cupped blood]. He concluded that metabolic toxins can be

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[1] Jayasuriya A [1982]: Traditional Chinese Acupuncture, the Acupuncture Foundation of Sri Lanka.

[2] Paulo de Tarso Costa dos Santos [1996]: Cupping Electrode Therapy in Holistic Medicine: Institute for Regulative Medicine, 82166 Grafelfing RTI Volume 19- September 1996. Naturopath; Münich/ Río de Janeiro, see url: http://www.newhopeclinic.com

discharged with BLC therapy which is generally different from phlebotomy.[1]

2. Distal/ Remote Points

They are points away from the affected site but having specific physiological and psychological effects, e.g.; Analgesic, sedative, homeostatic "hormone regulation", immune enhancing, and anti-inflammatory properties.

Distal points are thought to stimulate specific cutaneo- spinal and cutaneo-autonomic reflexes, leading to autonomic regulation, stimulation of the immune system and diminish of pain. Moreover, cupping of the distal points enhances blood circulation, helps tissues to release metabolic waste products, and may reduce stress as it releases chemicals in the brain that reduce stress and depression. The commonest distal points are allocated into two groups:

- **Neck & Shoulder Cupping Zone** [Vital Cupping Points]

These are combinations of points which have been used from ancient times to treat common disorders and are known to be effective against many diseases. They are the most especially popular sites for cupping.

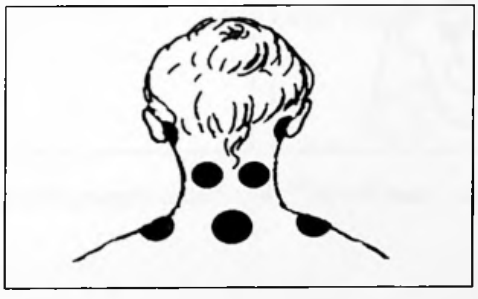

Fig [63]: Vital/Primary points for cupping [Essential treatment points for common disorder].

Neck and Shoulders- Points coincide with the most common Trigger points [TPs] according to the criteria recommended by the

[1] Montazer R [2004]: The Comparison of Biochemical Factors in Phlebotomy and Wet Cupping. Iranian Journal of Pharmaceutical Research Supplement 2: 30-30 Poster Presentations/ Traditional Medicine.

American College of Rheumatology in 1990[1], which are discrete, focal, hyperirritable spots located in a taut band of skeletal muscle. The spots are painful on compression and can produce referred pain, referred tenderness, motor dysfunction, and autonomic phenomena.[2]

- **Back- Points**

The most important cupping points are on the back, a well known fact ever since earlier ages. Back points are two rows of points, one and half fingers lateral to the tips of the spines of the vertebrae. They are displaying a segmental arrangement along the vertebral column. It is interesting to note that each of the back points is situated almost precisely over the specific para-vertebral sympathetic ganglion that is connected with its related organ.

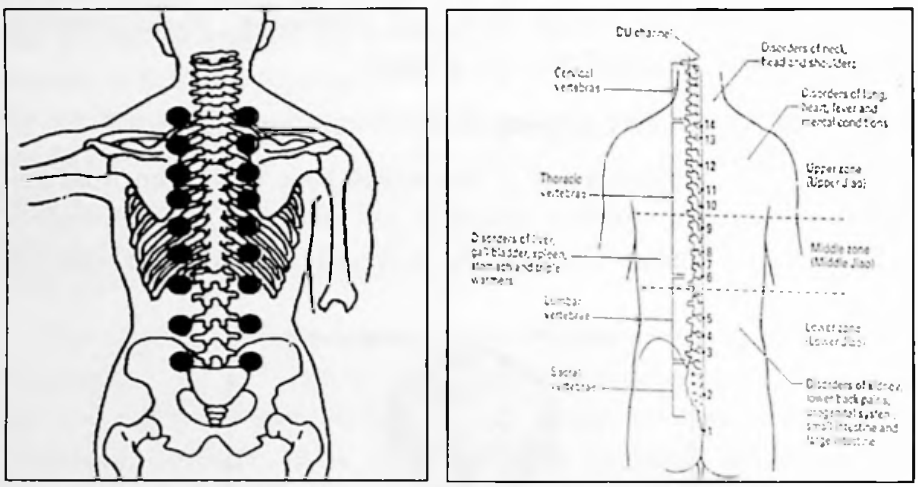

Fig [64]: Lt.: Back Points[3], Rt.: 3 zone cupping therapy map.[4]

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[1] Wolfe F, Smythe HA, Yunus MB, et. al., [1990]: The American College of Rheumatology 1990 Criteria for the Classification of Fibromyalgia: Report of the Multicenter Criteria Committee. Arthritis Rheum; 33: 160-172.

[2] Simons DG, Travell JG, Simons LS [1999]: Myofascial Pain and Dysfunction: the Trigger Point Manual. 2nd ed. Baltimore: Williams & Wilkins.

[3] From Japanese Acupuncture book by: Birch and Ida; 1998.

[4] Chirali I Z [1999]: Traditional Chinese Medicine: Cupping Therapy; Churchill Livingstone.

II. The Back as a Mirror of Internal Organs

The back points form a fairly accurate surface marker of the out flow of the sympathetic ganglia to their respective pertaining organs; it is likely that the functional and anatomical relationship between these points and their related organ is mediated through the autonomic ganglia of the sympathetic chain.

Ever since the work of doctors **Head** and **McKenzie** the western physicians know that diseases of the internal organs present specific trigger points on the crosswise body segmentation. In 1893, Sir **Henry Head**, a neurologist working in London [and who is remembered in "Head's zones"], was the first person to describe the reflex signs of disease, showing how any disturbance of internal function is quickly reflected to an external body surface, thereby giving notice of disorder. According to **Head**, internal organs are not well supplied with pain receptors and when their function becomes impaired they cannot transmit pain impulses to conscious areas in the brain. Instead, they send urgent messages of discomfort to the related skin [dermatome], subcutaneous tissues [sclerotomes] and muscles [myotomes] of the segment to which they belong, and it is in these areas that pain is first perceived.[1] He had already in1894 described the sensory nerve roots involved in each segment of the body, and since then a defined area of skin supplied by a spinal nerve has been called a dermatome.[2] [see Fig. 65]

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[1] Head H 1893 on disturbance of sensation with especial reference to the pain of visceral disease, part 1. Brain 16: 1–133, 127.

[2] Head H 1894 on disturbance of sensation with especial reference to the pain of visceral disease, part 2. Brain 17: 339–480.

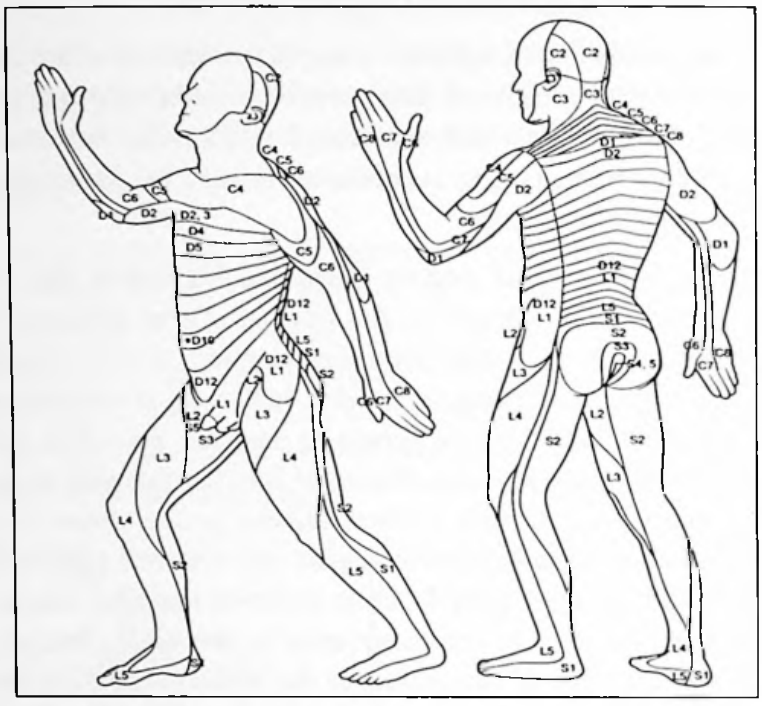

Fig [65]: Dermatomes [division lines] of the body, according to Head.[1]

For this reason the pain of pleurisy or of biliary colic is first felt at the uppermost tip of the right shoulder blade, and the warning signs of angina are perceived in the neck, left shoulder girdle or arm, and sometimes the stomach.

Head's zones are areas of:

- reflex [distant]
- cutaneous [of the skin]
- hyperaesthesia [increased sensitivity] and hyperalgesia [diminished sensitivity to pain] which result from visceral disease.

The researches in 1892 and 1893 of Dr [later Sir] **J. Mackenzie**, a colleague of Sir **Henry Head**, greatly refined the understanding of the segmental organization of the body. A segment is that area of skin;

[1] Gleditsch J M 1983 Reflexzonen und Somatotopien als Schlüssel zu einer Gesamptschau des Menschen. W B V Biologisch-Medizinische Verlagsgesellschaft, MBH & Co KG, Schorndorf.

subcutaneous tissue and muscle which receives its nerve supply from a particular level of the spinal cord. [see Fig. 65] He described subcutaneous tissue and muscle which receives its nerve supply from a particular level of the spinal cord.[1] He also described which areas of muscle were innervated at any given level within the spinal cord, since when they have been called myotomes. By testing for different sensations on the skin, any delay or abnormality in perception enables the physician to decide which nerve root is damaged, and at which level.[2]

Between 1896 and 1921 **Head** and **Mackenzie** described the two directions in which impulses traveled:[3]

- viscerocutaneous impulses carry information from viscera to skin.
- cutaneovisceral impulses carry information from the skin to the viscera.
- viscerovisceral pathways carry information from one organ to another.

Such reflex points are known as "**Head- Mckenzie zones**". Sir **James Mackenzie** is also remembered in Mackenzie's point, which is a point of tenderness in the upper segment of the right rectus abdominis muscle which becomes present in disease of the gall bladder.[4]

When the functions of an organ are impaired, an alteration to the autonomically controlled functions in the related segment follows. In the same way, but the reverse direction, afferent nerves carry impulses

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[1] Mackenzie J 1892; Cutaneous Tenderness in Visceral Disease. Medical Chronicle. John Heywood, London, XV: 302.

[2] Mackenzie J 1893: Some Points Bearing on the Association of Sensory Disorders and Visceral Disease. Brain 16: 321–354 Mackenzie J 1909.

[3] Mackenzie J 1920: Symptoms and Their Interpretations, 4th ed. Shaw and Son, London, pp 48–56, 74–83.

- Head H 1920 Disorders of Sensation in the Skin Arising from Visceral Disease. Studies in Neurology. Oxford University Press, London, p 328.
- Head H, Rivers W, Sherren J 1905 The Afferent Nervous System from a new Perspective. Brain 28: 99–115.

[4] Mackenzie J 1921: The Theory of Disturbed Reflexes in the Production of Symptoms of Disease. British Medical Journal Jan 29: 143–147.

mediated by touch, heat, cold, massage, water, poultices and the like to the internal organs. To obtain the desired effect, the right stimulus has to be applied precisely to the right place, with due regard to its intention, strength and duration. These pathways are not under conscious or voluntary control and, unless they are severed or diseased, they appear as functioning pathways for lifetime.

The back has the crosswise central nervous system arrangement "dermatomes": Hence, cupping back- points can treat the corresponding internal organ. Cupping can be used in those specific back points, depending on the internal organ, or disease state that is targeted. This is similar to segmental manipulation schemes based on neuroanatomy, and other manual therapy techniques that link specific surface points to particular organs or problems.

III. Cupping Points & their Diagnostic Value [Cups for Diagnosis]

The patient's back offers the physician's eye very clear signs. The reflex signs of disease, mediated through the autonomic nervous system, can appear in the back segment, depending on the stage the illness has reached. The location and relationship of the disease to the internal organs will be diagnosed according to the changes of skin surrounding the back-cupping points.

When the functions of an organ are impaired, an alternation to the autonomically controlled functions in the related segment follows. Thus, cupping enables a diagnosis via the skin's color reactions. For reliable diagnosis, the same low pressure in each cupping glass is important i.e. uniform vacuum is indispensable.

When the cupping practitioner knows which organ is linked to the cupping location [see fig. 64], he has a clear topographic map of the affected organ. This is a diagnosis, which is impressive, because it is so simple and so clear. Therefore, back points can be used for diagnosis and prognosis, as well as for therapy.

What is fascinating about this method is the opportunity it offers of including information from gaseous metabolism products from the disturbed area in the therapy. Precision cupping therapy is the only

method of treatment known so far capable of bringing out this deep-seated information and at the same time treating it.

IV. The Back as a Diagnostic Field of Work

Cupping the back enables a diagnosis via the skin's color reactions. In case of illness, the related reflex points of the diseased body point turn also into alarm points. The darker an area the more the referring organs or systems are involved i.e. the darker a point is the worse the corresponding organ or system is affected. When the right therapy is used, the alarm points disappear.

