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Clinical Phenotypes of Polycystic Ovary Syndrome (PCOS) in Nigerian Women: Preliminary Results of the Nigeria PCOS Epidemiology & Phenotype (Nigeria-Pep) Study

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Background: Although the phenotype of polycystic ovary syndrome (PCOS) is heterogeneous, there is paucity of data on the prevalence and phenotype of PCOS in sub-Saharan Africa.

Methods: We studied 75 consecutive consenting women, aged 18-45 years, who presented with features suggestive of PCOS. A standardized proforma was used to obtain relevant information. Anthropometric measurements were determined, and terminal hair growth was assessed using the modified Ferriman-Gallwey (mF-G) method. All subjects underwent an oral glucose tolerance test (OGTT) and pelvic ultrasonography on day 2-7 of the menstrual cycle. An mF-G score of ≥ 6 was regarded as evidence of clinical hyperandrogenism (HA). Menstrual dysfunction (MD) was defined as menstrual cycle lengths >35 or <25 days. Polycystic Ovarian Morphology (PCOM) was defined as an antral follicle count (AFC) of ≥12 2-9 mm follicles and/or an ovarian volume ≥10 cm3, in at least one ovary.

Results: The mean (SD) age of the study population was 28.6 (5.8) years, and the mean (SD) body mass index (BMI) was 26.3 (5.6) kg/m2. Three (4.0%) participants were underweighted, 27 (36.0%) had normal BMI, 30 (40%) were overweight, and 15 (20.0%) were obese. The mean (SD) systolic and diastolic blood pressures were 107.4 (12.6) mmHg and 72.6 (8.2) mmHg, respectively. OGTT results indicated that the mean (SD) fasting blood glucose was 86.6 (10.6) mg/dl and the mean (SD) 2-hr. postprandial glucose was 109.8 (22.2) mg/dl. Two women had impaired glucose tolerance and one had type 2 diabetes mellitus. Of the 75 subjects recruited, 26 (34.7%) had HA, 54 (72.0%) had MD, and 63 (84.0%) had PCOM. Of all subjects, 20 (26.7%) had HA+MD +PCOM, consistent with PCOS Phenotype A; one (1.3%) had HA+MD only, consistent with Phenotype B; four (5.3%) had HA+PCOM only, consistent with Phenotype C; and 28 (37.3%) had MD+PCOM only, consistent with Phenotype D. In 22 (29.4%) no evidence of PCOS was found. Overall, our results indicate that of subjects evaluated clinically, 53 (70.6%) had PCOS.

Conclusions: Our preliminary results indicate that in a referral (clinical) population in Lagos, Nigeria, using only the clinical presentation without circulating androgen measures, PCOS was detected in two-thirds, with Phenotype D (aka, 'non-hyperandrogenic PCOS') being the most common presentation (53%), followed by Phenotype A (aka 'classic or full PCOS') observed in 38% of all women with PCOS seen. However, as 72% of all subjects had MD and 63% had PCOM, many more of these women could have been diagnosed with PCOS if the presence of hyperandrogenemia could have been demonstrated. Overall, these observations suggest that accurate measurement of circulating androgen, lacking in many parts of Sub-Sahara Africa, may be critical to accurately detecting PCOS in that region. Studies are ongoing.

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