

Incretin release in a different state of testosterone level among lean PCOS women – case control study

¹Sandra Mrozińska, ²Tomasz Milewicz, ²Magdalena Krzyczkowska- Sendrakowska, ²Marta Kiałka, ²Kamila Migacz, ²Aleksandra Kowalczyk, ³Magdalena Spałkowska, ⁴Iwona Rogatko, ²Rita Tomczyk, ²Józef Krzysiek

¹Jagiellonian University Medical College, Cracow, Poland

²Department of Gynecological Endocrinology, Collegium Medicum, Jagiellonian University Cracow, Poland

³Department of Dermatology, Jagiellonian University Medical College, Krakow, Poland

⁴Department of Clinical Biochemistry, Polish American Institute of Pediatrics, Jagiellonian University Medical College, Cracow, Poland



OBJECTIVES

The aim of the study was to assess a possible relationship between the level of free androgen index (FAI) and glucose-dependent insulinotropic peptide (GIP) among lean women affected by PCOS. To our knowledge, no previous study has evaluated the matter so far.

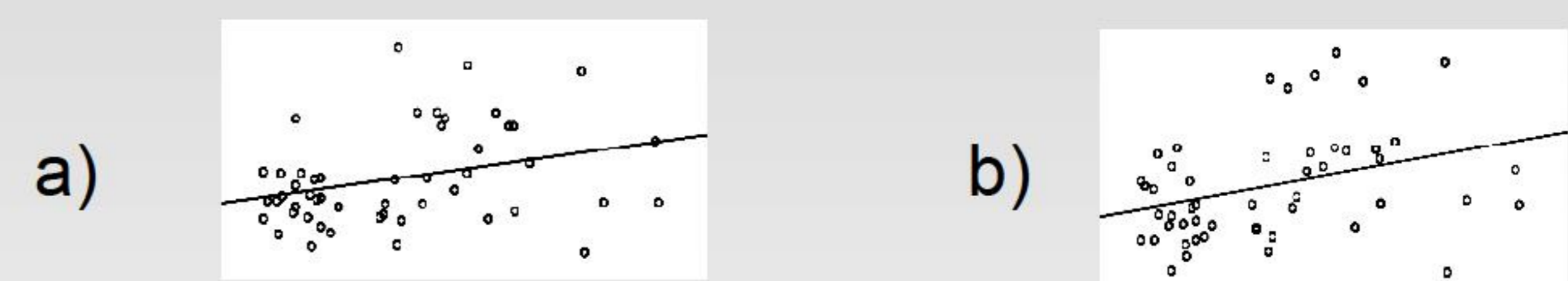
METHODS

Case control study.

50 lean women (BMI=20,76±1,83) who presented for the first time to the Department of Gynaecological Endocrinology Jagiellonian University Medical College between May 2013 and May 2014 in which was diagnosed PCOS were enrolled to the study. PCOS was diagnosed on the basis of definition proposed in 2009 by the Androgen Excess and PCOS (AE-PCOS) Society. The women were divided into two groups according to the FAI level. Group A consisted of 25 patients with FAI<5 and group B consisted of 25 patients with FAI>5. All patients underwent standard meal test. Serum GIP concentration was determined both at fasting and at 60 minute of the test. Calculations were computed in the Statistica Program.

RESULTS

Mean GIP was significantly higher in group 2 before and after meal test (Mann-Whitney test; p=0,006). Likewise, group 2 exhibited higher values of medians. Spearman test indicated significant correlation between FAI and GIP levels at 0' and 60' in total study population (0': p=0,008; 60': p=0,049). The absence of the significant correlation was observed in each group. It might be a consequence of the limited number of patients.



Spearman test results in total study population at 0 min (a) and 60 min of assay (b)

CONCLUSIONS

Excess androgen activity might be a vital factor contributing to alter secretion of incretins in lean PCOS women. An increased GIP levels may induce hyperinsulinemia and play an additive to insulin resistance role in progression to T2DM.

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