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Study of prevalence of insulin resistance in polycystic ovarian syndrome

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Introduction: Polycystic Ovarian Syndrome (PCOS) is one of the commonest reproductive health problems in women. Altered metabolism is noticed in PCOS is due to Insulin Resistance (IR). IR has then been proved as crucial in the pathogenesis of PCOS and in appearance of clinical manifestations. Interaction of genetic and environmental factors results in the characteristic metabolic and menstrual disturbances and the final expression of the PCOS phenotype. Current prevalence of PCOS is 4-10% of women attending gynecology clinics but this figure may not reflect the true prevalence because there have been no specific population based studies. Therefore we have conducted the study to know the prevalence of IR in PCOS patients attending our outpatient department. We have also established the relation of BMI with insulin resistance in our study.

Material & Methods: The study was started after the approval from our Institute Ethics Committee. Study design is prospective analytical cohort study. A cohort of 125 diagnosed PCOS patients who attended the clinic from September to December 2017 were selected randomly from our hospital. Subjects are included in study after written informed consent. Statistical analysis was done by SPSS 20.0

Result: The prevalence of insulin resistance in PCOS women attending our clinic by fasting glucose to fasting insulin ratio is 43.2%. In our study prevalence of insulin resistance in lean PCO is 41.7% and 43.6% in obese by taking fasting glucose to fasting insulin ratio in to account. The prevalence of IR in PCO in present study according to HOMA IR 2 is 53.6%. In lean PCO it is 50% and in obese PCO prevalence is 54.5% by HOMA IR2 method.

Conclusion: It was realized that no single study had evaluated possible confounding factors with respect to history, clinical and biochemical parameters on IR. There were numerous studies which evaluated prevalence of IR in PCOS. They have found higher rates of IR in obese PCOS. Hence, investigations to detect IR were prescribed only to women with high BMI. In contradiction to the previous study we have found IR equally important in lean and obese PCO patients irrespective of obesity. We recommend performing endocrinologic work-up, investigation of co-existing hyper-androgenic status and evaluation of IR in all PCOS patients irrespective of obesity. The HOMA model has become a widely used clinical and epidemiological tool and when used appropriately, it can yield valuable data however, as with all models, the primary input data need to be robust and the data need to be interpreted carefully.

Biography

Arati Anand Adhe is a Senior Clinical Associate in P.D. Hinduja National Hospital and Medical Research Centre, India. She has gained 5 years of experience in the field of assisted reproduction. She also has expertise in infertility, obstetrics & gynecology, genetic studies (PGD, PGS) and reproductive endocrinology.

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