

Public Health Congress 2018: Polycystic ovary syndrome: An emerging public health challenge - Raminder Kaur and Maninder Kaur - Panjab University

Raminder Kaur and Maninder Kaur

Panjab University, India

Polycystic ovary syndrome is one of the common endocrine dysfunction in women of reproductive age and is responsible for heterogeneous and manifold disorders. It is associated with enhanced risk of morbidity in terms of both reproductive and non-reproductive events such as increased possibility of cardio-metabolic, obstetric, oncology and psychological complication throughout the life span. The major determinants for these diseases are obesity, raised glucose level, raised cholesterol, physical inactivity, decreased vegetables and fruit intake and high blood pressure etc. PCOS patients not only show classic cardiovascular risks such as hypertension, diabetes mellitus and dyslipidemia, but also non-classic cardiovascular risks factors like mood disorder, depression and anxiety. Overall obesity is common among PCOS women and it further worsens the health status of women. Women suffering from PCOS exhibit higher prevalence of abdominal body fat as compared to their obese non PCOS counterparts. Currently, it is unclear whether long term risks are due to PCOS or obesity. Previous literature illustrated that androgen excess may be primary cause of fat deposition particularly visceral fat and leads to insulin insensitivity which is significantly reduced in obese and overweight PCOS women and further promote androgen excess. PCOS being a hidden epidemic across globe and needs awareness in diagnosis and management of the disorder with lifestyle modification like physical activity and diet.

PCOs is now diagnosed as one of the maximum common endocrinopathy in girls at reproductive age with a incidence of four–10% for the NICHD described form these incidence estimates using the NICHD criteria for PCOs, that are remarkably regular throughout racial and ethnic companies.

Polycystic ovary syndrome (PCOs) is an critical metabolic in addition to reproductive disease conferring a drastically accelerated danger for kind 2 diabetes. Affected ladies have marked insulin resistance, unbiased of weight problems. The obese women with PCOs are insulin resistant, but some agencies of lean affected ladies can also have everyday insulin sensitivity. there's a put up-binding illness in receptor signaling due to accelerated receptor and insulin receptor substrate-1 serine phosphorylation that selectively impacts metabolic,

but not mitogenic pathways in conventional insulin target tissues and in the ovary.

Insulin resistance and concomitant hyperinsulinemia are regularly found in obese PCOs women. multiplied insulin resistance reasons hyperglycemia main to hyperinsulinemia and it amplifies LH action on theca cells and once more increases in androgen degree. Hyperinsulinemia, insulin resistance and an boom in androgen production are all linked together in PCOs patients. The patients with insulin resistance are often resistant to ovulation induction.

Insulin resistance and atypical glucose metabolism

Insulin resistance occurs in around 50% to 80% of ladies with PCOs, commonly in the greater severe NIH diagnosed PCOs and in those who are obese. Lean girls and milder Rotterdam recognized PCOs seem to have much less excessive insulin resistance. A complete discussion of the complicated mechanisms concerned in insulin resistance, hyperinsulinemia, DM2 and CVD is past the motive of this evaluate. The mechanisms concerned in insulin resistance are probable to be complicated with genetic and environmental contributors. particular abnormalities of insulin metabolism identified in PCOs consist of discounts in secretion decreased hepatic extraction, impaired suppression of hepatic gluconeogenesis and abnormalities in insulin receptor signaling. interestingly, there is a paradoxical expression of insulin resistance in PCOs, whereby insulin-inspired androgen production persists while its function in glucose metabolism is impaired. consequently, insulin resistance in PCOs outcomes in hyperinsulinemia with its associated various and complex consequences on regulating lipid metabolism, protein synthesis and modulation of androgen production. The reason of insulin resistance is likewise complicated and multifactorial with genetic and environmental members. Lean girls with PCOs often, however not always have abnormalities of insulin secretion and movement as compared to weight-matched manipulate topics. whilst a girl with PCOs is overweight, she may additionally reveal extrinsic insulin resistance associated with adiposity, that is potentially mechanistically distinct from the insulin resistance present in lean girls with PCOs. In women with insulin resistance and PCOs, only a

subgroup develops coexistent pancreatic insufficiency with β cellular failure and move on to DM2. on this setting, insulin output can not triumph over resistance and hyperglycemia improvement. ladies with PCOs are at accelerated danger of developing IGT and DM2 with incidence costs of 31.three% and 7.5%, respectively, compared to fourteen% for IGT and zero% for DM2 in age-matched and weight-matched non-PCOs manage girls.

Key investigations consist of prolactin and thyroid stimulating hormone to exclude different issues and testosterone, SHBG and loose androgen index to assess androgen repute. Additionally they include a pelvic ultrasound for ovarian morphology and endometrial thickness. An oral glucose tolerance check (in preference to fasting glucose) and lipid profiles are suitable in all ladies at analysis and 1 to 2 every year after this, wherein ladies are obese or have an multiplied chance of DM2 (as an example, circle of relatives history of DM2 in first-diploma loved ones, increased age or high-hazard ethnic group). As stated, insulin ranges have to no longer be measured in scientific practice because of assay variability and inaccuracy. Metabolic syndrome and peculiar glucose metabolism exceptional reflect insulin resistance in this population.

About 60% of ladies with PCOs are hirsute, the maximum commonplace scientific signal of hyperandrogenemia. zits and androgenic alopecia

are different medical signs of hyperandrogenemia it's miles glaring on medical examination in a full-size percent of overweight ladies with PCOs in addition to in some lean affected girls. Many lean ladies with PCOs also display histological evidence of acanthosis nigricans .Its severity is at once correlated with the degree of insulin resistance. The other capabilities of hyperandrogenism encompass virilization, which, in particular if offering with a clitoromegaly and rapid onset, requires the exclusion of other causes consisting of adrenal or ovarian androgen-secreting tumors. improved circulating androgen ranges are determined in 89% of ladies with oligomenorrhea. increased tiers of loose T account for the significant majority of odd findings inside the laboratory examination. This finding reflects the truth that SHBG stages are generally decreased in PCOs because of the consequences of T and insulin to lower hepatic manufacturing of SHBG.

Biography

Raminder Kaur has received her MSc in Anthropology from Panjab University, Chandigarh, India. She is a Junior Research Scholar (UGC) in the Department of Anthropology, Panjab University, India. Her current PhD research work is on polycystic ovary syndrome.

reetkaur1792@gmail.com