If the cupped area does not show any significant color reactions, this indicates a normal physiological function and a good status of health. A uniform vacuum is essential for correct diagnosis to enable the various color reactions in the cupping area to be compared.[1]

If eight cups were used and the round skin discolorations were compared afterwards, pictorial notes to the organ affection of a patient could be obtained. Heavily affected [chemically polluted] organ points grow dark violet or almost black under a cupping glass. If we place cups onto the same points every week, they will slowly turn lighter in color until no color reaction takes place. Some times the discolorations grow less obvious within a short time. After a week, they have usually disappeared completely.[2]

The following photographs show a good example of color reactions. Both patients were cupped with the identical vacuum intensity. Patient on **left** was 115 years of age when this picture was taken. It does not show any significant color reactions, which indicates a good status of health. The patient on **right** is only 60 years of age and is suffering from bursitis and kidney complaints.

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[1] Abele J [1998]: Das Schropfen Einebewahrte Alternative Helmethode. Gustavfischer Uim Stutgart Jonn Lubeck.

[2] Hermine Titz: 5000- Year- Old Cupping Treatment now Successfully Combined with BioResonance Therapy, Lorch, Germany. [Topic from internet site: http://www.newhopeclinic.com].

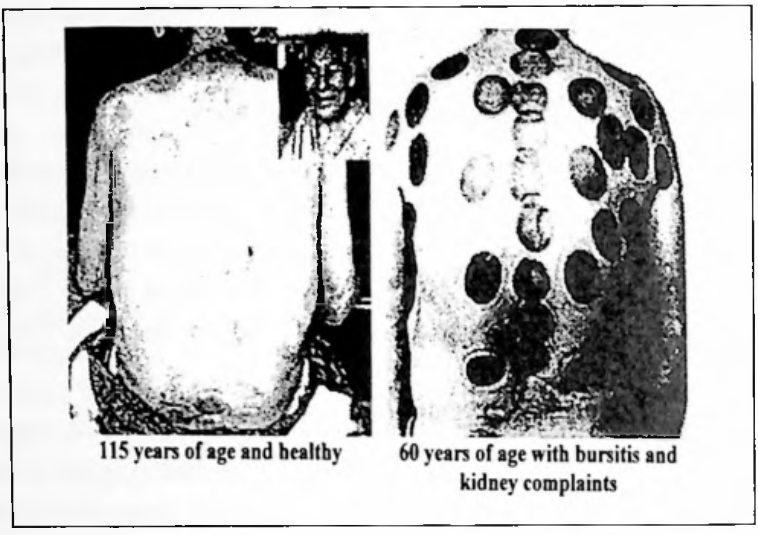

Fig [66]: Cupping provides a diagnosis to be made based on the skin's color reaction.[1]

For treatment, only the dark points are selected for bloodletting. If e most discolored organ points are cupped immediately after this un- blood flows, this forms the best part of the treatment. Many patients gard this stage as very agreeable despite the pricking or scratching. ney find cupping until blood flows very relaxing, since they feel quite de-stressed afterwards and immediately afterwards they feel unburdened, even cleansed. The number of points that are cupped until blood flows depends on how much stress the patient can take [maximum 3-5 points]. It is interesting to see how different in consistency and color the cupped blood from the different organ points is. This too should be noted for diagnostic purposes. In one organ point the blood may be dark and lumpy, in another light and foamy.[2]

Bloodletting cupping [BLC] is also depicted as being effective through augmenting the therapeutic effect of the pharmacological drugs. Cupping procedure naturally draws blood to the external capil-

[1] Paulo de Tarso Costa dos Santos, Naturopath; Münich/ Rio de Janeiro: Cupping Electrode Therapy in Holistic Medicine [Topic from internet site: http://www.newhopeclinic.com].

[2] Hermine Titz: 5000- Year- Old Cupping Treatment now Successfully Combined with BioResonance Therapy, Lorch, Germany. [Topic from internet site: http://www.newhopeclinic.com].

laries of the body, thus encouraging the flow of blood in the area beneath the cup and promoting blood circulation. Therefore, the beneficial effect of cupping may be also mediated by causing changes in the regional micro- circulation that promotes blood circulation and eliminate blood stasis giving a greater chance to benefit from the appropriate pharmacological treatment. Therefore, the uniqueness of combination therapy is in its integrative approach. It is interesting to know that the Great prophet of Islam ﷺ said: *"If there is a drug that can reach the site of disease, cupping can do."* [Collected by Imam Mālik 2/974][1]

[1] *Da'if* [weak] *Hadīth*: An inaccurate narration which does not qualify to be either *sahih* [sound] or *Hasan* [fair], and hence cannot be used as a basis of an Islamic opinion.

Chapter 11

Cupping in Health & Diseases

[Clinical Application of Cupping]

Although the application of cupping is very simple, its effect is dramatic. It has real benefits in treating many diseases, past and present. This chapter discusses the diseases that have been treated by cupping and for which it has been of benefit by Allāh's Leave.

Cupping in Health & Diseases

Cupping Therapy offers many therapeutic benefits. It has been used for thousands of years to treat painful symptoms e.g. sciatica, back pain, and clearing congestion in the chest, which can occur with colds and flu, but cupping has recently gained popularity for its ability to help tissues to **release toxins** [i.e. toxin elimination with minimal additional stress to internal organs], **de-acidifie tissue** directly, **enhance** blood circulation, **stimulate immune system, and reduce stress** as it releases chemicals in the brain that reduce stress and depression.

One of the main purposes of cupping therapy is to encourage a sufficient supply of nutrition to the affected tissues. Cupping is believed to stimulate flow of blood, and lymph to the affected area. Thus it improves blood and lymph flow of the corresponding organ, activates its function and at the same time provides rough clear diagnosis through skin discoloration.

Cupping the corresponding organ points is used in internal medicine disorders to add help to the main stream medicine. Cupping helps in treat disorders such as liver or kidney problems, respiratory diseases, digestive disorders and some gynecological disorders.

I. Therapeutic Benefits of Cupping

In ancient times, the indications for cupping were never precisely defined. This therapy was mainly used to drain blood and pus from abscess. Also it was used for sucking blood from poisoned wounds and poisonous snake bite.

Later on, since this therapy was simple and its therapeutic effects were good, the range of indications were expanded to cover some illnesses belonging to internal medicine, such as pulmonary tuberculosis, rheumatism, abdominal pain, stomach ache, indigestion, headache, hypertension, common cold, lumbago, backache, dysmenorrhea, swelling and pain in eye, erysipelas, and boils. Clinically, this therapy is usually adopted together with acupuncture.

Today, cupping is used to treat colds, lung infections, and problems in the internal organs. It is also used to treat muscle and joint pain and

spasms, particularly in the back. In addition, Cupping is used to treat painful joints, common cold, cough, stomachache, vomiting, and diarrhea.

Due to its stimulating and strengthening effects, bloodletting cupping has been used successfully to help in treatment of many disorders to get and move the blood. It is therefore used particularly for conditions of blood stagnation, poor circulation, asthmatic conditions, and in cases of polycythemia, a condition where due to the rapid formation of blood cells.

II. Indication for Cupping

Cupping has an extremely positive effect on many health problems. A large number of symptoms frequently disappear after just a few sessions of cupping therapy. The indication for cupping can be summarized as follows:

1. Cupping for General Heath Promotion

[Stimulation of the Immune & Circulatory System]

In addition to the therapeutic effects of cupping, it strengthens body resistance, eliminating pathogenic factors to prevent illness while regulating function of blood, building immunity and promoting general good health. It can mobilize the immune system as it creates temporary, localized bruises, which- like all bruises- activate the body's defensive cells to heal the bruised area. Thus, suction cupping uses local stimulation to build up the body's natural resistance to illness.

- **Staying Healthy**

Sick people were often bled twice a year, in the spring and autumn, in the belief that "thinning the blood" would encourage good health. In the early nineteenth century adults with good health from the country districts of England were bled as regularly as they went to market, they were coming to the hospital in the spring and fall as part of a maintenance program for good health.[1] This was considered to be preventive medicine.

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[1] Hamilton S [2002]: From Haircutters to Hemochromatosis: A history of Bloodletting; Proceedings of the 11th Annual History of Medicine Days. WA Whitelaw – P: 149-155.

Arabs also used to be treated in a timely manner with cupping. Therefore, cupping in traditional Arabian medicine was divided into essential or therapeutic and elective or prophylactic types. Elective one is used after the middle of the Lunar month, while essential cupping could be used at any time when needed. In the Arabian Gulf, cupping [*Hijama*] was used not only for treatment but also for prophylaxis against diseases. The pearl divers in the Arabian Gulf used to undergo bloodletting cupping before the diving season in the belief that the procedure will prevent diseases during the 3 months at sea. It was thought to be very effective against dizziness.

Dr. Katase of Osaka University suggested that this therapy may influence the composition of blood: it increases red and white blood cells and changes acid blood into alkaline or neutral leading to the purification of blood.[1] Moreover, bloodletting cupping helps clear the body of accumulated irritants that cause inflammation.[2]

Recent studies have shown that regular cupping along specific points on the back increases immunity by increasing white blood cell count.[3] **Yazdi** had reported that the most important mode of action in cupping is regarded to be the balance and improvement of the immunity.[4]

The author study done in 2005 has shown that that the most important mode of action in cupping is regarded to be the balance and improvement of immunity [the body's defense against microbes]. The study concluded that regular cupping along specific points on the back increases immunity by increasing the number of white blood cells and boosting the body's natural immunity by increasing the number of natural killer [NK] cells, the elite troops of the innate immune system and possibly increases their activity in fighting infections and attack tumors.[5]

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[1] Chirali I Z [1999]: Traditional Chinese Medicine: Cupping therapy; Churchill Livingstone.
[2] Ibid.
[3] El- Derani A et al [1999]: Al- Dwaa' Al- Ajeep: Cupping Therapy in a new view; Nour Al- Basheer Press. Syria. See url: http://www.ThingsNotSaid.org
[4] Yazdi M Sh [2003]: Traditional Persian Medicine & its use in Dermatology, An Ethno Medical Viewpoint, Med. Report November; p: 4.
[5] Sahbaa M Bondok: Effect of Cupping Therapy on Soluble IL- 2R and NK cells in Patients =

People whose immune systems are not functioning well because of chronic illness or immunosuppressive drugs are more prone to have infections. Thus, from an immunological standpoint, using such a simple technique in conjunction with other treatments can be expected to reduce a variety of complications caused by the disturbed immunity often observed in these patients.

- **Staying Active**

In addition to its role in enhancing defenses of the body; and protecting against diseases, cupping regulates the blood circulation of the whole body.

The human body uses the flow of blood to regulate its activities, coordinating and unifying the organs via blood vessels. The flow of blood is life's force, which maintains the body's health. Each organ of the body needs nourishment with blood to maintain a healthy, normal physiology. The blood passes throughout the entire body, nourishing tissues, and boosting immune system

Among the general effects of cupping therapy, the most important is the effect upon the circulatory system. Professor **Kentaro Takagi** of Nagoya University. stated that the skin- stimulating therapies are significant in that they awaken the greatest responses in the circulatory system. Owing to the pull of low pressure, the flow of blood in the arteries and veins increases, although in the case of the latter, localized spots of congested blood appear and then disappear. It is possible to ease the interruption of blood circulation and congestion and to stop the inflammatory extra- vasation of fluids from the tissues. Therefore facilitation of the flow of blood is the most characteristic of this therapy.[1]

= with Rheumatoid Arthritis, Department of Medical Microbiology & Immunology, Al-Azhar University, 2005.

[1] Chirali I Z [1999]: Traditional Chinese Medicine: Cupping Therapy; Churchill Livingstone.

2. Diseases that Responds to Cupping

- **Pain Related Conditions** [Cupping for pain control]

Cupping is the most effective method to deal with the problems of pain. There is clear evidence that it is effective for pain related conditions, these conditions include, but are not limited to headache, menstrual cramps, dental pain, tennis elbow, fibromyalgia [general muscle pain], low back pain, and sciatica. **Qingdao** and **Guying** had reported that shallow puncture and cupping is very satisfactory in treatment of pain and may yield distinct analgesic effect. The ratio of curative effect was 97.12 %.[1]

- **Headache and Migraine**

In the 18th century, cupping was considered to be an effective remedy for headache. Treatment by cupping was highly recommended for migraine **Duo** treated 100 cases of intractable migraine by acupuncture and cupping.[2] **Seung** an experienced Korean medical doctor recorded that insertion- bloodletting therapy is an effective treatment for headache.[3] The Great Prophet Muhammad ﷺ used bloodletting cupping on his honorable head for migraine.[4]

- **Rheumatic Diseases**

A large number of rheumatic disorders frequently disappear after just a few sessions of cupping therapy. It has an extremely positive effect on back and joint problems and is particularly helpful for conditions such as rheumatism, lumbago, and stiff neck and shoulders as it increases circulation and the mobility of affected areas.

Cupping treatments is beneficial for the rheumatic [locomotor] disorders in many ways:

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[1] Qingdao L and Guying H [1984]: The Clinical Observation of Treatment of Pain by Shallow Puncture and Cupping. The Second National Symposium on Acupuncture and Moxibustion and Acupuncture Anesthesia. Beijing. China. August 7-10, 1984.
[2] Duo X [1999]: 100 Cases of Intractable Migraine Treated by Acupuncture and Cupping. Journal of TCM. Vol. 19.
[3] Seung W [1998]: Headache; Differential Diagnosis and Treatment by Traditional Korean medicine, Paper 1st presented at World Congress of Natural Medicine, Malaga Spain. Brit. J. Acu. 11:2.
[4] Ibn Al- Qayyim Al- Jawziyyah [1986]: Zaad Al- Ma'aad, part 4; p: 52-60; 14th edition; Al- Resalah Foundation.

1. It promotes the local blood circulation in response to vasodilatation of the subcutaneous [under the skin] capillary vessels by the pull of the negative pressure produced by cupping.

