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RELATIONSHIP BETWEEN VARIANTS OF MENSTRUAL DISTURBANCE AND INSULIN RESISTANCE IN PATIENTS WITH POLYCYSTIC OVARY SYNDROME IN BANGLADESH

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Background: Menstrual disturbance in polycystic ovary syndrome (PCOS) may be a predictor for grade of insulin resistance (IR).

Objectives: To observe relation of variants of menstrual disturbances with IR and metabolic syndrome in PCOS.

Methods: This cross sectional study included 100 PCOS women [age: 22.34±4.40 years; body mass index (BMI) 25.96±4.87 kg/m^2; mean±SD], diagnosed by Rotterdam criterion and 60 age matched controls (age: 22.98±4.64 years, BMI 21.15±3.91 kg/m^2; mean±SD). The subgroups were classified according to menstrual cycle length as: gr-I (<26 days; polymenorrhoeic), gr-II (26–34 days; eumenorrhoeic), gr-III (35–45days; mild oligomenorrhoeic), gr-IV (6 weeks to three months; severe oligomenorrhoeic) and gr-V (>3 months; amenorrhoeic). Insulin and glucose were measured to determine glycemic status and IR.

Results: Oligomenorrhoea was more among the age group of 16–30 (~60%), whereas one third of age group of 31–35 was amenorrhoeic. BMI and waist circumference (WC) were significantly higher in all subgroups of PCOS than control (gr-I: 30±4.49, gr-II: 24.75±3.85, gr-III: 26.08±5.37, gr-IV: 26.02±4.68, gr-V: 83.58±14.51, control: 21.14±3.90 kg/m^2; p<0.001; WC: 92.00±0.00, 81.28±9.75, 85.56±11.57, 81.22±10.61, 83.58±14.51 and 72.02±7.44, respectively; p<0.001). PCOS and control also showed statistically significant differences for IR (100% vs. 27.3% vs. 51.4% vs. 53.8% vs. 61.5% vs. 3.3%, respectively; p<0.001) and metabolic syndrome (50% vs. 11.1% vs. 31.3% vs. 22.25% vs. 41.7% vs. 3.3%; p=0.002) and prediabetes (50% vs. 22.25% vs. 29% vs. 27.8% vs. 33.3% vs. 1.6%; p=0.002). Each subgroup had statistically significant values of fasting glucose, 2-h glucose, fasting insulin, FG/FI, HOMA-IR, total cholesterol, triglycerides, HDL, LDL than that of control (p<0.05 for all). Multiple regression analysis revealed that cycle length of menstruation (p=0.014), WC (p=0.050) and Ferriman-Gallwey score (p=0.0108) were independent predictors of homeostatic model assessment (HOMA-IR) in PCOS.

Conclusions: Prevalence of IR and metabolic abnormalities are higher in PCOS. Subgroups with amenorrhoea and oligoamenorrhoea have adverse metabolic profile and IR.

Biography

N Parajuli is a Resident Doctor studying MD in the Department of Endocrinology, Bangabandhu Sheikh Mujib Medical University (BSMMU) Dhaka, Bangladesh. His research interests are in PCOS, Infertility, Diabetes and obesity. He has attended and presented posters in reputed National and International conferences. He is also working as a member in PCOS Study Group at BSMMU, Bangladesh.

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