Chronic Hyperinsulinaemia and Homoeopathy

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Introduction

Excess levels of insulin, the main energy storage hormone, circulating in the blood than expected, relative to the level of glucose is called Hyperinsulinaemia (Psora). Hyperinsulinaemia is associated with hypertension, obesity, dyslipidemia, and glucose intolerance (Psora/ Sycosis). These conditions are collectively known as 'Metabolic syndrome'.

Pathophysiology

Chronic exposure to refined carbohydrates and simple sugars can cause elevated levels of insulin, which drives glucose levels down (Psora). This can result in hypoglycaemia (Psora). Over time, tissues may become less sensitive to insulin (Psora-Syphilis) and as a result glucose cannot enter the cells as easily. This means more glucose in the bloodstream and a greater tendency to convert it into fat instead of energy. Elevated insulin levels cause the body to have difficulty in breaking down fat too.

In type 2 diabetes, body cells become resistant to the effects of insulin (Pseudopsora). The insulin binding receptors on cells become less sensitive to insulin concentrations (Syphilis) resulting in Hyperinsulinaemia (Sycosis) and disturbances in insulin release (Psora). With a reduced response to insulin, the beta cells of the pancreas secrete increasing amounts of insulin in response to the continued high blood glucose levels resulting in Hyperinsulinaemia (Psora/ Sycosis). In insulin resistant tissues, a threshold concentration of insulin is reached causing the cells to uptake glucose and therefore decreases blood glucose levels (Psora). The high levels of insulin resulting from insulin resistance may increase insulin resistance (Syphilis).

Neonatal Hyperinsulinaemia

Hyperinsulinaemia in neonates can be due to a number of environmental and genetic factors. If the mother of the infant is a diabetic, and does not properly control her blood glucose levels, the hyperglycemic maternal blood can create a hyperglycemic environment in the foetus. To compensate for the increased blood glucose levels, foetal pancreatic beta cells can undergo hyperplasia (Sycosis). The rapid division of beta cells results in increased levels of insulin being secreted to compensate for the high blood glucose levels (Sycosis). Following birth, the hyperglycemic maternal blood is no longer accessible to the neonate resulting in a rapid drop in the newborn's blood glucose levels (Psora). As insulin levels are still elevated this results in Hyperinsulinaemia. The Hyperinsulinaemia condition subsides after one to two days.

Aetiology

High levels of insulin can block stress hormones, called as catecholamines, which normally cause the release of cellular energy (Psora/ Syphilis). For normal metabolism to occur, the body needs a balanced input of insulin and catecholamines. Insulin blocks activation of the protein kinase A (PKA) enzyme (Psora/ Syphilis). After a meal, insulin levels go up (Psora), and the body stores energy primarily as triglycerides, or fat, in adipose tissue for future use. When energy is needed, catecholamine triggers

activation of PKA, and energy is released by cells. But in people with Type II diabetes, the hormonal balance has been thrown off, because the body continues to produce and store more triglyceride instead of breaking down the fat as released energy (Psora/ Sycosis).

Obese people have an excess of adipose tissue which secrete various metabolites, hormones and cytokines that may play a role in causing Hyperinsulinaemia. Cytokines, especially adiponectins, secreted by adipose tissue directly affect the insulin secretion. Adiponectins are cytokines that are inversely related to percent body fat. People with low body fat have higher concentrations of adiponectins where as people with high body fat have lower concentrations of adiponectins. Hyperinsulinaemia can be due to low adiponectin concentrations in obese people.

Other causes of Hyperinsulinaemia may be Neoplasm, pancreatic cancer, PCOS and Trans Fats. (Psora/ Syphilis/ Sycosis)

Symptoms

There are often no noticeable symptoms of Hyperinsulinaemia except hypoglycaemia, marked by -

- Temporary muscle weakness (Psora)
- Brain fog (Psora)
- Fatigue (Psora)
- Temporary thought disorder, or inability to concentrate (Psora/ Syphilis)
- Visual problems such as blurred vision or double vision (Psora/ Sycosis)
- Headaches (Psora/ Syphilis/ Sycosis)
- Shaking/Trembling (Psora)
- Thirst (Psora/ Pseudopsora)

