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Research Article

THE DIAGNOSIS AND TREATMENT OF “STEIN LEVENTHAL SYNDROME” OR “POLYCYSTIC OVARIAN SYNDROME” (PCOS)

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ABSTRACT

I have a PCOD. Can I have baby? Is PCOD preventable, detectable, and treatable? It is one way a new innovation to overcome old limitations. Smooth seas do not make skillful sailors. Polycystic ovarian syndrome, often shortened as PCOS, is a gynecological condition that affects around 10 million women around the world. A cyst is a small bag in an organ or tissue that is full of liquid. This leads to the growth of ovarian cysts (benign masses on the ovaries). PCOS can cause problems with a women's menstrual cycle, fertility, cardiac function, and appearance. About half of women with PCOS struggle with weight gain or have a hard time losing weight. Because of hormone changes related to PCOS, might develop pimples and oily skin. Problems sleeping, feeling tired all the time. Because of hormone changes with PCOS, she will get a headache. Trouble in getting pregnant. PCOS is one of the leading causes of infertility. Irregular periods. Or might not have a period for several months. Or might have very heavy bleeding during periods.

It affects 1 in 10 women. Hormonal imbalance, particularly with testosterone, Hormones typically associated with males that interrupt the normal flow of female hormones. Increased androgen production or insulin resistance may be hereditary.

No added sugar. Hormonal imbalance, particularly with testosterone, Hormones typically associated with males that interrupt the normal flow of female hormones. Increased androgen production or insulin resistance may be hereditary.

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INTRODUCTION

Women with PCOS vary in the severity and combination of features that they manifest; the diagnosis is usually made during investigation of patients presenting with hirsutism or amenorrhea / oligomenorrhea with or without infertility. (1) L-carnitine (LC), and its acetylated form, acetyl L-carnitine (ALC), will regulate the oxidative and metabolic. (2) Acyl-CoA acts as a substrate for the oxidation process, producing energy for sperm respiration and motility. (3, 4) Carnitines appear to possibly exert mixed effects on endometriosis. (5, 6, 7, 8) Low dose of L-carnitine was sufficient to render positive effects on pregnancy and offspring outcomes in pregnant mice (9) LC encourages fat utilization in the developing embryos (10) TNF- α concentration in granulosa cell cultures of women with endometriosis has been demonstrated.

(11, 12, 13, 14) Insulin resistance, hyperinsulinemia, and hyperandrogenism are very common features of the polycystic Ovarian syndrome phenotype. (15) PCOS patients are characterized by oligomenorrhea or amenorrhea, hyperandrogenism, and/or hyperandrogenemia, with enlarged ovary volume full of Cysts. In ultra sound images. (16) Environmental and genetic/epigenetic factors may also play relevant roles in PCOS development. (17, 18) Hyperinsulinemia and or insulin resistance hypothesized to alter hypothalamic hormonal feed back response from theca interna cells. Enlarged, bilateral cystic ovaries present with amenorrhea/ oligomenorrhea, hirsutism, acne and reduced fertility, associated with obesity. More risk of endometrial Cancer. Treatment cycle regulation via weight reduction. Clomiphene, metformin to induce ovulation, spironolactone, ketoconazole to treat hirsutism (19). Insulin

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resistance in women with PCOS and leads to compensatory hyperinsulinemia.2 (20)

History

Irving F. Stein, Sr. and Michael L. Leventhal, from whom its original name of Stein–Leventhal syndrome is taken. (21)The earliest published description of a person with what is now recognized as PCOS was in 1721 in Italy.(22) Cyst-related changes to the ovaries were described in 1844.(23)Other names for this syndrome include polycystic ovarian syndrome, polycystic ovary disease, functional ovarian hyperandrogenism, ovarian hyperthecosis, sclerocystic ovary syndrome, and Stein–Leventhal syndrome. The eponymous last option is the original name; it is now used, if at all, only for the subset of women with all the symptoms of amenorrhea with infertility, hirsutism, and enlarged polycystic ovaries.(24).

Where the researches go Next?

