Polycystic ovary syndrome is a multifactorial disease with a complex etiology. In 2003 in Rotterdam consensus meeting were established SOP criteria based on the presence of 2 or more of the following findings: oligo/ anovulation, clinical or biochemical hyperandrogenism and ovarian morphology. PCOS women have abnormalities of glucose metabolism, and insulin resistance. The 20 % of obese PCOS patients show intolerance to glucose (IG) and type 2 diabetes mellitus (DM2). In turn, the metabolic pattern varies with the different phenotypes of Rotterdam. Objective: To evaluate insulin resistance and the relationship with PCOS phenotypes. Methods: A prospective, descriptive and transversal study. Simple, sequential sampling of 30 patients aged 18 to 39 years who met the Rotterdam criteria and attended Department of Gynecology in Caracas University Hospital between March and September 2013. The correlated insulin resistance (HOMA-IR > 2.5) with different PCOS Rotterdam phenotypes (A-D). Results: The study group presented a mean age of 27 years. The clinic of insulin resistance represented by central obesity (CA: >= 88 cm) was present for 56.6 %, and acanthosis nigricans in 80 % of cases. The HOMA -IR > 2.5 was reported in 86.6% of patients (26/30). The PCOS phenotypes: 63.3 % (19/30) phenotype A, 16.6% (5/30) phenotype C and 20% (6/30) the phenotype D. In patients with insulin resistance (HOMA - IR >2.5) the 57.6% (15/26) corresponded to phenotype A, 23% (6/26) to phenotype D and 19.2% (5/26) to phenotype C. Conclusion: Insulin resistance is a common disorder in patients with PCOS, particularly in phenotypes with anovulation and hyperandrogenism. Keywords: PCOS, insulin resistance, hyperinsulinemia, phenotypes