



ORIGINAL RESEARCH ARTICLE

Is laser epilation a safe method for removal of body hair

Lazer epilasyon vücut kıllarını almak için güvenli bir yöntem midir?

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ÖZET

AMAÇ: Lazer epilasyon, istenmeyen vücut kıllarının tedavisi için kullanılan bir yöntemdir ancak bazı yan etkilere sahiptir.

YÖNTEMLER: Lazer epilasyon uygulanan kadınlarda yapılan bir çalışmada 21 kadın retrospektif olarak incelendi. LE, nd-YAG veya alexandrite lazer cihazları vücuttaki bölgesel kılları almak için kullanıldı. Lazer epilasyon uygulanan hastalarda vulva, inguinal, perineal bölgeler ve üst bacak bölgelerinde dermatit, enfeksiyonlar ve vajinal enfeksiyon gibi komplikasyonlar değerlendirildi.

TARTIŞMA: Bu çalışmada epilasyon ve kadın sağlığı konusunda çok önemli sonuçlar elde ettik. En yüksek komplikasyon vulva, üst ve alt bacak bölgesini kapsayan epilasyon uygulamalarında görüldü.

SONUÇ: Saç köklerinin yokluğu aslında büyük bir hastalıktır ve tedavi edilmesi gerekmektedir. Bu nedenle, en iyi yöntemlerin bile, dezavantajları vardır. Bu konuda klinik denemeler çok yetersizdir. Bu çalışma küçük ve homojen olmasına rağmen, literatüre ışık tutabilir. Bu retrospektif çalışma, hasta sayısının düşük olması nedeniyle prospektif randomize çalışmalarla desteklenmelidir.

ANAHTAR KELİMELELER: epilasyon ve yan etkiler, nd-YAG lazer, alexandrite lazer cihazları, kıl alma

ABSTRACT

BACKGROUND: Laser hair removal is a common using procedure for the treatment of unwanted body hair but have some side effects

METHODS: In a study on women who underwent laser hair removal in, 21 women were investigated retrospectively. LE was used with nd-YAG laser, and alexandrite laser devices for hair removing. Dermatitis, infections, vaginal infections were

evaluated in the vulva, inguinal, perineal regions and upper leg regions on patients which applied laser epilation

DISCUSSION: In this study we found very important results epilation with woman health. The highest complication was seen in epilation applications involving the vulva, upper and lower leg region.

CONCLUSION: The absence of hair roots is actually a major disease and needs to be treated. For this reason, even with the best method, there are drawbacks. Clinical trials are very inadequate in this regard. Although this work is small and nonhomogeneous, the literature can shed light. This retrospective study should be supported with prospective randomise studies with the reason that the number of patients is low.

KEYWORDS: epilation and side effects, nd-YAG laser, alexandrite laser devices, hair removing

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Conflict of Interest: There is no Conflict of Interest in this study

Ethical Approval: There is no need to ethical approval because It is a retrospective study

Funding: There is no funding

INTRODUCTION

Lasers have been used in dermatology for some skin lesions and hair removing for over 50 years.

Skin Selective photothermolysis damages to blood vessel despite sparing surrounding tissue during applications. The target damage causes are wavelength of laser that penetrates deeply and absorbed by the chromophore or target. Exposure duration, pulse width with high energy are possible other causes for irreversible damage to the target (1). Heated oxyhemoglobin which occurs during procedure yields vascular injury. Surrounding epidermis, capillaries, and dermal tissue can be damage by coagulation and vessel wall necrosis (2). Selective photothermolysis allows clinicians and trained aestheticians to treat pigmented and vascular lesions, perform facial resurfacing, and remove hair in select areas. Tokue and his team investigated to follicular damage following laser exposure. They showed to cystic formation of hair follicles and foreign body giant cells in skin treated with either laser (3).

Laser hair removal is a common using procedure for the treatment of unwanted body hair but have some side effects (4).

Paradoxical hypertrichosis may be showed to ranging from 0.6% to 10%, and most commonly on the face and neck after laser hair removal (4). The epilation with all laser and light sources can be cause hair induction, especially in patient with darker skin types. Possible causes of Paradoxical hypertrichosis are inflammatory mediators and thermal injury causing induction of the hair follicles (4).