Other symptoms include-

Weight gain especially around the waist, producing the apple shape, not the pear shape. (Sycosis)

High systolic blood pressure (Psora/ Sycosis)

High diastolic blood pressure (Psora/ Sycosis)

High Total Cholesterol (Psora/ Sycosis)

Early male pattern baldness- Although early baldness on the top of the head may be a non-modifiable risk factor for heart disease, it may serve as a useful clinical marker to identify men at increased risk of insulin problems and cardiac risk. (Psora/ Syphilis)

Insulin resistance may play a role in the development of gout. Gout is strongly associated with the consequences of insulin resistance i.e. obesity, hypertension, hyperlipidemia and diabetes. (Psora/ Sycosis)

Hyperinsulinaemia and insulin resistance are both factors that increase the risk of developing type 2

diabetes. Hyperinsulinaemia often predates diabetes by several years. (Psora/ Syphilis)

A majority of patients with PCOS have insulin resistance and/or are obese. There is a lot of evidence that high levels of insulin contribute to increased androgen production, which worsens the symptoms of PCOS. (Psora/ Sycosis)

Risk factors

Very early puberty onset

Girls with premature puberty have been found to have elevated insulin and DHEA levels. This contributes to the weight gain usually seen in advanced stages of PCOS. (Psora/ Sycosis)

Lack of Sleep

Continued insomnia may cause body cells less sensitive to insulin which, over time, can raise the risk of obesity, high blood pressure and diabetes. Chronic sleep deprivation (under 6.5 hours per night) has the same effect on insulin resistance as aging. (Psora/ Syphilis)

Stress

Cortisol blocks the insulin receptor as its undesirable effects and contributes to insulin resistance by decreasing the rate of glucose uptake. (Psora)

Syndrome X / Metabolic Syndrome

Syndrome X or Metabolic Syndrome is the variable combination of obesity (usually central in distribution), insulin resistance with elevated insulin levels, high blood cholesterol and hypertension. Metabolic Syndrome causes Hyperinsulinemia. (Psora/ Syphilis/ Sycosis)

Consequences of Hyperinsulinaemia

- May lead to hypoglycemia or Diabetes mellitus type 2 (Pseudopsora)
- Increased risk of PCOS (Psora/ Sycosis)
- Increased synthesis of VLDL (hypertriglyceridemia) (Psora/ Sycosis)
- Increased sodium retention by the renal tubules causing Hypertension (Psora/ Sycosis)
- Damage to endothelial cells causing Coronary Artery Disease (Psora/ Syphilis)
- Increased risk of cardiovascular disease (Psora/ Sycosis)
- Weight gain and lethargy, may be due to hypothyroidism. (Psora/ Sycosis)
- Gout / Hyperuricemia (Psora/ Sycosis)
- Polycystic Ovary Syndrome (PCOS) (Psora/ Sycosis)

Treatment

Treatment is typically achieved via diet and exercise. A low carbohydrate diet is particularly effective in reducing hyperinsulinism.

It has been shown in many studies that physical exercise improves insulin sensitivity.

Cinnamon

Cinnamon with each meal helps keep insulin and blood sugar levels under control. The typical ½ to ¾ teaspoon dose contains a phytochemical called methyl hydroxy chalcone polymer (MHCP) which improves cellular glucose utilization and increases the sensitivity of insulin receptors in laboratory studies.

Short Repertory of Insulin related disorders

ABDOMEN - PANCREAS; complaints of - insulin secretion decreased- cortico.
GENERALS - DIABETES MELLITUS - insulin dependent- ins. nat-p. sulph.
Toxicity - INSULIN, poisoning, ailments, from- ins. lyc. phos.

Short Repertory of Diabetes

Ankles - SWELLING, ankles - diabetes, in- arg-met.
CHEST - LUNGS; complaints of the - accompanied by – diabetes- calc-p.
CHEST - PHTHISIS pulmonalis - accompanied by – diabetes- phos.
CLINICAL - ACIDOSIS - diabetes mellitus, with- senn.
Clinical - blackness, tissues, external parts – diabetic- Ars. con. Kreos. kres. lach. Sec. solid.
Clinical - DIABETES, mellitus - acidosis, with diabetic- Ins. Nat-p.
Clinical - DIABETES, mellitus - coma, diabetic- allox. ins.
Clinical - edema, general - diabetes, mellitus, with- lac-ac.
Clinical - emaciation, general - diabetes, with- Arg-met. Ars. Ph-ac. rat. tarent. Uran-n.
Clinical - GANGRENE, general – diabetic- Ars. carb-ac. con. Kreos. kres. lach. Sec. solid.