2. It helps in supplying more oxygen, hormones, and essential enzymes to the local tissues and joints. Thus keeping the local tissues warm and to increase elasticity and flexibility of the muscle and joints.

3. It relieves muscle spasm, hardening or stiffness of muscular tissue and associated pain. Thus it has a remarkable effect on a stiff [frozen] shoulder.

4. It is effective for chronic joint rheumatism as result of better flow of blood within the joints, mild conditions have been cured completely and muscle spasms around the joints can be removed.

5. Bloodletting cupping treatment has the advantage of removing congested blood which much facilitates the flow of blood. This is the only method can solve the problems which can not be solved by acupuncture [Acupuncture can not solve the problems associated with blood congestion].

The following rheumatic conditions, when treated by cupping, either improve or come to healing successfully:

Arthritis

Cupping was recommended primarily for treating arthritis, and pain. It was much in vogue for gout & other forms of arthritis. In Germany, between 1987 and 1992, some 32 to 64% of patients with chronic polyarthritis had tried cupping as one of the unconventional procedures for treatment.[1]

Chronic joint pain is one of the conditions for which cupping is effective. In this case the treatment is concentrated on the area of the joints concerned. When the condition is mild, an almost complete cure is possible, and this results from the better flow of blood within the joint and removal of muscular spasms around the joints.

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[1] Miehle W [1995]: Chronic Polyarthritis- Treatment with Alternative Medicine. How Frequent is [self-] Therapy with Alternative Methods?, Fortschr Med. 1995 Mar 10; 113 [7]: 81-5.

In addition, cupping acts by improving blood circulation to eliminate blood stagnation, reduce swelling and stop pain. Bloodletting cupping around diseased joint helps to drain away congealed blood and inflammatory effusions in the treatment of arthritis. There are different spectra of toxic substances that create joint pain. These substances are metabolic acids, bacterial toxins, and other chemical substances. Also, arthritis is one of the diseases that have been linked to over- acidity and all forms of arthritis are associated with excess local acidity. **Hoffman** made a similar observation and related RA to septic sites adjacent to the actual lesion. He said: "one of the causes of rheumatism and arthritis is the accumulation of toxins or waste products in the affected tissue.[1]

This proposition is in coincidence with the theory proposed by **Batmanhelidj** which stated that: "In chronically painful joint conditions, the actual chronic and recurring pain occurs because there is no enough water circulation to wash out the local acidity and the toxic substances."[2]

The European Congress of Rheumatology in Stockholm reported that applying leeches [a type of worm with suckers, used for blood letting] around joints during one to five sessions reduced muscle pain and early morning stiffness, and produced better range of motion in 100% Patients with either rheumatoid arthritis or osteoarthritis without any side effects.[3]

In a group of researches looked at the treatment of gonococcal arthritis by traditional Chinese medicine, cupping technique was used [often with bleeding]. The total effective rate was 84.5 %.[4] **Hu** has combined cupping and acupuncture to treat 615 cases suffering from arthralgia with good results.[5]

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[1] Hoffman D [1991]: The New Holistic Herbal, Longmead Press.
[2] Batmanhelidj F [1987]: A Need for Paradigm Change; Anticancer Research, Vol. 7, No. 5B, PP. 971-990, Sept.- Oct. 1987.
[3] Salikhov et al [2002]: Blood Stasis & Chronic Disease. Family Practice News August 1, page 35.
[4] Wang K. [1996]: 116 Cases of Gonococcal Arthritis Treated with Acupuncture. J Trad-itional Chinese Medicine, Jun; 16 [2]: 108-111.
[5] Hu R S [2000]: Acupuncture Plus Cupping for Arthralgia: Observation of 615 Cases. International Journal of Clinical Acupuncture, 11, 245-246.

Chen treated 39 cases of acute gout with bloodletting puncturing and cupping method.[1] **Wang** et al used cupping plus acupuncture and external application of herbs for treating 58 cases of gout inducted arthritis, the total effectiveness rate was 94.6%.[2] In 2000, **Uwe Albercht- Arzt** reported that brachialgia paraesthetica can be relieved by scarification [bloodletting] and cupping.[3]

Low- Back Pain

Cupping was also tried for treatment of low- back pain. **Yuxi** et al treated acute lumbar sprain with cupping tallying a good result.[4] In 1996, **Aiwen** and **Lu** used warm needle acupuncture plus cupping therapy for chronic low back pain involving osteoarthritic hyperostosis.[5] Cupping is also used for treatment of third lumbar transverse syndrome.[6]

Muscular Fibrosis

Cupping draws blood to the surface area of the body where the cups are applied. This increases blood flow to the muscles. As late as 1931, **Osler**'s revered textbook indicated cupping for the treatment of acute myelitis.[7]

Studies have shown that cupping affects the tissues up to 4 inches into the skin and muscle layers. In particular, massage-cupping technique can be used to prevent muscle atrophy.[8]

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[1] Chen Lei [1999]: Treating 39 Cases of Acute Gout with Bloodletting Puncturing and Cupping Method. Shanghai Journal of Acupuncture; 18 [5]: 30.

[2] Wang Ping, et al [2000]: Treating 58 Cases of Gouty Arthritis with Combination of Herbs and Acupuncture. Journal of Acupuncture Clinical Application; 16 [5]: 32-33.

[3] Uwe Albercht- Arzt [2000]: Brachialgia Parathetica can be Relieved by Scarification & Cupping. Kart und Veronica Carstens- Stiftung./ German Section.

[4] Yuxi Z, Liying Z, Heping L and Zhen L [1993]: Bloodletting for Treatment of Acute Lumbar Sprain, Journal of Traditional Chinese Medicine 13 [3]: 192-193.

[5] Aiwen, L. and Lu, A [1996]. The use of Warm Needle Acupuncture plus Cupping Therapy for Chronic Low Back Pain Involving Osteoarthritic Hyperostosis. American Journal of Acupuncture, 24, 5-10.

[6] Sherman KJ, Cherkin DC, Hogeboom CJ [2001]: The Diagnosis and Treatment of Patients with Chronic Low- Back Pain by Traditional Chinese Medical Acupuncturists, J Altern Complement Med. Dec; 7 [6]: 641-50.

[7] Osler W [1931]: The Principles and Practice of Medicine. 11th rev. ed. New York and London, D. Appleton and Company.

[8] Dr. K. Lin. 1997 Newman K. Lin, Ph.D., PE. Vacuum-cupping Massager. http://www.actionlove.com/mail/maillove.html

Huang et al. combined massage and bloodletting puncturing and cupping to treat 82 cases of scapular levator muscular fibrositis, and reported that 62 cases had been resolved, 10 cases had significantly improved, 8 cases had improved, and 2 cases with no response, tallying an overall effective rate of 97.6%.[1]

Yang combined cupping and external application to treat 133 cases of fibrositis, and reported that 86 cases had been resolved, 26 significantly improved, 16 improved, and 5 with no response, tallying an overall effective rate of 91.1%.[2] In addition, Liang had combined cupping and acupuncture with moxibustion- warmed needles to treat 42 cases of muscular fibrositis, and reported satisfactory results.[3]

Spondylosis

Spondylosis is treated by cupping followed by acupuncture to the tender points on the spine, with other additional points. Sliding cupping therapy can promote blood circulation in the nape, relieve the tense or spastic state of the muscles, and relieve pressure on the nerves and arteries. **Hong** treated 100 patients with cervical spondylosis using sliding cupping. The overall subjective rate of improvement was 97%, with 43% showing complete resolution of signs and symptoms after 1 month. X- ray findings confirmed that the physiological curvature of the cervical vertebrae had returned to normal in 45 cases and the rheoencephalogram showed that the vertebral artery blood supply had also normalized in 20 cases.[4]

• Chronic Fatigue Syndrome

Chronic fatigue syndrome [CFS] refers to long-standing severe fatigue without substantial muscle weakness and without proven psychological or physical causes. This condition is also known as chronic fatigue immune deficiency syndrome [CFIDS]. **Wang** et al. treated [CFS] with acupuncture combined with cupping reporting a significant statistical difference in effectiveness between treated and

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[1] Huang Ji Yan, et al [1996]: Massage and Induction. 10 [4]: 4-5.
[2] Yang Jian Min, et al [1996]: Anhui Journal of TCM Clinical Application. 8 [3]: 130.
[3] Liang Qing [1999]: Journal of Practical TCM Internal Medicine; 13 [3]: 49.
[4] Hong Z [2000]: Cervical Spondylosis: 100 Patients Treated with Sliding Cupping. J Chin Med Issue 64 p. 40-41.

untreated groups [$P < 0.05$].[1]

- **Fevers and Local Inflammations**

Bloodletting cupping had been used in medicine since ancient times in the treatment of fevers & local inflammatory disorders. In 18th-century France, certain physicians advised it only at the start of a high-fever illness. Chinese doctors believe that a number of diseases are the result of blood stagnation and heat. They used bleeding cupping to remove blood stagnation, activate the blood circulation and dispel the pathogenic factors. They treat patients with flu, headache and a high fever with bleeding cupping. Conjunctivitis and ophthalmitis caused by the use of electric flashes were treated by cupping.[2]

- **Common Cold and Influenza**

Folklore remedies and oral traditions in many cultures will certainly include cupping as their main treatment for the common cold. Dispelling cold is one of the traditional indications for cupping. This indication is partly the result of applying hot cups. It is interesting to note that as the barbers in the early twentieth century created window signs advertising "Cups for Colds."[3] **Hong** reported good results following the application of sliding cupping for 250 patients with common cold.[4]

- **Chest and Heart Diseases**

Cupping was recommended for the treatment of lung diseases [especially chronic cough, pleurisy, bronchial congestion and asthma]. Into the nineteenth century, as its utility for other diseases declined, bleeding continued to be a primary therapy for pleurisy and pneumonia. Advocates for using the procedure to treat congestive heart failure

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[1] Wang Wei- hong et al. [2001]: A Clinical Audit of the Treatment of Chronic Fatigue Syndrome with Acupuncture Combined with Cupping, issue no. 8, of Zhong Guo Zhen Jiu [Chinese Acupuncture & Moxibustion] on pages 481-482.

[2] Jin C, Guangqi Z [1989]: A Survey for Thirty Years Clinical Application of Cupping, Journal of Traditional Chinese Medicine 9 [2]: 151-154.

[3] Martin F: The World's Worst Medical Mistakes. Great Britain. Sevenoaks. 1996. p: 188-211.

[4] Hong Z [1995]: The Application of Sliding Cupping Therapy for 250 Patients with Common Cold, in: Journal of Chinese Medicine, 1 Seite.

existed as late as the 1930 s. As recently as 1942 medicine's leading English- language textbook advised early bleeding for high- fever pneumonia. Sir **William Osler**'s highly regarded medical textbook advocated bloodletting as a treatment for acute pneumonia.[1]

He et al reported that treatment of cases with bronchial asthma using acupuncture plus cupping lead to an immediate relief and improvement in pulmonary function.[2] In some cultures the technique was also used on the back to treat asthma in children. Cupping was also recommended for cardiac diseases. Bleeding cupping; up to 100 ml of blood can be helpful in treating hypertension.[3]

- **Gastrointestinal Diseases**

The stomach, spleen and intestines are regarded as the most important "engines" of the human body. They are areas where the natural healing power of the body derives its energies. Dry cupping stimulates the inside of the organs, their peristaltic movement and secretion of digestive fluids, and strengthens thereby the power of digestion and absorption of nourishment as well as the power of secretion. Treatment involves cupping upon the abdomen to produce a low pressure pulling. It relieves chronic gastroenteritis disorders and constipation as a whole. These organs are benefited even during the treatment of the back by way of the stimulation of spinal nerves and the automatic nerves. In addition to improving the digestive organs, it also strengthens the muscles of the respiratory organs.

- **Urinary Diseases**

Medical texts from the 19th century contain information regarding the treatment of urinary tract infections [UTI] during that era. Management included bleeding [direct bleeding, cupping and leeches] for stones, abscess and retention. Cupping can be applied on the lumber region to treat retention of urine.

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[1] Skaar E [2004]: Why Bloodletting may Actually Worked. Science, Sept. vol. 305: pp 1626-1628.

[2] He JZ et al. [1988]: Observation on the Therapeutic Effect of Laser- AP in 101 Cases of Infantile Enuresis and its Influence on Constitution of the Patient. 16: 180, ex CAP & M 1988; 8 [Feb]: 17-19.

[3] Chirali I Z [1999]: Traditional Chinese Medicine: Cupping Therapy; Churchill Livingstone.

- **Dermatologic Diseases**

In the treatment of refractory dermal diseases, cutaneous needle acupuncture is usually followed by cupping to intensify the therapeutic effect. Examples of dermatologic conditions, when treated by cupping, either improves or come to healing successfully are: Boils or abscess, herpes zoster, acne, cellulite, and urticaria.[1] In [1993], **Chen** reported treatment of acne by puncturing acupoint in combination with cupping.[2]

Based on one experiment on a 35- year- old male, it has been found that cupping stimulates hair growth. Fine hair on his back grew to thick hair of 1 to 1.5 cm long after about 140 applications of treatment by cupping through direct physical stimuli on hair roots and expansion of blood vessels of the skin by means of the pull of low pressure.[3]

Cupping treatments is beneficial for the skin in many ways:

1. Stimulation of the cutaneous immunity and facilitation the flow of lymph, which helps remove bacteria and carry proteins. Thus strengthening the renewing power of the skin and its resistance to various harmful conditions, which means that the skin will regenerate faster when it has been cut or wounded.

