Insulin sensitivity and metabolic syndrome in obese &non-obese patients with polycycystic ovary syndrome

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Polycystic ovary syndrome (PCOS), is a complex neuroendocrine-metabolic disorder, it is associated with insulin resistance and a high prevalence of obesity. It is the most common form of anovulatory infertility. It is association with menstrual disturbances and altered hormonal parameters leads many affected women of reproductive age to attend a gynaecology or infertility clinics. The aetiology of the condition is unknown, but recent evidence suggests that the principle underlying disorder is insulin resistance, with the resulted hyperinsulinaemia stimulating the excess ovarian androgen production. Associated with the prevalent insulin resistance, these women exhibit a characteristic dyslipidemia and a predisposition to non-insulin dependent diabetes and cardiovascular disease in the later life. Thus polycystic ovarian syndrome seems to have many of the hallmarks of the metabolic syndrome.In clinical gynaecologic practice, women with polycystic ovarian syndrome are seen primarily for menstrual irregularity, androgen excess, and infertility. Treatment is largely directed at the immediate presenting complaint. During the past decade, women with chronic anovulation and hyperandrogenism have been observed to have an increased prevalence of diabetes and increased risk factors for coronary heart disease (CHD). Specifically, many women with polycystic ovary syndrome are similar to those with metabolic cardiovascular syndrome (ie, Syndrome X), a CHD-associated clustering within the same individual of hyperinsulinemia, glucose intolerance, dyslipidemia, and hypertension. In addition, the chronic anovulation of polycystic ovary syndrome implies unopposed estrogen and, therefore, an increased risk of endometrial cancer.These factors lads us to a different clinical perspective about polycystic ovary syndrome not only to recognizes the importance of addressing the immediate issues of irregular bleeding, hirsutism, and infertility, but also emphasizes the long-term goals of preventing diabetes, heart disease, and cancer.Studies revealed a higher prevalence of MBS in women with PCOSPCOS appears to be associated with an increased risk of metabolic aberrations, including insulin resistance and hyperinsulinism, type 2 diabetes mellitus, dyslipidemia, cardiovascular disease, and endometrial carcinoma.Studies of women undergoing coronary angiography for evaluation of chest pain found a disproportionately large number with polycystic ovaries on ultrasound scan.Furthermore, on multiple linear regression analysis the presence of polycystic ovaries was independently associated with the severity of the coronary

-vascular disease. Models using triglyceride concentrations, waist to hip ratio, non insulin dependent diabetes, and elevated blood pressure in women with polycystic ovarian syndrome indicate a 7.4-fold increased risk of myocardial infarction compared with age matched referents.from that we can say that the consequences of the polycystic ovary syndrome extend beyond the reproductive axis; women with the disorder are at substantial risk for the development of metabolic and cardiovascular abnormalities similar to those that make up the metabolic syndrome.According to these findings it was the aim of the current study which was two objectives. First objective was to find out the prevalence of metabolic syndrome among patients with PCOS both obese and non-obese. The second objective was to detect the relation between insulin resistance and metabolic syndrome among PCOS patients both obese and non-obese.In our study as regard the prevelance of Metabolic syndrome among obese PCOS patients it was 45 % compared to 15 % amoung obese control group. And was 40 % amoung non-obese PCOS compared to 5 % amoung non-obese control group.These result of high prevalence of MBS among PCOS patients is not surprising cause PCOS patients have dyslipidemia and disturbed lipid profile & IR which are the core pathogenesis of MBS.This high prevalence of the MBS in young women with PCO indicates that women with PCOS are at increased risk of atherosclerosis, Hypertension, type II DM, & cardiovascular disease .Of the abnormalities present in PCOS women (both 0bese & non-obese): Most common was Abdominal obesity (72.5 % & 50 %) , followed by low HDL-C occurred most frequently (60% &62.5%), followed by Hypertriglyceridemia (35% 37.5%), and High blood pressure (32.5 & 30%),This disturbed lipid profile leads to increase risk of cardiovascular disease recent studies have suggested that serum HDL-C may provide cardiovascular protection by direct endothelial effects via nitric oxide synthase.In our population Women at reproductive-age represents 23 % of the entire population (16 million) Because PCOS affects up to 10% of the, if the prevalence of the MBS in PCOS is approximately 40%, then nearly 600,000 women may be affected with concurrent PCOS and the MBS. These findings support the idea that PCOS should be considered a general health disorder with serious public health implications and indicate that physicians should comprehensively screen all women with PCO for the MBS.In conclusion we observed that MBS is more prevalent among PCOS patients nearly three folds, which makes them at higher risk for development of CVD, type II diabetes, Hypertension and other metabolic disorders.So we suggests that assessment of metabolic syndrome should be carried out in all PCOS patients especially obese subjects.