Clinical - hyperglycemia, high blood sugar- Arg-n. Chin. Cina Ins. iod. Lyc. olnd. Phos. sacch-a. stann. verat. Zinc.
Clinical - ulcers, general – diabetic- syzyg.
Constitutions - WEAK, constitutions - diabetes, mellitus, in- arg-met. ars. carc. coca lac-ac. PH-AC. PHOS.
EXTREMITIES - GANGRENE – diabetic- ars. carb-ac. con. lach. sec. solid.
EXTREMITIES - GANGRENE - Feet – diabetic- lyc.
EXTREMITIES - PAIN - gouty - joints - diabetes, with- phase.
EXTREMITIES - PAIN - gouty - upper limbs - joints - diabetes, with- phase.
EXTREMITIES - PAIN - Lower limbs - Sciatic nerve - accompanied by - diabetes mellitus- kreos.
EXTREMITIES - PAIN - rheumatic - diabetes, in- lac-ac.
EXTREMITIES - SWELLING - Ankle - diabetes, in- arg-met.
EXTREMITIES - SWELLING - general - lower limbs - ankles - diabetes, in- arg-met.
EXTREMITY PAIN - GENERAL - rheumatic - diabetes, in- lac-ac.
EXTREMITY PAIN - JOINTS - gouty - diabetes, with- phase.
EYE - INFLAMMATION - retina – diabetic- sec.
EYES - INFLAMMATION - retina, retinitis - diabetes, in- sec.
Eyes - RETINITIS, inflammation, retina – diabetic- crot-h. phos. sec.
FEMALE - MENSES - suppressed - diabetic attack, during- uran-n.
Female - MENSES, general - ailments, menses, during - diabetes, in- uran-n.
Female - MENSES, general - suppressed - diabetic attack, during- uran-n.
FEMALE GENITALIA/SEX - MENSES - suppressed menses - diabetes; in- uran-n.
Fevers - TYPHOID, fever, salmonella – diabetes- sul-ac.
Food - APPETITE, general - ravenous, appetite, canine - diabetes, during- am-c. Coloc.
Gangrene - diabetic original- con. lach. solid.
GENERALITIES - WEAKNESS, enervation, exhaustion, prostration, infirmity - diabetes mellitus, in- Arg-met. Ars. Lac-ac.
GENERALS - BLACKNESS of external parts – diabetic- Ars. Kreos. kres. Sec.
GENERALS - DIABETES INSIPIDUS- abrom-a. acet-ac. acon. alf. all-c. am-act. ambr. apoc. arg-met. arg-mur. arg-n. ars-br. ars. Aur-m. bell. bry. cain. Cann-i. canth. caust. chinin-s. chion. chlorpr. cina Cod. conv. cortico. crat. dulc. Equis-h. eup-per. eup-pur. Ferr-m. ferr-n. gels. Glon. glyc. gnaph. gua. hell. helon. ign. indol. jab. kali-c. kali-i. kali-n. kreos. lac-ac. led. lil-t. Lith-c. lyc. mag-p. merc-c. mosch. murx. Nat-m. nicc-s. Nit-ac. nux-v. ol-an. Oxyt. ph-ac. phos. phys. pic-ac. plat-m-n. podo. puls. quas. rhus-a. samb. sang. santin. saroth. sars. sec. sel. Sin-n. squil. staph. stroph-h. Sulph. tarax. ter. thymol. thyr. uran-m. uran-n. verat-v. verb.
