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Mini Review

Mini Review: Update on Polycystic Ovarian Syndrome

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ABSTRACT

Polycystic ovarian Syndrome is one of the most common disorders among the women of reproductive age. Women suffering from PCOS present with menstrual disturbances and excess of androgens which may affect their reproductive life and quality of life at the same time. women with PCOS may be at increased risk of having multiple morbidities, which include obesity, type II Diabetes mellitus, cancer, cardiovascular disease, infertility and psychological disorders.

The pathogenesis of PCOS still remains unclear. More and more supplementary studies needed to make a correlation between several factors that might play an active role in the pathogenesis of PCOS.

Keywords: Polycystic Ovarian Syndrome (PCOS); Endocrine system diseases; Women; Reproductive age

INTRODUCTION

This mini- review summarizes all morbidities related with this disease and it also emphasizes on the various modalities of treatment of this disease, which are currently used in the management of this multidimensional disease.

Polycystic Ovarian Syndrome (PCOS) also known as stein-Leventhal Syndrome or hyper androgenic anovulation (HA). (Evans and Riley, 1958).

It's also one of the most common endocrine system diseases which affects women during their reproductive age [1].

Evidence based on twin's family study indicates the strong relation between genetic factors and PCOS, however its exact etiology is unclear and PCOS is recently thought to take origin from complex interaction of genetic and environmental factors together [2].

PCOS associated with multiple metabolic dyscrasias and half of the women with PCOS are obese [3,4] PCOS also associated with fourfold increased risk of type 2 diabetes mellitus [5].

PCOS is a multi-headed monster, which is a key challenge in the management of this disease, there are following elements should be considered.

CARDIOVASCULAR DISEASE

Several studies stated abnormal markers of cardiovascular disease in women with PCOS, however there are conflicting data's about cardiovascular risk in women with PCOS, while other studies can't find any difference regarding cardiovascular risk. Therefore, still further research is needed to sort out the exact risk factor of cardiovascular disease in women with PCOS [6].

OBSTRUCTIVE SLEEP APNEA (OSA)

Obstructive sleep apnea is associated with insulin resistance and type 2 diabetes and PCOS [7]. The risk and severity of obstructive sleep apnea (OSA) in PCOS is strongly related with insulin resistance. Treatment with atleast 4 hours per night continuous positive air way pressure (CPAP) can make insulin sensitivity improved, decreases diastolic blood pressure and norepinephrine levels, decreased cardiac sympathetic activity [8].

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It's important to screen PCOS patients for sleep apnea symptoms and sleep study should be referred if needed.

FERTILITY AND OVULATION

Azziz et al reported in the placebo arm of a relatively large Randomized clinical trial of PCOS women, spontaneous ovulation occurred in 32% of cycles [9].

If fertility is desired, we should consider the ways of increasing ovulation. If the patient is obese, weight loss is needed, however there are no long term studies available which can show the relation between weight loss and pregnancy. Several small sized studies in PCOS women shows improvement in menstrual cycle and ovulation with weight loss [6].

PSYCHOSOCIAL ELEMENT

Women with PCOS are 3 times prone for depressive disorders [10], at the same time; they are also prone for Eating Disorders [11]. So it's quite important to treat depression and eating disorder in women with PCOS.

HIRSUTISM

Hirsutism occurs in up to 75% of American women with PCOS [1]. Acne and androgenic alopecia are the features of hyperandrogenism. Spironolactone is anti-androgenic and most commonly used in the US. It blocks the androgen receptor at hair follicle. Finasteride inhibits 5 -alpha reductase, the enzyme which converts testosterone to more potent dihydrotestosterone and is also as effective as spironolactone [12].

METABOLIC SCREENING TEST

Multiple metabolic issues of early diabetes, obesity, high blood pressure, dyslipidemia and fatty liver have been identified in PCOS cases that's why metabolic screening required.

ORAL GLUCOSE TOLERANCE TEST

30% of obese PCOS women have impaired glucose tolerance and 10% have type 2 diabetes by the age of 40 years. While in thin women 1.5% has type 2 diabetes and 10% have impaired glucose tolerance [13].

METABOLIC SYNDROME

33%-50% women in US with PCOS have metabolic syndrome compared with only 12% in a similar aged National Health and Nutrition Examination Survey Population [14]. Interestingly only 8.2% of women with PCOS in ITALY fulfilled the criteria for metabolic syndrome [15]. Thus, metabolic syndrome depends on geographic location.

High blood pressure or hypertension is more than twice as common in women with PCOS (27% vs 12%) [16]. dyslipidemia is more common in women with PCOS [16]. Non alcoholic fatty liver disease also a potential problem in women with PCOS [17].

Pourabolghasem et al. 2009 study stated that migraine is not common in women with PCOS and concluded that male sex harmone do not play role in exacerbating migraine headache.

Samer et al. (2016) concluded that guidelines strongly recommend lifestyle modification as an important part of management of PCOS. OCPs are the main drug of choice for hyperandrogenism and anovulation; clomiphene Citrate is the drug of choice for the treatment of infertility and further research should be continued to assess the effectiveness of inositol stereoisomers', as they may be new drug of choice for the treatment.

CONCLUSION

In conclusion, we hope that the mini review: Update on polycystic ovarian syndrome will contribute to the progress of research and development of interest and activities in the novel findings in clinical picture of PCOS and Novel treatment methods, which can relieve the women with PCOS from this complicated disease.

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