Abstract



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# Use of fasting blood to assess the prevalence of insulin resistance in women with polycystic ovary syndrome.

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## Abstract

**OBJECTIVE:** To determine the prevalence of insulin resistance (IR) in women with polycystic ovary syndrome (PCOS) using baseline fasting blood measurements of glucose and insulin.

**DESIGN:** Prospective clinical study.

**SETTING:** Academic endocrinology unit in Palermo, Italy.

**PATIENT(S):** Two hundred and sixty-seven women with PCOS, consecutively evaluated, and 50 consecutively selected ovulating controls.

**INTERVENTION(S):** Fasting blood was obtained for glucose and insulin measurements from all women. For 60 women with PCOS and 20 controls an insulin tolerance test (ITT) was also performed.

**MAIN OUTCOME MEASURE(S):** Assessment of normal and abnormal values for fasting insulin, glucose/insulin ratio, and the calculated indices of the homeostasis model assessment (HOMA), quantitative sensitivity check index (QUICKI), as well as Kitt (kinetic disappearance of glucose) values after ITT. Evaluation was performed of the ability to detect IR using these methods in obese and nonobese women with PCOS.

**RESULT(S):** Normal insulin sensitivity was defined by insulin levels <12 mU/mL, glucose/insulin ratios of >6.4, HOMA values of <47, and QUICKI values of >0.333. In the entire PCOS groups, IR was diagnosed in 65.4% of women using glucose/insulin ratios and in 77% and 79.2% using HOMA and QUICKI. In obese women (body mass index >28 in 48% of group), IR was present in 76.7% as measured by glucose/insulin ratios but was significantly higher (95.3%) using values of either HOMA or QUICKI (P<.01). All indices correlated with Kitt values with QUICKI showing the best correlation.

**CONCLUSION(S):** Insulin resistance was detected in approximately 80% of women with PCOS, and in 95% of obese women. The detection of IR is superior using the calculated indices HOMA and QUICKI.

## Comment in

The precision of assays for serum insulin? [Fertil Steril. 2005]

Diagnosing insulin resistance--a clarification. [Fertil Steril. 2005]

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