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Review Article

Prevalence of Metabolic Syndrome in Polycystic Ovarian Syndrome

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ABSTRACT

Metabolic Syndrome has High Prevalence in PCOS **Objective**: This present study was conducted to evaluate the prevalence of Metabolic Syndrome in PCOS patients using the related previously published data **Methods:** The current systematic review was based on the Preferential Review Preferences and Guidelines for Meta-Analyses (PRISMA). Searches are performed using MeSH keywords in PubMed database, biomedcentral.com, Obgyn science and Google expert search. We used Cochran's Q and I2 Index tests to examine the correlations between studies and the randomized results model used to compile the results. Article review and discussion was accurately described and your reference at the end of the study. **Results:** Twelve studies comprising 2600 and patients with PCOS were included in the final analysis. The total difference was high. The prevalence of Metabolic Syndrome in PCOS patients is estimated to be 70% in total patients with a history of PCOS. **Conclusion:** Considering the prevalence of Metabolic Syndrome in PCOS patients, a diagnosis of Metabolic Syndrome in PCOS patients is necessary to minimize the causes and effects of mortality.

INTRODUCTION

Metabolic syndrome (MS) is a union of CVS imminence factors including high weight, diabetes mellitus, abnormal level of cholesterol and hypertension [1,2]. Events are growing with age; it is estimated that at the age of 40, In United State higher than 35% population is afflicted by MS and more than 30 % in Europe [2,3]. MS has been simple clinical tool which is concerned worldwide for early diagnosis of type 2 diabetes mellitus & CVS [4,5]. Because of the vague pathophysiologic symptoms that lead to its development, as well as the confusion between logical explanations, the association of MS with PCOS is under debate till now [5,6]. PCOS is a known syndrome affecting approx 5–9% of older women of childbearing age in the US [7]. PCOS main symptoms are absent of Ovulation for a long period and Increase level of androgen in body with clinical presentation of symptoms like absent of regular menstrual cycle, infertility, hair on body & face and acne [8,9]. Although these manifestations often give rise to demand for medical examinations, they are associated with PCOS complications, identified as obesity, dyslipidemia, insulin resistance, and undiagnosed high blood pressure which may be the most important long-term health factors [10-14]. The current investigation was performed to investigate the presence of MS in a large number of females with PCOS explained by Rotterdam's criteria. To attain the result, reviews was conducted on data obtained from a group of women worldwide with PCOS participants in a large national study.

METHODS

In this review, data extracted by Medline, PubMed, science direct, biomedcentral.com & Ob-gyn online library was

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used. The studies published between 2004 to 2015 and also some research done until today on Prevalence of MS in PCOS by using specific MeSH terms were included. Data was extracted from more than 10 articles. Cross-sectional analytical studies were included for the collection of data.

RESULTS

Twelve surveys conducted between 2004 and 2015 and to date were included in this systematic review. The sample size included more than 3000 women between the ages of 15-40. It concluded that females having PCOS were most seen to develop MS. Risk of Met's increases with age. Hormonal & Metabolic profile tests were performed to check for presence in PCOS. BMI and waist circumference, blood pressure, lipid fasting profile, glucose tolerance testing for fasting glucose, and androgens were all monitored in the first recorded history of menstruation while using oral contraceptives and other known hormones affect the menstrual cycle. The feature of Hyper-androgenism was commonly found in all patients.

DISCUSSION

An article was Published in 2004 on 191 women between December 2000 and December 2003. In this research, the occurrence of MS in female with PCOS were 44%. The occurrence of MBS in females with PCOS below the age of 40 compared with the reported 46% of women aged 50 – 59 years. In a follow-up investigation, the majority of women with PCO had an abnormal rate of existing MS (93%) [15]. In 2006, a study was performed on 394 women with PCOS. The prevalence of MS was high most commonly Hyper-insulenimia was found as the highest factor using adult treatment panel criteria. It was concluded that MS was more found in PCOS, especially in female having high insulin levels and Body Mass Index (BMI). Hyper-insulinemia is most commonly found factor in PCOS and MS as well [16]. In 2006, a study was conducted in which prevalence between South Italy and the USA were compared and the impact of the PCOS diagnostic approach was identified. In this study, a study of the occurrence of MS in 282 females with PCOS, aged 18-35 years, was performed. It was observed that MS is much higher in females with PCOS than in the general population, and the prevalence is higher in those women diagnosed with traditional methods. However, the presence of MS in PCOS appeared significantly lower in Italy than in the USA [17]. An article was published in 2009 on Occurrence of PCOS in females with PCOS. Comparison of the prevalence of MS in women with PCOS using ATP III criteria. It was found that MS had significantly increased BMI regardless of their age. Dyslipidemia was found to be more than normal glucose fasting, using any of the methods [18]. In 2009, the article was published to find the occurrence of MS in Asian women with PCOS". In this study, 171 females PCOS were included in the study from the 3rd of September to the 14th of June 2005. A biochemical profile test was performed. It was found that Mets presence increased with age, BMI and insulin resistance as obtained by HOMA-IR model. According to IDF criteria, 1/3rd of PCOS women had MS. This investigation also concluded that age, BMI is important risk factors for MS [19]. In 2010, a study was conducted to see the occurrence of MS in PCOS in females. 282 women with PCOS were investigated in the gynecologic clinic at Tehran University in Iran. The study was conducted according to age groups. The study results showed that the incidence of CVS factors in reproductive years of females with PCOS was 22.9%. However, in American society it was increase to 40%. These were due to factors as age, BMI, diet and lifestyle [20]. In 2014, a research article was published. A total of 837 women with PCOS aged 15-40 years were investigated. 700 subjects were having factors such as PCOS, hormonal imbalance, Oligo-menorrhea. After age adjustment, the average incidence of MS was 2.192 in obese subjects with PCOS, Hormonal Imbalance in comparison with PCOS while the risk of MS was no different in obese patients. The results showed that hormonal imbalance is strongly related with MS in females with normal BMI. PCOS symptoms and its link was not found in obese subjects [21]. Another study was conducted on 215 PCOS women. Participants were divided into two groups of females with MS (n = 62) and females without MS (n = 153). The presence of PCOS and MS was based on Rotterdam criteria and ATP III procedure, respectively. The occurrence of MS in females with PCOS was 28.8% [22]. PCOS women are considered to be at high risk of MS. Special strategies are needed to prevent MS and its associated complications in PCOS women [23]. In 2015, an article was published. 200 women were registered, 120 with PCOS and 80-year-old regulators. The occurrence of MS was examined in pregnant and non- pregnant women and were associated with BMI with continued cohort grouping. The sample size was: 40 control group, 40-weight controls, PCOS-80 team. It was concluded that MS was high in females that have PCOS as compared to the age-related controls [24].

CONCLUSION

Females with PCOS are at a higher frequency of MS and its related symptoms, especially lower high density lipoprotein levels. In this case, the treatment of females who are at higher risk of CVS factor syndrome is recommended.

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