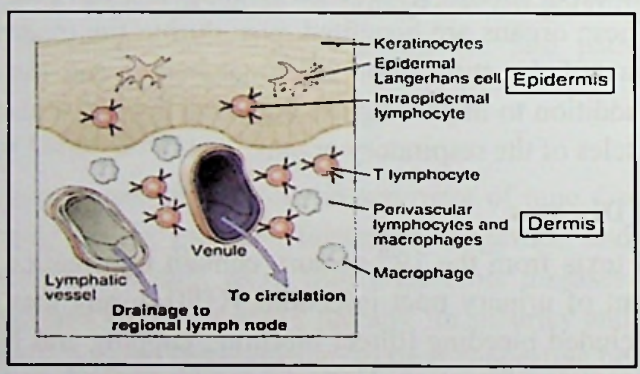

Fig [67]: cutaneous immune system[4]

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[1] Li L, and Ding J [2001]: Treatment of Urticaria with Cupping at Back- shu Points- A Report of 40 Cases. J Tradit Chin Med. Mar; 21 [1]: 37-8.

[2] Chen D, Jiang N, Cong X [1993]: 47 Cases of Acne Treated by Prick- Bloodletting plus Cupping. J Tradit Chin Med; 13: 185–6.

[3] Chirali I Z [1999]: Traditional Chinese Medicine: Cupping Therapy; Churchill Livingstone.

[4] Abbas A K and Lichtman A H [2003]: Cellular and Molecular Immunology; Fifth edition, Saunders.

2. Enhancement of cutaneous blood circulation thus encourages a sufficient supply of nutrition to the skin tissues.

3. Rise of skin temperature. After cupping, the skin will be all aglow because of the rise in skin temperature by the increase of the blood flow.

4. Improvement in the cutaneous [skin] respiration and promotion of gaseous exchange within the cutaneous cells.

5. Promotion of metabolism within skin tissues. It accelerates the functions of both sweat and sebaceous glands. Leading to secretion of salts, sebaceous material and the excretion of sweat.

6. The essential point of cupping is not only to withdraw stagnant blood within the skin as the expansion of the cutaneous blood vessels facilitates the flow of blood, but also to remove toxic substances from surface of skin.

- **Psychological Diseases**

There are also reports of using cupping in conjugation with mental sedatives to treat schizophrenia. This method had a reported success rate of 91.68%. In addition there is a report of using bloodletting cupping for treatment in 162 cases of schizophrenia, with an overall success rate of 96%.[1] It is also promoted to ease depression.[2]

Cupping therapy is, like massage, effective against anxiety and worry. Hence, insomnia is treated by cupping in conjunction with massage. During treatment with this therapy on the back or the loins, for example, some middle- aged or elderly patients fall asleep, snoring loudly. This clearly shows one of the effects upon the nervous system. The mechanism of its effectiveness will be cleared some day.

- **Infectious Diseases**

In the 18th century, cupping [mechanical leeching] was considered to be an effective remedy for cholera.[3] At around the same time in

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[1] Dey T [2000]: Soothing the Troubled Mind; Acupuncture and Moxibustion in the Treatment of Schizophrenia: Paradigm Publications, Brookline, Massachusetts.
[2] Cassileth B [1998]: The Alternative Medicine Handbook. New York, NY: W. W. Norton & Co.
[3] Lindpaintner K [2001]: Pharmacogenetics and the Future of Medical Practice: Conceptual Considerations. Pharmacogenomics 1: 23-26.

America; mass bleeding was encouraged during the yellow fever epidemics.[1] Additionally, mumps was treated by applying water cupping over the swollen glands, with good results.[2]

- **Varicose Veins**

Cupping is employed to remove the stagnant blood from these fine capillaries. Under no circumstances should cupping be applied directly on the main varicose veins. This form of cupping is classified as a cosmetic cupping therapy, as its purpose in the majority of cases is always the same, i.e. cosmetic.

- **Cancer**

Cancer patients are seeking unconventional procedure for treatment at just about every stage of their disease, from initial diagnosis to late stage illness.

Most conventional doctors are trained to focus on surgery, radiation therapy and chemotherapy to treat cancer. But, the skyrocketing cancer rates today demand we use every therapy available, conventional or unconventional.

Although not widely used as a complementary method of treatment for cancer, some practitioners may use it to rebalance energy in the body that has been blocked by certain tumors. There is no scientific evidence to support these claim. But although there is no evidence that cupping can cure cancer it self, it is effective for undoing the damage done to patients by conventional therapies. investigation on effect of self- blood therapy and Kneading- cupping therapy on the adverse reactions of chemotherapy and radiotherapy in patients with malignant tumours has been done with good results.[3]

In recent years, there has been increasing research which attempts to reinterpret unconventional medicine within the framework of con-

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[1] King, Lester S [1971]: A History of Medicine. P: 193-201, Penguin Books, England.
[2] Jin C, Guangqi Z [1989]: A Survey for Thirty Years Clinical Application of Cupping, Journal of Traditional Chinese Medicine 9 [2]: 151-154.
[3] Baoyan Qian, Chen Ruisheng and Hou Panchang [1995]: Investigation on Effect of Self- Blood Therapy and Kneading- Cupping Therapy on the Adverse Reactions of Chemotherapy and Radiotherapy in Patients with Malignant Tumours, the International Journal of Acupuncture. Vol. 1. No. 2 [21].

ventional medicine. Cupping had found a place in cancer treatment not as cures, but as complementary therapies that may help patients to feel better and recover faster.

For cancer patients, cupping eases the discomfort that can come with chemotherapy and radiation. Since the immune system is depleted, cupping therapy will help repairing the immune system and strengthening it to withstand further attack.

Cupping is recently practiced at the University of Texas M.D. Anderson Cancer Center, epitome of the conventional cancer-care establishment. The M.D. Anderson's integrative medicine program, offers unconventional care, from meditation to yoga to aromatherapy. But for many people, cupping has become a therapy of choice, "I think cupping should be an integral part of cancer treatment", says Poole, a tongue cancer survivor whose treatment caused soreness of the neck and shoulder twitching. "It's made a world of difference for me."[1]

III. Contraindications

[Who Is Not Suitable for Cupping Therapy?]

1. Cupping should not be performed on open wounds or around skin ulcers. It is contraindicated on irritated skin [areas of skin that are inflamed] or over allergic skin or where any skin lesions are present. Also, it is usually avoided on elderly people with very thin, delicate skin.

2. It is contraindicated to apply cupping to the abdominal area, or lower back and sacrum of the pregnant woman.

3. Contraindications especially for bloodletting cupping also include patient who has a bleeding disorder, hypotension, and menstruating women.

4. It is unadvisable to apply bloodletting cupping to the areas where great vessels are distributed.

5. It is not suitable to apply cupping to patients with serious heart

[1] Toda Ackerman: People in Pain Turn to Cupping Therapy. Houston Chronicle, 2004.

diseases or patients susceptible to spontaneous bleeding or endless bleeding after trauma.

6. Bloodletting cupping is only suitable for adults and not for children or elderly.

Chapter 12

Cupping and Modern Science

A Happy Reunion

Up till now the evidence for cupping therapy was mainly skeptical and any reports of successful treatment with cupping were anecdotal. Scientists have been asking two important questions. First, does cupping therapy really work? Second, if it does work, what is the mechanism? No scientific paper was available to convince the skeptics. This chapter discusses the 1st study attempts to reinterpret traditional cupping within the framework of modern scientific medicine and design to evaluate bloodletting cupping technique as a useful treatment adjunct in the management of patients with RA.

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I declare that this thesis has been composed by myself & the work of which is a record has been done by myself. It has not been submitted for a degree at my university or any other university. ”

Dr. *Sahbaa M. Bondok*

Effect of Cupping Therapy on Soluble Interleukin-2 Receptors and Natural Killer Cells in Patients with Rheumatoid Arthritis

THESIS

Submitted for partial fulfillment of M.SC. Degree in:

MICROBIOLOGY

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Rational of the Study

Rheumatoid Arthritis [RA] has been historically viewed by established medical practitioners as a far- ranging "unsolved" disease condition. Most authorities believe that remissions rarely occur. Some experts feel that the term "remission- inducing" should not be used to describe ANY current rheumatoid arthritis treatment. A review of contemporary treatment methods shows that medical science has not been able to significantly improve the long- term outcome of this disease. Therefore, despite the improvement in medication for the treatment of RA, the disease has a major impact on the lives of many patients; with 10% of all patients being eventually disabled[1] and it has substantial personal, social and economic costs.

Current therapies for RA are directed primarily toward diminishing inflammation present in joints rather than to prevent or completely arrest the progression of the disease. Antirheumatic drugs significantly improve disease symptoms; however, these drugs are unable to stop joint destruction although this benefit is attended by risk of toxicity. The immunosuppressive drugs are reserved for selected cases, while the disease modifying drugs like gold- salts are costly and have low benefit risk ratio. Therefore, there is at present no known cure for RA although some drug therapies may help with the management of symptoms. Hence, there is a need for drugs having good efficacy with low toxic profile in this debilitating disorder.

Faced with this explosion of information, it is not surprising that the number of users of Traditional/ Unconventional/ Complementary Medicine [CM] has increased greatly among patients with RA.[2] Patients who suffer RA disease are known to try unconventional therapies [cupping, acupuncture, moxabustion] in addition to, or instead of medical therapy prescribed by their provider. Reasons for this include the chronic nature of their illness, the adverse effects of conventional medications, and widespread publicity about the purported

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[1] Berkow R [1992]: The Merk Manual of Diagnosis and Therapy. Rahway: Merck Research Laboratories; 1308.

[2] Eisenberg DM, Davis RB, Ettner SL, Appel S, Wilkey S, Van Rompay M et al [1998]: Trends in Alternative medicine use in the United States, 1990-97. Jama; 280: 1569-1575.

efficacy of unconventional therapies. They valued the physician's medical treatment plan and effort most. Hence, complementary and alternative medicine [CAM] has become an important subject for treatment of RA.

As a result of the high demand by the public for CAM, academic courses are being taught lately in medical schools. Sixty percent [60%] of medical schools in the U.S.A have begun teaching cupping as a part of Complementary Medicine [CM]. In addition, classes are now advertised in most towns in the U.K..[1] It is also being practiced at Harvard Medical School and Johns Hopkins Medical Center, two of the most prestigious medical centers in the world.[2] However, very few quality-well designed- studies have been conducted in the field of CAM in general, and in conjunction with RA in particular. May be because the gap in terminology makes it even harder to conduct scientific research, which is expected to answer to the highest criteria of both conventional parameters and complementary ones.

Cupping [*Hijama* Therapy] is one of the common forms of [CAM] and one of the therapies that recently became increasingly available to the public.

This age- old technique had been rediscovered in the twentieth century and its popularity has seen great renaissance. Therapeutic effects of cupping therapy pay attention to both public and scientific communities. In Germany, between 1987 and 1992, some 32 to 64% of patients with chronic polyarthritis had tried cupping as one of the unconventional procedure for treatment.[3]

However, up till now the evidence for cupping therapy was mainly skeptical and any reports of successful treatment with cupping were anecdotal. Scientists have been asking two important questions. First, dose cupping therapy really works? Second, if it dose work, what is

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[1] Eisenberg DM, Davis RB, Ettner SL, Appel S, Wilkey S, Van Rompay M et al [1998]: Trends in Alternative Medicine use in the United States, 1990-97. Jama; 280: 1569-1575.
[2] Skaar E [2004]: Why Bloodletting may Actually Worked. *Science*, Sept. vol. 305: pp 1626-1628.
[3] Miehle W [1995]: Chronic Polyarthritis--Treatment with Alternative Medicine. How Frequent is [self-] Therapy with Alternative Methods?, Fortschr Med. 1995 Mar 10; 113 [7]: 81-5.

the mechanism? There were few scientifically controlled experiments to convince the skeptics. Unfortunately, no researches have been done on cupping to provide answers.

As always, there is chance for interaction, congruity, and integration between Traditional Medicine or CM and Modern Pharmaceutical Medicine. This combination is expected to gain the highest criteria of both conventional therapies and complementary ones.

Therefore, I tried to be the forerunner in the understanding that the medical treatment process is analogous to a beaded necklace. All of the beads represent a phase of the medical treatment process, with no one bead have greater importance than the other, but sized differently according to their level of responsibility and accountability. The most portent characteristic of the necklace is not whether one bead outshines another, but the interaction and congruity of all of the beads comprising the necklace. If the bond that attaches any two beads is broken or compromised, the necklace is ruined, and cannot be worn until that bond is repaired. So too must the relationship between all parties in the medical process be continuous. Connected by mutual respect and effective communication. Void of the distraction of greater or lesser importance, but strengthened by the united goal of servicing the patient.

Hence, the idea of combining an ancient form of therapy like bloodletting cupping with the renowned pharmacological treatment of RA had been born. I have decided to portray the significance of "Bloodletting Cupping" therapy as an immunoregulatory technique through measuring its effect on the conventional parameters of diagnosis, which include physical examination, routine laboratory, and specific immunological parameters.

This study attempts to reinterpret traditional cupping within the framework of modern scientific medicine and design to evaluate bloodletting cupping technique as a useful treatment adjunct in the management of patients with RA.