It affects 1 in 10 women. No Gluten. Reduce carbohydrates. Take more proteins. Reduce the processed food. Eat all the vegetables. No added sugar. Hormonal imbalance, particularly with testosterone, /Hormones typically associated with males that interrupt the normal flow of female hormones. Increased androgen production or insulin resistance may be hereditary. Ovaries produce more androgens with increased inflammation. Poor nutrition can lead to obesity and insulin resistance, a direct cause of PCOS. A majority of women with PCOS have insulin resistance and/or are obese. Their elevated insulin levels contribute to or cause the abnormalities seen in the hypothalamic-pituitary-ovarian axis that lead to PCOS. LH over FSH dominance, increased ovarian androgen production, decreased follicular maturation and decreased SHBG binding. Furthermore, excessive insulin, acting through its cognate receptor in the presence of component cAMP signaling, upregulates 17 α -hydroxylase activity via PI3K, the 17 α -hydroxylase activity being responsible for synthesizing androgen precursors. (25) Insulin resistance is a common finding among women with a normal weight as well as overweight women.(26, 27, 28)The World Health Organization estimates that it affects 116 million women (29) 18% of women had PCOS, and that 70% of them were previously undiagnosed. Ultrasonographic findings of polycystic ovaries are found in 8–25% of normal women. (30, 31, 32, 33) Ovarian cysts are also a common side effect of levonorgestrel-releasing intrauterine devices (IUDs). (34)

Significant Gap in Research

The mechanism of this anovulation is uncertain, but there is evidence of arrested antral follicle development, which, in turn, may be caused by the abnormal interaction of insulin and luteinizing hormone (LH) on granulosa cells. (35) Endocrine disruption may also directly decrease fertility, such as changed levels of the gonadotropin-releasing hormone. (36) gonadotropins (especially an increase in luteinizing hormone),(37)hyperandrogenemia, and hyperinsulinemia. (38) Low-carbohydrate diet to help improve insulin sensitivity that seems to be at the root of many of the problems associated with PCOS. The women take fish oil and vitamin D to help improve their insulin sensitivity. (39, 40, 41, 42)If body weight is an issue, pounding with repetitive endurance work is likely to cause an injury. (43, 44, 45, 46) These forms of

training depend mostly on anaerobic glycolysis which can deplete the body's stored carbohydrates and create a 36-hour window of increased insulin sensitivity to assist with weight loss and PCOS. (47, 48) Potassium-sparing diuretics should be used with caution with other medications that can induce hyperkalemia, such as angiotensin-converting enzyme inhibitors and potassium supplements.(49)

Major Advances and Discoveries

The cysts occasionally rupture and cause a peritoneal reaction. Sometimes the combination of old hemorrhage and fibrosis may make their distinction from endometriotic cysts difficult. Poly cystic ovarian syndrome (PCOS) is a complex endocrine disorder characterized by hyperandrogenism, menstrual abnormalities, polycystic ovaries, chronic anovulation, and decreased fertility. Formerly called Stein Leventhal Syndrome, it affects 6-10% of reproductive age women worldwide. It also associated with obesity, type 2 diabetes, and premature atherosclerosis, all of which may be indicative of an underlying metabolic disorder.(50)

Keep Treatment

Most women with PCOS have oligomenorrhoea, with irregular, heavy menstrual periods. This may not require treatment unless infertility is desired. Met form in, by reducing insulin resistance, may restore regular ovulatory cycles in overweight women, although it is less effective than clomifene at restoring fertility as measured by successful pregnancy.

Thiazolidinediones also enhance insulin sensitivity and restore menstrual regularity in PCOS, but are contraindicated in women planning pregnancy. Progesterones can be administered on a cyclical basis to induce regular shedding of the endometrium and a withdrawal bleed, or a progesterone-impregnated intrauterine coli can be fitted.(51)PCOS affects 4–7% of reproductive-aged women.(52, 53, 54, 56)Women with PCOS and insulin resistance are at increased risk for impaired glucose tolerance or diabetes. Hypoglycemic agents can reduce circulating androgen levels, increase sex hormone binding globulin, facilitate weight loss, and induce ovulation. Even women who do not desire fertility stand to gain, because chronic anovulation increases the risk of endometrial cancer.(57)

PCOS may occur concurrently with hyperandrogenism, hyperinsulinemia, and glucose intolerance, leading to conditions such as infertility, recurrent spontaneous abortions, (58,59) It has been demonstrated that oxidative stress is generally enhanced in the tissues of the animals with zinc deficiency and copper abundance. (60)

Management

Management is symptom oriented. If obese, weight loss improves symptoms and endocrinology should be encouraged. A glucose tolerance test should be performed for women with a BMI of more than 30 Kg. Menstrual cycle control is achieved by cyclical oral contraceptives progestogens. Ovulation induction may be achieved with clomiphene citrate, gonadotropin therapy or laparoscopic ovarian diathermy.As women with PCOS are four times more likely to have abnormal depression scores compared to normal (36) PCOS, treatment improves psychological and sexual outcomes. Metformin or

oral contraceptive pill treatment in women reduced the clinical symptoms. A reduction in menstrual cycle seems to have mediated these findings.

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