

Galectin-3 as a novel biomarker in women with PCOS.

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Abstract:

Context: Sedentary lifestyle and increase in obesity are important modifiable cardiometabolic risk factors. Women with PCOS are suggested as important candidates for long-term risks with an 11- fold increase in the prevalence of metabolic syndrome. Special attention and a high priority should be given for detection of target subjects with a high cardiometabolic risk in women with PCOS. Galectin -3 is suggested to have potential effects on cardiometabolic pathways. Galectin-3 levels were associated with abdominal obesity, dyslipidemia and hypertension. Taken into consideration the association of galectin-3 levels with cardiometabolic disease, galectin-3 may be a promising novel biomarker in women with PCOS.

Objective: To investigate galectin-3 levels as a novel biomarker in women with PCOS.

Methods: Ninety consecutive women with PCOS were divided into two groups according to the presence of metabolic syndrome as MetS+ and MetS-. Clinical, hormonal and metabolic parameters and galectin-3 levels were compared between the groups. Correlation analyses were performed between galectin-3 and clinical and metabolic parameters.

Patient(s): Ninety consecutive women with PCOS

Intervention(s): History and physical examination, peripheral venous blood sampling

Main Outcome Measure(s): Galectin-3 levels

Results: Ninety PCOS subjects were enrolled in the study, 25 of which were diagnosed with MetS. There was no statistically significant difference between the groups in terms of age, BMI, LDL cholesterol, total cholesterol and total testosterone levels. WHR, systolic and diastolic blood pressures, triglyceride, HOMA-IR, FAI, Ferriman–Gallwey score and galectin-3 levels (13.19 ± 5.63 ng/ml vs 9.37 ± 3.99 ng/ml, $p=0.001$ respectively) were significantly higher in the MetS+ group compared with the MetS- group. HDL cholesterol was significantly higher in the MetS- group than the MetS+ one. Galectin-3 levels were found to be positively correlated with systolic blood pressure ($r=0.450$, $p<0.01$), diastolic blood pressure ($r=0.293$, $p<0.01$) and triglyceride levels ($r=0.218$, $p<0.05$) in women with PCOS.

Conclusions: Galectin-3 may be a promising novel biomarker in women with PCOS. Galectin-3 levels were significantly higher in the MetS+ group compared with the MetS- one and positively correlated with systolic, diastolic blood pressures and triglyceride levels in women with PCOS.