Through studying the effect of bloodletting cupping therapy as an adjunct therapy in the management of patients with rheumatoid arthri-

tis; several questions about bloodletting cupping might be answered, How effective is this treatment methods? Is it superior to others? Who is most likely to benefit? Does the chronic loss of small amounts of blood stimulate the defense mechanisms of the body? Dose the traditional concept about ridding toxins and waste products that aggravate inflammation have any scientific meaning? Whether or not the loss of blood could have any therapeutic benefit for RA patients? Does it has a positive effect on joint problems, is this technique effective for reducing swelling, stiffness and joint pain? Dose cupping provides better blood flow within the joint, and introduces fresh nutrients and oxygen to the joints and diseased tissues? Would such interaction affect the course of RA disease? Do the benefits last? Which would be the points involved? The answers are not yet in hand. Given the increasing interest in understanding the multiple roles played by cupping technique, we hope all these questions will find answers in the very near future. Perhaps a rational explanation for the popularity of bloodletting cupping will be found in the answers of these puzzling questions!!

Aim of work

Is to evaluate bloodletting cupping therapy as an adjunct therapy in the management of patients with rheumatoid arthritis; in particular assess its immunoregulatory effect on soluble IL-2 receptors [sIL-2R] and natural killer [NK] cell counts.

Summary of the Study

In recent years, there has been increasing research which attempts to reinterpret traditional medicine within the framework of modern scientific medicine. Also, there have been some major research trials to asses the usefulness of complementary medicine [CM] for a range of disorders. However, very few good- quality clinical studies have been conducted in the field of cupping therapy, in general and in conjunction with rheumatoid arthritis [RA] in particular.

Thus, with full awareness of the difficulties involved in making decisions about the management of RA, The present study employs two groups of RA patients to evaluate the effect of Bloodletting Cupping [BLC] technique as a treatment adjunct in RA. The objective of this study was to portray its significance as an immunoregulatory technique through measuring its effect on soluble IL-2 receptors [sIL-2R] concentrations and number of natural killer [NK] cells. In addition, this study attempted to assess BLC effects on the conventional markers of disease activity in RA which include clinical and laboratory parameters. This study also attempted to provide some preliminary data on the mechanisms by which BLC therapy assumed to exert its effects.

This study employed 50 patients diagnosed as RA cases, along with 10 age and sex matched healthy control individuals. Patients were divided into two groups. The first group [a] included 20 patients; they received only the conventional medicinal treatments. The second group [b] included 30 patients; they received BLC in addition to their conventional medicinal treatments [e.g. combined therapy].

All patients were examined clinically and laboratory pre- and 3 times post initiation of treatment. The same measurements were carried out every month for 3 months. Immunological Investigations were made twice only, one before starting treatment, the other was 3 months later after completion of the study period.

Good clinical, laboratory and immunological results were observed in combined therapy- treated group, with a high significant difference compared with non- BLC treated group [$P<0.001$], showing that in

treating RA with 2nd line Drugs combined with BLC technique is superior to drugs alone.

All patients in combined [medicinal & cupping] group showed a significant decrease in all clinical markers of disease activity [Visual Analogue Scale [VAS]; Tender Joint Count [TJC]; swollen joint Count [SJC]; and disease activity score [DAS28]] as early as one month of combined therapy reflecting a rapid improvement. A comparative analysis of results of both groups shows a high significant difference between both groups [P<0.001].

Moreover, it was determined that the patient's symptoms have stabilized as may be observed by improvement in laboratory tests, combined therapy gives consistently superior laboratory results compared with medicinal therapy The influences exerted by medicinal treatment appeared later only after 3 months of administration of the treatment as manifested by reduction in CRP and RF levels, while no significant difference was detected in ESR [P>0.05]. In contrast, combined therapy induced marked reductions in CRP and RF levels that appeared very early after one month of application of BLC. The results also show a significant reduction in ESR [P<0.05] after combined therapy, but not as much as the CRP [P<0.001] or RF [P<0.001]. This reduction in RF and CRP was by far the most significant outcome of this work. Statistical analysis showed that there were significant differences between the improvement rates of each of ESR [P<0.05], CRP and RF in the two groups [P<0.001].

Regarding the influence on the peripheral cellular status, comparison of pre- to post combined therapy, revealed significant gradual increases in each of total white cell count [WCC] [P<0.001] and red cell count [RBC] [P<0.05]. On the other hand, patients of medicinal therapy without cupping [Group a] showed a significant decrease in and [WCC] [P<0.01] and insignificant change in [RCC] [P>0.05]. Neutrophil count also significantly increased [P<0.001] at one month after initiation of combined therapy; whereas patients might have no coinciding infections as compared with that in medicinal therapy group [P>0.05]. Statistical analysis showed that there was a highly significant difference between the two groups [P<0.001].

In order to investigate the role of BLC in regulation of natural killer cell [NK] count, NK cells were measured by Flow cytometry to assess their number [percentages] in the peripheral blood of patients with RA in addition to normal individuals. The results showed that NK percentages before treatment in both groups of patients were significantly lower than those in normal controls [P<0.05] The results obtained consequently indicated that BLC therapy for 3 months significantly increased the percentages of NK cell [P<0.001]. while in medicinal therapy group there were much decrease in NK cell percentages [P<0.05]. The difference between both groups was statistically significant [P<0.001], suggesting that the administration of BLC could help restore NK cells in RA patients.

In addition, the effects of both therapies on peripheral T lymphocyte subpopulation were studied, there was no change in the T-lymphocytes counts in both medicinally and combined- treated groups [P>0.05].

Interleukin- 2 [IL-2] is an important growth factor for T lymphocytes. Its effects are mediated by cell surface receptors [IL-2R] expressed on activated T cells. Receptor protein can be shed from cell membranes. In the present study, plasma sIL-2R levels were determined in all groups using sandwich ELISA technique, the result shows that baseline levels of sIL-2R were significantly higher among patients with active RA than healthy controls [P<0.001].

After three months therapy, combined therapy induced a significant reduction in sIL-2R levels [P<0.001] reflecting clinical improvement. While in medicinal therapy group showed insignificant difference pre and post treatment [P>0.05]. Statistical analysis showed that there was a significant difference between the improvement rates of the BLC-treated and untreated groups [P<0.001].

The raised sIL-2R levels reveal activation of T lymphocytes and control of the IL-2- dependent immune response. Considering the immunological significance of sIL-2R in serum of RA patients, the present thesis tried to evaluate the usefulness of determining the serum levels of sIL-2R in RA patients in monitoring disease activity and to

define the relationship between its level and the marker of activity in RA.

Correlation studies were carried out in combined therapy- treated group [group b] at base line and after 3 months of treatment, it was found that sIL-2R levels were strongly positively correlated with all clinical and laboratory markers of disease activity. The sIL-2R elevated levels were correlated significantly with several parameters of clinical activity, including the Visual Analogue Scale [VAS]; Tender Joint Count [TJC]; swollen joint Count [SJC]; and disease activity score [DAS28]. It was also correlated significantly with the laboratory indicators of inflammatory process as erythrocyte sedimentation rate [ESR] and C- reactive proteins [CRP] and rheumatoid factor [RF].

Several previous studies suggested that sIL-2R level in RA probably reflects activation of underlying immunopathogenic mechanisms and appears to be an excellent monitor of clinical disease activity. A rising in its level may also predict exacerbation of the disease condition. In addition, determination of sIL-2R levels extends potentialities of laboratory diagnosis of RA activity which is important for evaluating effectivity of the treatment and prognosis of RA disease.

On the other hand sIL-2R levels were found to have a strong negative correlation with NK [%] and no correlation with T- cell [%] which indicates that improvement in T- cell function represented in reduction of the elevated sIL-2R, is not dependent on their count [i.e. qualitative or functional improvement].

As regard the correlation between NK cell [%] and markers of disease activity, correlation studies were carried out in combined therapy- treated group [group b] at base line and after 3 months of treatment, no such correlation appeared to be found between the number of NK cells and the inflammatory disease activity of the patients with RA in our study.

Briefly, better therapeutic results can be obtained in case of combined medicinal and BLC therapy. Thus, BLC may be beneficial to the successful completion of RA treatment and can be used successfully to increase the effectiveness of medicinal RA treatment. Using BLC may add the following therapeutic benefits for RA patients:

- Reducing the doses of analgesic drugs in keeping with the pain relief achieved with cupping, giving a chance to reduce the analgesic drugs used thereby reducing its unwanted side effects and the risk of drug toxicity.

- Reduction of RF titre, to which the life threatening extra- articular complications are contributed. thus, BLC may provide a prophylactic therapy against the life threatening extra- articular complications of RA.

- Increasing number of WCC, thus reducing a variety of complications caused by the suppressed immunity often observed in RA patients. BLC showed an efficacy on preventing leukocytopenia induced by immunosuppressive drugs used in RA treatment.

- Increasing number of NK cells, the elite troops of the innate immune system and possibly increase their activity which then fight infections and attack tumors. Bearing in mind that RA patients often exhibit an increased risk for developing recurrent infections and cancer due to prolonged treatment with immunosuppressive drugs, BLC may add a great help to the successful completion of RA treatment.

- BLC dose not alter the physical joint lesion [deformities], but joints functions are often restored despite the persistence of the lesion.

- These observations strongly suggest that BLC can potentially help the ultimate goals of therapy in RA by helping to alleviate pain, reduction of inflammation as well as protection of the articular structures and their functions, and finally, control of systemic involvement.

Conclusions

The effect of BLC therapy in patients with RA was definitely superior to those treated with conventional treatment alone. The present combination therapy yields satisfactory therapeutic effects. It was found that the effect of BLC combined with the conventional medicinal therapy increases the effectiveness of treatment and has the several advantages:

- The result of this work showed a distinct impact of BLC on the clinical condition of RA patients. It exerts marked improvement in all clinical markers of disease activity including the visual analogue scale of pain [VAS], Tender Joint Count [TJC] and Swelling Joint Count [SJC] in 28 joints and the Disease activity score [DAS28] which is the most sensitive clinical parameter used to assess disease activity.

- BLC yields consistently superior laboratory results in treatment of RA compared with medicinal therapy alone. There was an exceptional reduction in RF level following BLC. There was also gradual reduction in the CRP in all patients. Taking these results into consideration, BLC do affect humoral immunity. After combined therapy, ESR levels also decreased significantly, but not as much as the RF or CRP.

- Excellent results were achieved regarding the number of white cell count [WCC]. BLC therapy has the ability to augment WCC rapidly and definitely, without apparent side effects. In addition, the recovery of neutrophil was prominent. From an immunological standpoint, this simple procedure can be expected to reduce a variety of complications caused by the disturbed immunity often observed in RA patients. BLC showed an efficacy on preventing NK cell depletion induced by immunosuppressive drugs used in RA treatment.

- The main outcome measures were the change in immunological parameters including natural killer [NK] cell and T- cell functions. BLC increases the number of NK cells and decreases levels of T- cell soluble product of activation [soluble IL-2 receptors].

- The result of this work showed a regulatory effect of BLC on number of NK cells [%]. which may be attributed to the effect of cer-

tain neuropeptide mediators and/ or the stimulated effect on the sympathetic nerves. It raises the already depressed number of NK cells in RA patients. Bearing in mind that RA patients often exhibit an increased risk for developing recurrent infections and cancer due to prolonged treatment with immunosuppressive drugs, BLC may be beneficial to the successful completion of RA treatment. Using such a technique, in conjunction with other treatments, works by "boosting the body's natural immunity by increasing number of NK cells, the elite troops of the innate immune system and possibly increase their activity which then fight infections and attack tumors.

- It was observed that levels of soluble IL-2 receptors [sIL-2R] fell with BLC reflecting a modulating effect on cellular immune function. Although it dose not raises the percentage T- cell, it decreases levels of its soluble product of activation [sIL-2R]. This result is in agreement with the update theory about the involvement of disturbance of T cell function in RA and provide a clue for the study of the pathogenesis of RA.

- The present data suggested that sIL-2R level in RA probably reflects activation of underlying immunopathogenic mechanisms and appears to be an excellent monitor of clinical disease activity. A rising in its level may also predict exacerbation of the disease activity. More importantly, determination of sIL-2R levels extends potentialities of laboratory diagnosis of RA activity which is important for evaluating effectivity of the treatment and prognosis of RA disease.

- No significant correlations were observed between NK [%] and both clinical and laboratory markers of disease activity.

- The results suggest that BLC technique could make positive adjustment to IL2/NK regulatory network most probably by regulating cytokine production. It provided new theoretical basis for the principles of cupping therapy based on its ability to regulate cytokine production.

- The findings of this work strongly suggest that BLC therapy influences cellular and humoral immunity; providing direct scientific support that BLC may positively modulates human immune response particularly the innate one.

- Based on the above study findings, we conclude that BLC in combination with standard conventional medicine is markedly effective for normalizing immune response in patients with RA and counteracted the immunosuppressive effect of disease modifying anti-Rheumatic drugs [DMARDs].

- There were no significant adverse side effects, reflecting the wide safety margin of BLC technique and its high benefit/ risk ratio. It is a very unusual treatment that benefits every one and has no side effects.

Recommendations

The present study has demonstrated that the therapeutic effect of BLC method is definite. Patients responded more effectively to BLC compared with conventional RA treatment. The results were convenient and effective, and some times the effect is very prompt, for which this treatment is certainly worth investigating further.

As modern medicine, developed, ancient techniques like BLC therapy tended to be considered primitive. However, in the present study, Promising observations were achieved. The effectiveness of BLC in relieving pain and providing supportive therapy for treatment of such disease as RA is not disputed. However, further studies are needed to document the therapeutic role of BLC. Hence, it is advisable to study this therapeutic modality as early as possible. Clinical trials are mandatory in order to elucidate the efficacy of BLC therapy in the treatment of RA.