GENERALS - DIABETES MELLITUS - bronze diabetes- adren.
GENERALS - DIABETES MELLITUS- abrom-a. acet-ac. adren. aether alf. all-s. allox. aloe alumn. am-act. anthraco. apoc. arg-met. arg-n. arist-m. Ars-br. ars. asc-c. aspar. aur-m-n. aur. bar-m. Bor-ac. bov. brid-fr. calc-p. calc-sil. calc. canth. carb-ac. carb-v. carc. card-m. Carl. caust. cean. cephd-i. chel. chim. Chion. chlol. chlorpr. clem. coca cod. coff. coloc. con. cop. cortico. cortiso. cub. cupr-ar. cupr. cur. eup-pur. ferr-i. ferr-m. ferr-p. fl-ac. flor-p. friedr. gal-ac. galeg. glyc. Gymne. hed. helon. hydrang. hygroph-s. indgf-a. ins. Inul. iod. iris kali-act. kali-br. kali-chl. kali-i. kali-p. kiss. kreos. Lac-ac. lac-d. lach. led. lept. lith-c. lyc. lycps-v. mag-act. mag-o. mag-p. mag-s. mang-act. med. meny. merc-d. merc. moni. morind-l. morind-m. morph. mosch. mur-ac. murx. nat-ch. nat-lac. nat-m. nat-p. NAT-S. nauc-l. nep. nit-ac. nux-v. Op. orthos-s. oxyg. pancr. peps. perh. ph-ac. Phase. phlor. phos. pic-ac. pilo. plan. plb. podo. rad-br. rad-met. ran-b. rat. Rhus-a. rhus-r. rhus-t. sacch-l. sal-ac. sanic. sarcol-ac. saroth. sep. Ser-ang. sil. spong. Squil. stict. stront-c. stry-ar. sul-ac. sulfonam. sulph. syph. SYZYG. tarent. TER. Terebe. term-a. thuj. thyr. uran-m. Uran-n. Urea vanad. vichy-g. vinc-r. vince.
GENERALS - FAMILY HISTORY of - diabetes mellitus- carc. sacch. thuj.
GENERALS - INFLAMMATION - gangrenous - diabetics; in- ars. nat-pyru. sec.
GENERALS - NEUROLOGICAL complaints - accompanied by – diabetes- helon.
GENERALS - SHOCK - followed by - diabetes mellitus- op.
GENERALS - WEAKNESS - diabetes mellitus, in- acet-ac. Arg-met. Ars. carb-v. carc. con. graph. kali-c. Lac-ac. op. phos.
Glands - pancreas, general - kidneys, disease of, preceding or accompanying diabetes mellitus, or bright's disease- Phos.
Impotency - diabetes, with- coca mosch. ph-ac.
Itching - diabetes, in- mang.