Laser epilation of the periocular areas can causes retinal and ocular injury by cutaneous laser applications (5-8). In one study, retinal and ocular injury observed to more than 62 percent of cases, with or without ocular protection during hair removing procedure areas close to the eye. Accidents occurred in 33 percent of cases despite use of intraocular corneal shields. High fluence and long wavelength lasers and inadequate cooling causes more ocular injury due to deeper penetration by radiation. The iris target have more damages because the pigment of melanin absorbs more energy at shorter wavelengths (9).

Laser epilation can be caused to apocrine miliaria, also known as Fox-Fordyce disease

(FFD), characterized by itching, light brown or yellowish papules. FFD occurs on postpubertal young women between 13 and 35 years. Hormonal imbalance and laser hair removal and hyperhidrosis are most reported causing factors for FFD (10).

In Turkish society and other world societies, the process of hair removal with epilating has started to be applied even more widely. Obstetricians report that even young girls who have recently come to the clinics for epilation are forced to do this by their mothers. It is said that in patients who have been examined for female diseases and have been treated with laser hair removal, vulvar, perineum, dermatitis in the legs, edema, infectious cause, pimping and sagging on the skin. We performed a clinical trial since there are very few clinical trials that have been done in this regard yet.

METHODS

In a study on women who underwent laser hair removal in Bezmilaem Vakif University Eyüp Campus, Department of Obstetrics and Gynecology Clinic, 21 women aged between 12 and 54 years were investigated retrospectively.

Laser Epilation: LE was used to seven patients with diode, six with nd-YAG laser, and eight with alexandrite laser devices for hair removing.

Dermatitis and grade, infections, vaginal discharge were evaluated in the vulva, inguinal, perineal regions and upper leg regions on patients which applied laser epilation (Table 1).

Table 1: Symptoms and rates according to epilation areas

LEp location	Local Derm. (n)	Local edema (n)	Derm. +edema (n)	Vaginal I (n)
Vulva	3/5 (%60)	3/5 (%60)	2/5 (%40)	2/5 (%40)
U+L	2/9 (%22)	1/9 (%11)	1/9 (%11)	2/9 (%22)
Leg				
Vulva+	5/7 (%71)	6/7 (%85)	5/7 (%71)	4/7 (%57)
U+L				
Leg				

L Ep: Laser epilation n: Number of patient Derm.: Dermatitis U: Upper L: Lower

The highest complication was seen in epilation applications involving the vulva region. Only 60% of local edema was seen with only vulvar epilation but 85% with vulva, upper and lower

leg. The least common complication was vaginal discharge and infection. Vaginal infections were found in 40% of the only vulva applications and 57% with vulva, upper and lower leg.

The highest complication rates were showed by 1 per week in 20 consecutive sessions, but significantly fewer side effects by 1 session in 3 month, or 1 in 1 year (Table 2).

Table 2: Side effects of laser epilation according to session number and times.

LEp side effects	20 sessions Weekly p (%)	1 session in 3 months (%)	1 session in 1 year (%)
Dermatitis	95	25	5
Edema	90	30	5
V infection	65	25	10

L Ep: Laser epilation V: Vaginal p: Period

DISCUSSION

In this study we found very important results about woman health. The highest complication was seen in epilation applications involving the vulva, upper and lower leg region. Only 60% of local edema was seen with only vulvar epilation but 85% with vulva, upper and lower leg. Vaginal infections were found in 40% of the only vulva applications and 57% with vulva, upper and lower leg.

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The hair follicle consists of neural crest, ectodermal or mesodermal origin, which are multiple different cell populations (11). Their distinct functions show according to locations, gene and protein expression characteristics (12-15). HF has a continuous cycling characters and uniquely dynamic mini-organ throughout adult life (13, 16). It has also a hair cycle clock system that transformation process arises under the dictates of an enigmatic oscillator system. Alopecia, hirsutism and hypertrichosis are common hair diseases such as remain major, unsolved medical problems (14-18).

For this reason, epilation or other methods of destroying the hair follicles, which is beneficial

to the body, can cause great disadvantages for health. In this small study, it was seen that the bad cosmetic results obtained by epilation were inversed for the purpose of application. It should not be forgotten that in addition to the side effects seen in short term, it may also cause very serious consequences that threaten general health in the long term.

CONCLUSION

Our body needs hair roots. The absence of hair roots is actually a major disease and needs to be treated. For this reason, even with the best method, there are drawbacks. Clinical trials are very inadequate in this regard. Although this work is small and nonhomogeneous, the literature can shed light. This retrospective study should be supported with prospective randomise studies with the reason that the number of patients is low.

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