This study demonstrated a positive attitude towards the integrative approach, although BLC has wide therapeutic effects in RA. However, it is not a panacea, BLC alone dose not necessarily deliver stable clinical results and is not enough to treat RA alone. Both the BLC procedure and pharmacological treatment are tools used for the health benefits of RA patients and hence the uniqueness of this combination therapy.

The result of this study is in no way intended to be a substitute for modern medicinal care. BLC therapy it should be seen as an aid to the standard conventional therapy not as a complete alternative to it. It can be used simply as one of the many treatments for patients with RA.

BLC therapy should be recognized widely as a simple, effective, minimally invasive and low cost health procedure to improve cellular and humoral immunity. It is generally simple, easy to learn and safe as long as it is done by well trained medical practitioners.

Bearing in mind the experimental evidence, as well as the potential and excellent safety profile of BLC for which the therapy may worth spreading. It would be a great waste if we would not include into the

classic or the conventional therapies such as cupping. The results of this study recommend advertising cupping therapy as a fixed curriculum in all medical schools in Egypt as a part of the complementary medicine.

In view of the popularity of cupping therapy with rheumatological patients, cupping could be an important subject for rheumatologists, and can be successfully applied in the field of Rheumatology, rigorous research is the best way forward.

> If the claims made for BLC are not too extravagant, if it is appropriately used and if its practitioners do not pretend to a knowledge, which they do not have, then it will have more to offer in the future.

Future Directions

Although BLC has been proven beneficial to the immune functions, much is waiting to be investigated on the modulation of BLC therapy on the immune system and the relevant mechanisms. The following are some recommendations for research questions:

- In this study, we did not measure NK cells activity; so that it is unknown whether changed NK cell count was qualitative or just quantitative changes. Therefore, functional analysis is needed document the potential immunoregulatory role of BLC therapy in RA.

- Although the present study shows a clear picture of reduction in sIL-2R levels, it is by far too small a trial to claim a major find. Therefore, further studies on a large number of patients are recommended.

- Although there were no changes in the T lymphocyte counts, the total leukocytc count was increased. Detailed analysis of T lymphocyte subsets is indicated to asses the CD4/CD8 ratio, if the CD4/CD8 ratio was altered this would suggest that bloodletting cupping therapy can modulate T lymphocytes.

- Further studies are needed to asses the role of the $CD4^+$ $CD25^+$ regulatory T cell subset of the $CD4^+$ T cell population, this population has been shown to suppress the in vitro proliferation of autologous $CD4^+$ T cells. It is postulated that regulatory T cells in active RA, may be defective in controlling proinflammatory cytokine production.

- The result of this study postulated tentatively that the decrease of NK number in RA is due to the insufficient production of IL-2 caused by impairment of T_H function due to permanent activation as a consequence of the inflammatory disease, which gives rise to the defect in cellular immunity and affects the IL-2 function and lowers NK activity. In this regard; more studies are required and justified to clarify this proposition.

- More investigations are needed to elucidate the other immunomodulation effects of BLC on all aspects of immune responses in RA especially studies that involve the synovial fluid to elucidate the changes locally inside the joint.

• The present study has documented several effects for BLC but it has not fully explained how it actually works and its mechanism waits further research. Further studies by interested clinicians and researchers are much needed to understand the physiology and mechanisms which stand behind the therapeutic effects of BLC in various diseases.

• Increased release of the neuropeptide beta- endorphin is highly proposed to explain the scientific background behind BLC technique. Critical measurement of its levels is mandatory in order to elucidate the role of BLC in the activation of endogenous opioid peptides in response to skin stimulation.

• BLC is depicted as being effective at least partially by stimulating the body to secrete endogenous cortisol level in response to stress due to the procedure. Concerning the action of cortisol on the immune system, determination of its level could be useful to examine this hypothesis and open the way for further studies to elucidate the extent of implication of cortisol in the therapeutic effects of BLC.

The following are some questions for future research:

- Where would BLC therapy "meet"?
- Who are the suited immune disorder patients for BLC Therapy?
- What are the best parameters and the points for BLC in modulating the immune functions?
- What are the central mechanisms of BLC on immunosuppression, including the immunomodulatory effect on the central nervous system, and interactions between opioid peptides and immunomodulation?
- What are the modulatory pathways of the BLC mediated immunomodulation?
- What are the cellular and molecular mechanisms involved in the modulating effect of BLC on immune functions?

Patient selection and patient cooperation are all-important. Analysis of individuals who have improved dramatically with these approaches is helping to pinpoint what factors are likely to lead to successful

treatment. Given the increasing interest in understanding the multiple roles played by BLC technique, I hope all these questions will find answers in the very near future.

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Immunomodulatory Effects of Bloodletting Cupping Therapy in Patients with Rheumatoid Arthritis

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This study was carried out in order to evaluate the efficiency of bloodletting cupping [BLC] therapy as a complementary therapy in management of rheumatoid arthritis [RA] and to investigate its modulatory effects on natural killer cells [NK] and soluble interleukin-2 receptor [SIL-2R]. Two groups of RA patients diagnosed according to American Rheumatology Association were included: Group I included 20 patients who received the conventional medicinal therapy of RA, Group II included 30 patients who received combined conventional and BLC therapy. Ten age and sex matched normal controls were also included, as group III. Visual analogue score [VAS], tender joint count [TJC], swollen joint count [SJC], disease activity scores [DAS], laboratory markers of disease activity [erythrocyte sedimentation rate [ESR], C-reactive protein [CRP], Rheumatoid factor [RF]] were evaluated on 3 successive months, NK cell [%] measured by flow cytometry and SIL -2R concentrations measured by ELISA were also assessed. After one month of combined therapy there was significant [$P < 0.001$] reduction in VAS [5.16 ± 0.28], TJC [11.62 ± 1.03], SJC [10.13 ± 1.02] and DAS [5.35 ± 0.14]. Early and marked reductions in laboratory markers of disease activity [26.90 ± 3.68] for CRP, [51.46 ± 6.06] for RF and [40.56 ±3.36] for ESR were also detected as compared to base line, while the effects of conventional therapy appeared late after 3 months of treatment. Conventional therapy induced significant depression in white blood cell [WBC %] [$p<0.001$] whereas combined therapy induced marked [$p<0.001$] elevation since the first month [8.44 ± 1.58] compared to base line [6.94 ± 1.58]. There was a significant [$P<0.05$] lowering in NK cell [%] with conventional therapy while combined therapy induced significant [$P<0.001$] increase [11.33 ± 0.4.7] compared to base line level [8.50 ± 0.46]. Additionally, combined therapy resulted in marked reduction [$P < 0.001$] in SIL-2R conc. after 3 months of treatment [1790 ± 68.11] compared to base line [2023 ± 92.95], while insignificant reduction was detected with the conventional therapy. The improvement rate [%] of clinical, laboratory cellular & immunological parameters were significantly higher with combined therapy than with conventional therapy. Moreover, strong positive correlations [p<o.ooo1] were detected between SIL-R conc. and clinical parameters VAS [r=0.890], TJC [r = 0.905], SJC [r= 0.872] and DAS [r=0.923] and also between SIL-R conc. and ESR [r=0.973], CRP [r=0.933], RF [r=0.941], while a strong negative correlation was found with NK count cell % [r=0.927]. In conclusion, BLC therapy combined with conventional therapy may improve the clinical condition of patients with RA. It has modulatory effects on the innate [NK %] and adaptive cellular [SIL-2R conc.] immune responses the results also concluded that SIL-R could be used as monitoring tools for disease activity and prognosis.

Rheumatoid arthritis [RA] is a chronic inflammatory systemic disease that causes irreversible joint destruction with substantial social effects in terms of cost and disability [Alarcon, 1995]. In RA most of the immune cells interact in complex networks that lead to tissue – injurious inflammatory reactions. Cytokines are known to be heavily implicated in driving the inflammatory process and promote further synovial proliferation and inflammation as well as bone and cartilage destruction [Hu, 2000].

Several studies in human support a role for interleukin 2 [IL-2] in the etiology of the disease. Although its amount in the synovial fluid of patients with RA is low compared to that of other cytokines, IL-2 is present in nearly all rheumatoid arthritis fluids but is absent in fluid from patients with other rheumatic diseases such as osteoarthritis and reactive arthritis [Morita et al., 1998]. Activated T, B, monocytes and NK cells are often identified by the expression of the high affinity IL-2 receptor [IL-2R] that is synthesized concomitantly with the cytokine [Dinarello and Molo-dawer, 2000]. Chronic T cell stimulation leads to shedding of the cell surface receptor [IL-2R] from cell membrane and the soluble form [SIL-2R] is detected in body fluids by enzyme linked immunosorbent assay [ELISA] [Wood et al., 1988]. It can be used to monitor in vivo immune activation and has been shown to correlate with clinical disease in conditions such as rheumatic arthritis [Kemett et al., 1990]. New evidence has been raised regarding the involvement of NK cells in pathogenesis of RA by perforin or granzyme mediated cytotoxicity [Tak et al., 1994]. NK cells were detected in the synovium and peripheral blood [Musatov et al., 1996].

Despite the improvement in medication for the treatment of RA, the antirheumatic drugs are unable to stop joint destruction and the disease still has a major impact on the lives of many patients [Brown, 2000]. Cupping therapy is a type of complementary medicine, in which a heated cup is applied to selected points. It causes swelling of tissues and in-

creases the blood flow in the diseased area. This draws out the harmful excess blood from diseased organs and so promotes healing. It is particularly helpful for conditions such as rheumatoid lumbago and stiff neck as it increases circulation and the mobility of the affected areas [Chirali, 1999].

This work aimed at the evaluation of bloodletting cupping therapy as an adjuvant therapy in the management of patient with RA, several questions might be answered: whether it correlates with clinical improvement as manifested by the disease activity scores and if it modulates expression of T cell activation marker [SIL-2R] and percentage NK cell.

Patients and Methods

Patients

Fifty typical outpatients with RA were selected from routine rheumatology outpatients clinic of Al-Hussein Hospital, Cairo, Egypt. They were diagnosed clinically according to the revised diagnostic criteria set by American Rheumatology Association [ARA] [1987] that includes morning stiffness [>1 HR], swelling of three or more joints, swelling of hand joints, symmetric swelling of soft tissues, subcutaneous nodules, increased levels of serum RF, erosions and/or periarticular osteopenia in hand or wrist joints. Four of the seven criteria should be fulfilled [Arnett et al., 1988].

All patients were under treatment with analgesia including non – steroid, anti-inflammatory drugs and on the second – line agents such as gold, penicillamine salazopyrin or methotrexate. No change in therapy for the preceeding 3 months, no intra-articualr injections or pulse steroid therapy was recorded. Patients receiving anticoagulants or who had previous bloodletting cupping, or had localized skin infection or receiving other complementary therapy were excluded from the study. Patients who are contraindicated for cupping were also excluded.

The activity of the disease was identified by measuring the inflammatory markers including erythrocytic sedimentation rate [ESR] and C-

reactive protein [CRP]. Rheumatoid factor [RF] and complete blood picture were performed. Patients were divided into 2 groups:

Group 1 [medicinally treated group]

Included 20 patients with RA receiving the conventional medication only [predilone >7.0 mg daily& methotrexate [MTX] 7.5gm/ week], their ages ranged from 22-50 years & duration of illness of 2-12 years.

Group II [combined treatment group]

Included 30 patients subjected to complimentary bloodletting cupping besides the conventional medication therapy their ages ranged from 26-60 years and duration of illness 2-10 days.

Ten age and sex matched healthy control subjects [group III] were also included. They had no evidence of immune disorders, no acute or chronic infections and had not used any drugs knows to affect the immune system.

All patients and controls were subjected to:

Detailed clinical history regarding the drug used, smoking habits, physical activity, recent infections and traumatic events.

Thorough clinical examination concerning the visual analogue scale of pain [VAS]; Tender joint count [TJC] disease activity score [DAS], swollen joint count [SJC].

Laboratory investigations: ESR, CRP, and RF. Complete blood picture and platelet counts were also measured to exclude patients who are contraindicated for cupping.

Immunological investigations: determination of NK cell [%] and SIL-2R concentration.

Four blood samples were obtained from each patient. The first sample was obtained before the start of cupping treatment to define the base line levels of each inflammatory marker. Another three successive blood samples were obtained every month from RA patients to study the influence of both types of therapy on each parameter. The first [base line] & the fourth [after 3 months of therapy] blood samples were used for determi-

nation of NK cell [%], and SIL-2R levels.

Methods

I- Bloodletting cupping therapy:

A specific protocol for medical cupping therapy was applied with an intervening 4 week wash out period. Bloodletting cupping was used. Patients of group II were subjected to bloodletting cupping on local 'painful 'points and distal "remote" outpoints which are selected according to the standard acupuncture nomenclature proposed by the world health organization .As regards to duration of cupping, number of cups, area to be cupped and duration of each application, the protocol of Abele [1998] was followed. Particular attention was given also to the principles described by Birch and Ida [1998] and Chirali [1999].

II- Determination of NK cell [%] and absolute T cell counts by flow cytometry.