Joints - ACHING, pain - diabetes, in- rat.
KIDNEYS - COMPLAINTS of kidneys - accompanied by – diabetes- saroth.
Kidneys - PAIN, kidneys - diabetes, in- ph-ac. phos.
Kidneys - SORE, pain - diabetes, in- rat.
Kidneys - WEAK, kidneys - diabetes, with- Phos.
Limbs - GANGRENE, limbs – diabetic- carb-ac. con. lach. sec. solid.
Liver - ENLARGED, liver - diabetes, in- Nat-s.
Liver - SHARP, pain - diabetes, in- sul-ac.
Liver - TENDER - diabetes, mellitus, in- kali-br.
Male - ERECTIONS, penis, troublesome - incomplete - diabetes, with- coca mosch. ph-ac.
MALE - ERECTIONS, troublesome - incomplete - diabetes, with- coca mosch. ph-ac.
MALE - ERECTIONS, troublesome - wanting, impotency - diabetes, with- HELON. mosch.
Male - IMPOTENCY, sexual - diabetes, with- coca Helon. mosch. ph-ac.
Male - SEX, male - decreased, desire - diabetes, in- coca Cupr.
MALE - SEXUAL - desire - diminished - diabetes, in- Cupr.
MALE GENITALIA/SEX - ERECTIONS - wanting - diabetes, with- acon. cann-s. coca con. cupr. eup-pur. Helon. kali-c. mosch. ph-ac. sulph.
MALE GENITALIA/SEX - SEXUAL DESIRE - diminished - diabetes; in- Cupr.
Menses - absent, suppressed, amenorrhoea - diabetes, in- uran-n.
MIND - ALCOHOLISM - diabetes; with- med. nux-v.
MIND - ALCOHOLISM, dipsomania - diabetes, with- med.
MIND - ANXIETY - diabetes; in- cod. Nat-s.
Mind - ANXIETY, general - diabetes, in- arg-n. cod. Nat-s. Phos.
MIND - COMA - diabetes; in- alum. ars. carb-v. carbn-o. cur. op.
Mind - DEPRESSION, sadness - diabetes, with- helon. lyc. nat-s. op.
MIND - DULLNESS - diabetes, in- Helon. Op. ph-ac. sul-ac.
Mind - DULLNESS, mental - diabetes, in- acet-ac. Helon. Op. ph-ac. phos. sul-ac.
MIND - DULLNESS, sluggishness, difficulty of thinking and comprehending - diabetes, in- acet-ac. HELON. NAT-S. OP. sul-ac.
MIND - FEAR - diabetes, in- cod. NAT-S.
MIND - FEAR - sudden - followed by - diabetes mellitus- op.
Mind - FEARS, phobias,general - diabetes, in- cod. Nat-s. Phos.
MIND - GRIEF - diabetes; with- aur-m-n. aur. ign. mag-m. nat-s. ph-ac. tarent.
MIND - IRRITABILITY - diabetes, in- Helon. Lycps-v. Nux-v.
Mind - IRRITABILITY, general - diabetes, in- Helon. Lycps-v. Nux-v.
MIND - MEMORY - weakness of memory - diabetes; in- kali-br. lyc. nux-m. nux-v. ph-ac.
MIND - MEMORY - weakness, loss of - diabetes, in- OP.
Mind - MEMORY, weakness, of - diabetes, in- lyc. Op. phos.
MIND - PROSTRATION of mind, mental exhaustion, brain fag - diabetes, in- NAT-S.
MIND - RESTLESSNESS – diabetic- helon.
MIND - SADNESS - diabetes; during- Helon. Nat-s. Op.
MIND - SADNESS, despondency, depression, melancholy - diabetes, in- Helon. Nat-s. Op.
Mouth - CLAMMY, mouth - diabetes, in- uran-n.
Pulse - FAST, pulse, elevated, exalted - diabetes, in, 90, relieved- uran-n.
Pulse - SLOW, pulse - diabetes, in- Op.
Pulse - SMALL, pulse - diabetes, in- uran-n.
Pulse - WEAK, pulse - diabetes mellitus, in- kali-br.
RECTUM - CONSTIPATION - diabetes mellitus, with- symph.
Retina - inflammation – diabetic- sec.
SKIN - GANGRENE, from burns or gangrenous sores – diabetic- ARS. carb-ac. con. echi. KREOS. kres. lach. SEC. solid.
SKIN - ITCHING - diabetes, in- agar. calad. mang.
SKIN - ITCHING - diabetes, in- mang.
SKIN - ITCHING - diabetics; in- Cephd-i.
Skin - ITCHING, skin - diabetes, in- mang.
SKIN - ULCERS - diabetes, in- syzyg.
SKIN - ULCERS – diabetic- syzyg.

Sleep - INSOMNIA, sleeplessness - diabetics, in- carc. coca Uran-n.
SLEEP - SLEEPLESSNESS - diabetics, in- Uran-n.
SLEEP - SLEEPLESSNESS - general - diabetics, in- uran-n.
STOMACH - APPETITE - ravenous, canine, excessive - emaciation, with - diabetes, during- am-c. Coloc.
STOMACH - THIRST - extreme - diabetes mellitus, with- sat-h.
TEETH - Aggravation - cough - diabetes in- sec.
TEETH - CARIES, decayed, hollow - diabetes mellitus- sul-ac.
TEETH - CARIES, decayed, hollow - general - diabetes, in- sul-ac.
TEETH - COUGH agg. - diabetes; in- sec.
Teeth - decay, caries; hollow - diabetes, in- sul-ac.
Urine - PROFUSE, increased, urine - diabetes, with- acet-ac. Phos.
Vision - DIM, vision - diabetes, in- phos. tab. tarent.
Vision - DIM, vision - dull - diabetes, in- sul-ac.
Weakness - DIABETES, mellitus, weakness, in- alf. Arg-met. Ars. carc. coca Lac-ac. PH-AC. PHOS.

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