

Serum and adipocyte resistin in polycystic ovary syndrome with insulin resistance

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摘要

Abstract

BACKGROUND: The aim of this study was to investigate the relationship between resistin and insulin resistance in patients with polycystic ovary syndrome (PCOS). **METHODS:** We compared serum resistin levels in 17 PCOS women and 10 lean, healthy, age-matched non-PCOS women and also compared levels of insulin receptor (IR), phosphatidylinositol-3 kinase (PI3-kinase), glucose transporter 4 (GLUT4) protein and resistin mRNA in adipocytes isolated from the omental adipose tissue of five of the PCOS patients and five age- and weight-matched, non-PCOS controls, to look for local defects in insulin action in PCOS. **RESULTS:** The PCOS group was hyperinsulinaemic and displayed an impaired insulin response in a 75 g oral glucose tolerance test and an abnormal homeostasis model insulin resistance index. Serum resistin levels were similar in PCOS patients and controls; however, resistin mRNA levels were 2-fold higher in adipocytes from PCOS patients. No correlation was found between serum resistin levels and either the BMI or testosterone levels. Western blot analysis showed that adipocyte levels of insulin receptor, PI3-kinase, and GLUT4 were respectively decreased by 56, 39.4 and 54% in PCOS patients compared with controls. **CONCLUSIONS:** These results suggest that overexpression of the resistin gene in adipocytes may be a local determinant factor in the pathogenesis of PCOS.