The percentage and absolute counts of T lymphocytes and [%] of natural Killer [NK] cells in erythrocyte – lysed whole blood were assayed using FACS caliber flow cytometery equipped with 488nm Laser capable of detecting light scattered [forward side] and three colour fluorescence

Becton Dickinson [BD] tritest CD_3 fluoresciein isothiocyanate [FITC/CD_{16}^+ CD_{56}^+, the phycoerythrin [PE]/CD_{45}^+ peridinin chlorophyll protein [per cp] is a three – colour direct immune fluorescence reagent was used for identification and dermination of the percentage and absolute counts of T-lymphocytes [CD_3^+] and NK cells [CD_3^-, CD_{16}^+, CD_{56}^+]. The methods of Nicholson et al [1996] was carried out. Analysis was done by Multiset software and dot plots were obtained.

III- Determination of soluble IL–2R concentration.

Soluble IL–2R concentration in plasma was measured by a sensitive sandwich Enzyme linked – Immunosorbent Assay [ELISA], using the Biosource international. Inc. hsIL-2R kit R,D system, Minneapolis. USA. The instructions of the manufacturer were followed.

The absorbance [OD] which is proportional to the concentration of SIL-2R in plasma samples was measured using a spectrophotometer at 450 nm as the primary wavelength and 620 nm reference wave lengths. The concentrations of SIL-2R in each patient and control were determined from a corresponding standard curve.

Statistical Analysis

The results of this study have been analyzed by using the suitable tests of significance for example T-test one way ANOVA and chisquare test. Testing correlation between values was done using Parson's correlation coefficient test. All results were presented in form of mean ± SEM.

Results

Patients

The descriptive data of the studied groups of patients and controls were explained in Table [1] it was found that there was no significant difference between the three groups as regard to age, sex, and duration of illness.

Table 1. Descriptive data of the studied groups.

Parameter	Group I N = 20	Group II N = 30	Group III N = 10	P value
Age in years mean ± SD	38.35 ± 10.62	43.0 ± 439.66	37.7 ± 9.19	>0.05
Sex male/female	2/18	3/27	1/9	>0.05
Duration of illness in years ± SD	5.5 ± 2.63	6.8 ± 3.53		>0.05

Group I medicinal treated patients, group II combined treated patients, Group III normal control subjects.

The clinical features of group I and II at the base line before the start of treatment

The mean ± SEM of VAS, TJC, SJC and DAS of group I were [8.00 ± 0.34], [19.35 ± 0.07] [14.75 ± 1.02] and [6.14 ± 0.13] and of group II were [7.80 ± 0.28], [19.53 ± 0.95], [15.83 ± 0.97] and [6.15 ± 0.10] at base line. No significant differences were detected between both groups of patients as regards to the mentioned clinical features [P> 0.05] Fig. [1].

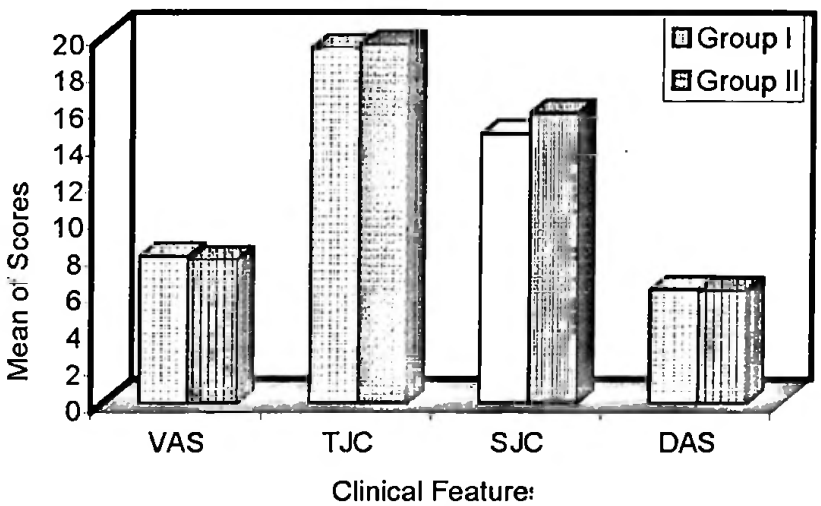


Figure 1. Clinical features of [group I] medicinal treated and [group II] combined treated at the base line before start of treatment. Visual analog score [VAS], tender joint count [TJC] swollen joint count [SJC], diseases activity score [DAS]

Effects of medicinal and combined therapies on the clinical features of patient groups

As regards to VAS and DAS of group I there were significant differences [P<0.01], [P<0.001] in the mean values between base line and one month, two months and three months of treatment. On the other hand, there was remarkable decrease in TJC only after 3 months of treatment while there were significant decrease in SJC [P<0.01], [P<0.001] after two months and three months of treatment compared to base line, [Table 2].

These effects appeared early in group II since the first month of treatment as compared to base line [Table 2].

Effects of medicinal and combined therapies on the laboratory markers of disease activity of Patient groups

In group I, there was insignificant difference [p>0.05] in the mean values of ESR after one, two and three months of treatment compared to base line, while there were high significant differences [p<0.01] in the mean values of CRP and RF after 3 months of treatment only.

In group II there was significant difference in the mean value of ESR [P < 0.05] after 3

months of treatment and very high significant decrease in mean value of CRP, RF [p<0.001], [p<0.001] appeared early since the 1st month of applications of therapy, [Table 3].

Table 2. Changes in clinical features of patient groups produced by medicinal and combined therapies.

Parameters	Base line	After 1 month	After 2 months	After 3 months	P_1	P_2	P_3
Group I							
VAS	8.00±0.34	7.10±0.38	6.30±0.40	6.25±1.33	>0.05	<0.05	<0.001
TJC	19.35±0.97	19.30±0.95	18.10±1.07	12.8±54.01	>0.05	>0.05	<0.001
SJC	14.70±1.02	14.50±1.10	13.75±0.91	12.95±3.66	>0.05	>0.05	<0.001
DAS	6.14±0.13	6.09±0.13	6.01±0.14	5.92±0.61	<0.05	>0.05	<0.001
Group II							
VAS	7.80±0.28	5.16±0.28	4.70±0.32	3.20±1.54	<0.01	<0.01	<0.01
TJC	19.53±0.95	11.26±1.03	9.86±1.04	4.73±2.76	<0.01	<0.01	<0.01
SJC	15.83±0.97	10.73±1.02	7.30±0.73	3.56±1.99	<0.01	<0.01	<0.01
DAS	6.15±0.10	5.35±0.14	4.94±0.14	4.10±0.69	<0.01	<0.01	<0.01

P_1 = P value between mean of base line & one month, P_2 = P value between mean of base line & two months, P_3 = P value between mean of base line & three months. Visual analog score [VAS], tender joint count [TJC] swollen joint count [SJC], diseases activity score [DAS].

Table 3. Effects of treatments for 3 months on laboratory markers of disease activity of patient groups

Parameters	Base line	After 1 month	After 2 months	After 3 months	P_1	P_2	P_3
Group I							
ESR[mm/hr]	41.15±3.97	40.55±4.11	42.55±4.17	42.95±4.49	>0.05	>0.05	>0.05
CRP[mg/dl]	48.60±5.93	46.60±6.57	46.80±5.14	41.10±22.74	>0.05	>0.05	<0.01
RF[IU/ml]	129.75±27.17	122.00±27.38	104.65±28.48	92.36±15.12	>0.05	>0.05	<0.01
Group II							
ESR[mm/hr]	44±13.90	40.56±3.36	38.66±3.31	36.46±3.35	>0.05	>0.05	<0.05
CRP[mg/dl]	46.40±5.45	26.90±3.68	18.20±0.36	9.60±1.90	<0.001	<0.001	<0.001
RF[IU/ml]	131.47±23.89	51.46±6.66	26.40±2.66	19.01±3.49	<0.001	<0.001	<0.001

P_1 = P value between mean of base line & one month, P_2 = P value between mean of base line & two months, P_3 = P value between mean of base line & three months.

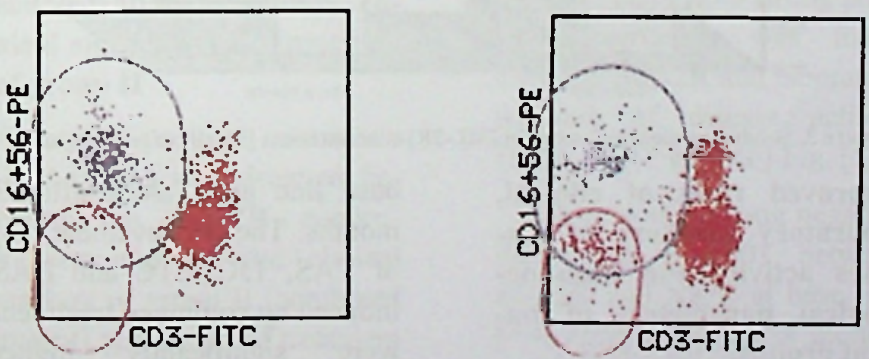
Effects of Medicinal and combined therapies on peripheral cells of patient groups

Significant differences [P<0.05] were observed in WBC counts and NK cells % in both groups of patients than control group, while no significant differences were detected in T cell count [%] between groups.

Three months after medicinal treatment there were significant decreases [P<0.001] in WBCs count and NK cell count [%] in groups I as compared with base line, while combined treatment induced significant increases [P>0.001] in WBCs count and NK cells [%] compared with base line. Additionally no significant difference was detected in the mean percentage of T cell in both group of patients [Table 4, Fig. 2].

Table 4. Effects of Medicinal and combined therapies on peripheral cells of patient groups.

Parameters	GI		P value	GII		P value	GIII N=10
	Base line	After 3 months		Base line	After 3 months		
WBCs [x109 x 1]	7.05 ±0.38	6.69±1.76	<0.001	6.94±0.28	10.05±1.50	<0.001	8.39 ±0.41
T-cell %	77.60 ±2.03	78.85 ±1.59	>0.05	75.10±1.59	76 ±6.95	>0.05	72.40 ± 2.8
N K Cell %	9.50 ± 0.92	8.60 ± 0.85	<0.001	8.50 ± 0.46	11.33 ± 0.47	<0.001	16.80 ± 394



[a] At base line [b] After 3 months

Figure 2. Changes in NK cells [$CD3^-$ $CD16^+$ $CD56^+$] dot plot of RA patient at base line and after 3 months of combined therapy:

The upper left quadrant represents the $CD3^-$ $CD16^+$ $CD56^+$ cells [NK].

[a]: $CD3^-$ $CD16^+$ $CD56^+$ % [NK cells] = 11, [b]: $CD3^-$ $CD16^+$ $CD56^+$ % [NK cells] = 20

Effects of medicinal & combined therapies on SIL-2R concentrations of patient groups

At base line the mean concentration of SIL-2R [pg/ml] were significantly higher [P<0.001] in both group of patients [2020±526.75], [2023±508.46] compared with that of normal control [1230.70±112.17] while no significant difference was detected between group I & group II.

After 3 months of medicinal treatment there was insignificant reduction [p>0.05] in the concentration of SIL-2R in group I [2007±525.57] compared with base line while there was marked reduction [P<0.001] in SIL2R concentration after 3 months of combined treatment in group II as compared to base line, [Fig. 3].

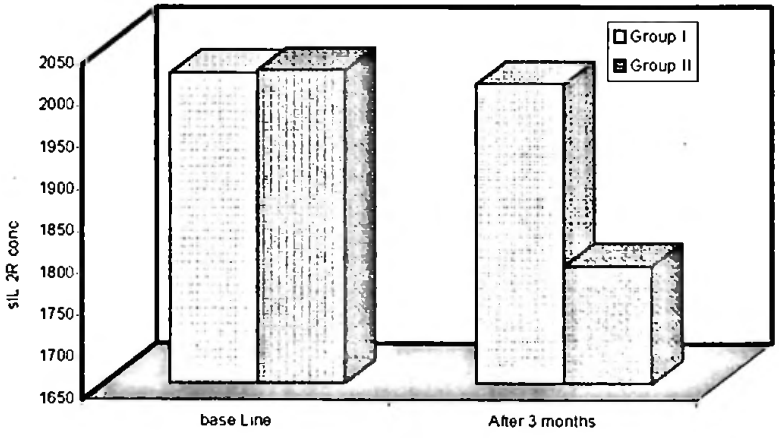


Figure 3. Soluble interleukin-2 receptor [SIL-2R] concentrations [Pg/ml] of patient groups.

Improved rates of clinical, laboratory markers of diseases activity and immuneological parameters of patient groups.

The therapeutic effects of each type of treatment were detected by calculating the improvement rates [%] which is the difference between values of base line and values after 3 months. The improvement [%] of VAS, TJC, STC and DAS induced by combined treatment were significantly higher [P<0.001] than that of conventional treatment. The same results were obtained in the immune parameters, [Table 5].

Table 5. Improvement rates [%] of different parameters induced by medicinal and combined therapies.

Parameters	Improvement rat %		P value
	GI	GII	
Clinical			
VAS	21.8	59	< 0.001
TJC	33.5	75.7	< 0.001
SJC	11.90	77.5	< 0.001
DAS	3.74	33.3	< 0.001
Laboratory			
ESR	4.37	17.68	< 0.05
CRP	15.43	79.31	< 0.001
RF	28.82	85.5	< 0.001
Immunological			
NK %	9.47	33.29%	< 0.001
SIL-2R	0.64	11.55	< 0.001

Correlations between SIL-2R concentrations and both clinical and laboratory markers of group II

A marked positive correlation [P < 0.001] was detected between the SIL-2R concentrations and all the clinical markers of group II [combined treated] at the start of treatment for VAS [r=0.857] TJC [r=805] SJC = [r=0.771] DAS [r=0.869] and after 3 months of treatment [r=0.89], [r=0.905], [r = 0.872] and for VAS, TJC, SJC and DAS respectively, Fig. [4], and also a strong positive correlation was found between SIL-2R and laboratory markers of disease activity [ESR – CRP and RF] Fig. [5].

