

P37. Wrist circumference: a new marker for assessing insulin resistance in sub-saharan african women with polycystic ovary syndrome

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Context

Insulin resistance, the metabolic basis for developing future cardiovascular disease, is the main complication found in 35-80% of women with Polycystic ovary syndrome (PCOS). However, there is no definite consensus regarding which marker to use for its assessment in PCOS women.

Objective

To assess Wrist Circumference as an easy-to detect marker of insulin resistance in Congolese women with PCOS.

Methods

Prospective case-control study

Patient(s)

Women with PCOS (n = 72) and eumenorrheic, non hirsute, healthy women as controls (n = 71).

Intervention(s)

None

Main Outcome Measure(s)

Homeostasis Model assessment of insulin resistance were determined. Body composition using Bioelectrical Impedance Analysis (BIA) was evaluated. Non Dominant Wrist Circumference was measured manually, as well as Waist Circumference. Waist-to-hip ratio and Waist-to-Height was calculated.

Result(s)

Non Dominant Wrist Circumference was the most correlated to HOMA-IR ($r = 0,346$; $p = 0,003$) than Dominant Wrist Circumference ($r = 0,315$; $p = 0,007$), Waist Circumference ($r = 0,259$; $p = 0,028$), BMI ($r = 0,285$; $p = 0,016$), WHR ($r = 0,216$; $p = 0,068$) and WHtR ($r = 0,263$; $p = 0,027$). Logistic regression showed that Non Dominant Wrist Circumference is the best anthropometrical marker correlated to insulin resistance using HOMA-IR as biological reference marker in PCOS women ($p = 0,016$). The diagnostic accuracy of Non Dominant Wrist Circumference for the presence or absence of IR, using ROC curve analysis showed that the area under the ROC curve were 0.72. A cutoff value of Non Dominant Wrist Circumference of 16,3 cm, was found as the best predictor of IR in Congolese women with PCOS.

Conclusion

Non Dominant Wrist Circumference is, to date, the best anthropometrical marker of insulin resistance, in Sub-Saharan African women with PCOS and could be suggested as an easy-to detect marker for assessing IR in women with PCOS.

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