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Prevalence of insulin resistance in the polycystic ovary syndrome using the homeostasis model assessment.

DeUgarte CM¹, Bartolucci AA, Azziz R.

Author information

Abstract

OBJECTIVE: To determine the prevalence of insulin resistance (IR) in a large population of patients with the polycystic ovary syndrome (PCOS).

DESIGN: Prospective, case-control.

SETTING: University medical center.

PATIENT(S): Two hundred seventy-one PCOS patients and 260 eumenorrheic, non-hirsute, control women.

INTERVENTION(S): History and physical examination and blood sampling.

MAIN OUTCOME MEASURE(S): Total T, free T, DHEAS, sex hormone-binding globulin, and fasting glucose and insulin levels; homeostatic model assessment values for IR (HOMA-IR) and percent beta-cell function (HOMA-%beta-cell).

RESULT(S): Patients with PCOS and controls differed significantly in all parameters studied, except fasting glucose. Because the HOMA-IR and HOMA-%beta-cell values were variably associated with race, age, and body mass index, the HOMA-IR and HOMA-%beta-cell values were then adjusted for these cofounders. After adjustment, 64.4% of PCOS patients were noted to be insulin resistant, and 2.6% had beta-cell dysfunction. Compared with PCOS patients without IR (n = 96), patients with IR (n = 174) were more obese and had higher beta-cell function.

CONCLUSION(S): In patients with PCOS, the prevalence of IR was 64% according to the HOMA-IR measurement, after adjustment. Patients with IR were more clinically affected. Although IR is a common abnormality in PCOS, it does not seem to be a universal feature.

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