There was a strong negative correlation P<0.001 between SIL-2R and NK% at base line [r=0.725], and after 3 months of treatment [r=0.927,] surprisingly, insignificant correlation were detected between NK [%] and all clinical and Laboratory markers of disease activity.

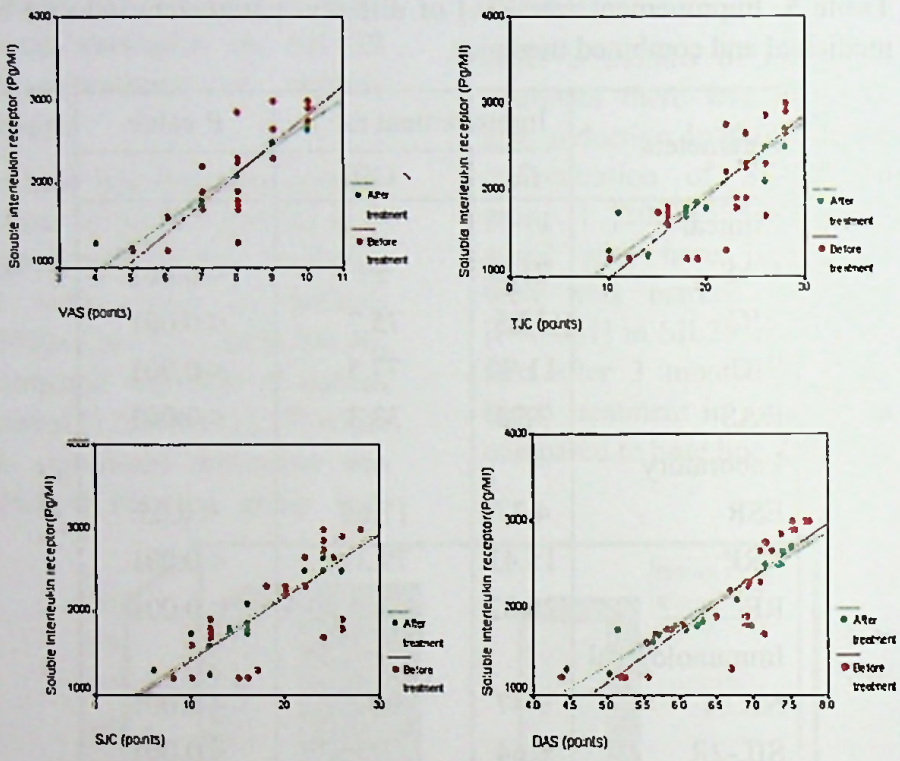
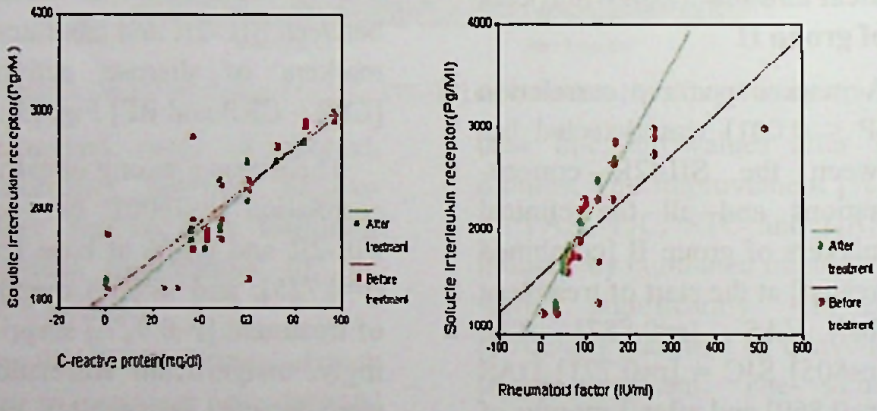


Figure 4. Correlations between plasma sIL-2R concentrations and Clinical Markers of Disease Activity in Combined Therapy treated patients [Group II] at base line [before cupping] and after 3 months of combined treatment.



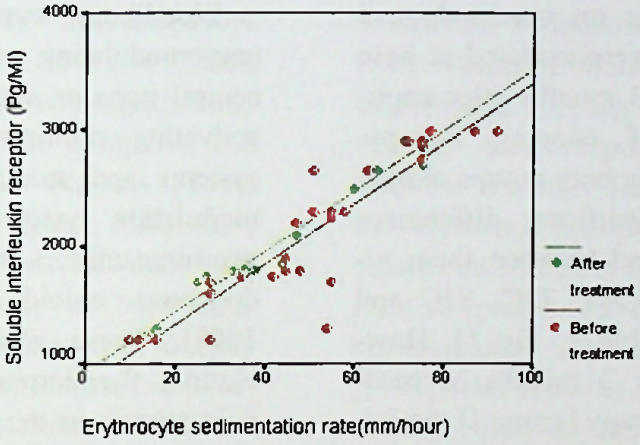


Figure 5. Correlations between plasma sIL-2R concentrations and Laboratory Markers of Disease activity in Combined Therapy treated patients [Group II] at base line [before cupping] and after 3 months of combined treatment

Discussion

Although current therapies for RA significantly improve disease symptoms, yet this benefit is attended by risk of toxicity. In addition antirheumatic drugs are unable to stop joint destruction [Mac Gregor et al., 2000]. RA cannot be cured by currently available therapies. The immunosuppressive drugs are reserved for selected cases while the disease modifying drugs like gold and salts are costly and have low benefit risk ratio [Nissinen, 2003]. Hence, there is a need for drugs that have a good efficacy with low toxic profile [Medvedev et al., 1996].

Unconventional therapy was tried in addition to medical therapy [Di Fabio, 1988]. Among various preferred unconventional solutions is cupping. It was much tried for Gout and other forms of arthritis [Turk and Allen, 1983].

The current study was carried out on 50 cases of RA divided into two groups. Group I received medicinal treatment and group II received combined medicinal and blood letting therapy. The therapeutic effects of both types of treatment on the clinical and laboratory markers of disease activity were evaluated at base line before start of cupping therapy and every month for three successive months while

the effects on immunological markers were assessed at base line and 3 months after application of cupping therapy. Comparing both groups at base line, insignificant differences were found between them regarding VAS, TJC, SJC and DAS [Table 2, Fig 1]. However after 3 months of medicinal therapy [group I] the improvement effects increased slightly and gradually on VAS and DAS as manifested by slowly decrease in their scores while TJC and SJC scores showed significant improvement only after 3 months of treatment [$p<0.001$] [table 2]. In contrast the combined therapy influence all clinical parameters [VAS, TJC, SJC and DAS] since the first month of application of cupping therapy reflecting a rapid improvement [$P < 0.001$] [Table 2].

Arthritis is one of the diseases that has been linked to over acidity locally which leads to pain and erythrocyte deformity. Enlarged rigid erythrocytes block flow of fresh oxygenated blood resulting in local oedema and deposition of acidic substances [Harmine, 1996].

Bloodletting cupping has a neuromodulating input into central nervous system [CNS] activating multiple analgesia systems and stimulating pain modulation system to release neurotransmittors such as endogenous opioids [Bowsher, 1998]. These substances including β-endorphin suppress pain signals in the spinal cord and emotional aspects of pain by acting on the limbic system [Petti et al., 1998]. Another possible mechanism that may explain the analgesic effect of cupping therapy is that vigorous sensory stimulation can produce a sharp decrease in pain for varying periods of time due to blocking of messages from sensory nerves carrying pain impulses by faster moving impulses, this mechanisms is called "gate control theory [Baldry, 1998]. Bloodletting cupping – like acupuncture- might exert effects on inflammation in that injury to the skin leads to release of beta endorphin and adrencortical hormone into circulation [Bowsher, 1998]. Both are helpful in blocking the inflammation in arthritis [Sack and Fye, 1996].

Laboratory investigations revealed that levels of ESR, CRP and RF were significantly higher in both groups of RA patients than controls [Table 3]. No significant differences were observed between both patient groups at base line. However, each type of therapy has a varying degree of influence on markers of disease activity. The influences exerted by medicinal treatment appeared only after 3 months of posttherapy as manifested by reduction in CRP and RF levels. In contrast, combined therapy induced marked reductions in CRP & RF levels after one month of application of blood letting cupping therapy [Table 3]. These results were in accordance with those of Chirali [2004] who demonstrated reduction of RF following cupping therapy. The author concluded that he never noticed such a drastic reduction, in such a short time, even with patients on strong medications. Changdu et al. [1999] reported 72.3% transformation rate in RF titre after treatment with acupuncture. Significant drop in RF levels could be explained by the removal of circulating antibodies and immune complex molecules via bloodletting cupping that, preventing their deposition in different tissues. The finding that combined therapy induced significant and early drop in C-reactive protein [CRP] could be explained by Anderson [1997] who reported that CRP may be used to monitor the level of inflammation and follow up the course of acute infections. In clinical practice, a fall in CRP level represents the first objective sign of improvement in response to treatment [Vander Heide et al., 1995]

In the present study medicinal therapy had insignificant effects on ESR levels even after 3 months of treatment whereas combined therapy exerted its effects after 3 months of therapy [Table 3]. Similar results reported that a drop in ESR levels is indicative of positive response to therapy [Guan and Zhang, 1995, Changdu et al 1999, Campen et al. 1998]. As regards to the effects of medicinal therapy on peripheral cellular states, it was found that it produces significant reduction on WBCS

counts after 2 and 3 months of treatment. It is well known that one of the side effects of methotrexate is bone marrow depression manifested by leucopenia, thrombocytopenia and bleeding tendency [Sack and Fye, 1996]. On the other hand combined therapy elicited highly significant increase in WBC counts early since the first month of application of cupping [Table 4]. These findings suggested that combined therapy exerted a regulatory effect on cellular functions that speeds up healing of many diseases

In the present study NK cell [%] was found to be depressed in both groups of RA patients compared with that of controls. This finding coincided with results reported by Yanagihara et al. [1999], who explained that drop in NK cell counts may reflect the state of disease activation in RA or it may be one of the side effects of methotrexate [Sack and Fye, 1997]. Thus it is not surprising to find that conventional therapy resulted in more depletion of NK cell % [Table 4, Fig. 2]. However bloodletting cupping resulted in very high significant increases in NK cell counts after 3 months of application. This finding suggests that blood cupping exerts a regulatory effects on the immune cells. Our results were in agreement with those of Petti *et al.*, [1998] who reported increased NK cell counts in 4% of their cases after 30 minutes of acupuncture treatment and in 50% after 24 hours.

Although the present study revealed non-significant differences neither in T cell counts between patients groups and normal controls nor between the effects of both types of therapies at base line or after 3 month of treatment [Table 4], yet there were elevations [$P<0.001$] in the concentrations of SIL-2R in both patient groups than controls at base line which indicates abnormal T-cell activation and involvement in RA pathogenesis. On the other hand, it was found that medicinal therapy in group I induced insignificant decreases while combined therapy in group II induced highly significant reductions [$P<0.001$] in SIL-2R concentration [Fig. 3]. These findings were in accordance with Zhu et

al. [1995], who reported that reduction in SIL-2R concentration following electro-acupuncture therapy is related to the immune regulation induced by β-endorphin and activation of opioid system that acts on the immune system via CNS pathway.

In the present work, a comparison was carried out between the percentage of improvement rates of all parameters by the medicinal therapy in group I and combined conventional and blood letting cupping therapy in group II. The results revealed that combined therapy produced significant [$P<0.001$] improvement rates than the conventional medicinal treatment in clinical parameters [VAS, SJC, TJC and DAS], laboratory parameter [ESR, CRP, and RF] and also, immunological parameters [NK%, T cell % and SIL-2R concentration].

The current study revealed that SIL-2R levels were strongly positively correlated with all clinical markers of disease activity [VAS, TJC, SJC and DAS] [Fig. 4] and also a strong positive correlation was found between SIL-2R and laboratory markers of disease activity [ESR – CRP and RF]. On the other hand SIL-2R concentrations were found to have a strong negative correlation with NK cell % and no correlation with T cell%. These findings were in accordance with several studies that found strong association between serum SIL-2R levels and the activation of T lymphocytes & clinical and laboratory markers of disease activity [Harrington et al., 1993, Campen et al., 1998, Dinarello and Moldawer, 2000]. They suggested that SIL-2R levels appear to be an excellent monitor of disease activity.

In conclusion, bloodletting cupping combined with conventional medicinal therapy has several advantages. It exerts marked improvement on the clinical condition of patients especially visual analogue scale of pain, it significantly reduces the laboratory markers of disease activity and it modulates the immune cellular conditions particularly of innate immune response NK cell % and adaptive cellular

immune response SIL-2R. It might be used for monitoring the diseases activity and the effectiveness of therapy.

The study recommends the use of BLC therapy together with the conventional therapy in patients suffering from RA. More investigations especially those that involve the synovial fluid are needed to elucidate the other modulation effects of BLC on all aspects of immune responses in RA and also in other debilitating diseases.

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Cupping [Hijama Therapy] is a marvelous procedure for eliminating stagnation and improving blood flow, especially in the back. The practitioner creates suction in a cup; the skin gets sucked up and rises under the cup as blood rushes up. Cupping is an ancient practice that became increasingly available to the public. Although, it recently gained publicity in the western world and the United States, cupping is one of the most famous medical recommendations of Prophet Muhammad ﷺ.

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