Insulin Sensitizers for Treatment of Menstrual Irregularities Associated with PCOS

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Clinical Question
Can insulin sensitizers be used to treat menstrual irregularities associated with polycystic ovary syndrome (PCOS)?

Evidence-Based Answer
Metformin, pioglitazone (Actos), and rosiglitazone (Avandia) can be used to improve menstrual cycling in women with PCOS. (Strength of Recommendation [SOR]: A, based on a meta-analysis.) However, metformin is much less effective than oral contraceptives (OCs). (SOR: A, based on a meta-analysis of randomized controlled trials [RCTs].)

A Cochrane review of 44 RCTs (N = 3,992) assessed the effectiveness of insulin-sensitizing drugs in improving reproductive and metabolic outcomes in women with PCOS.\(^1\) Improvement in menstrual cycle irregularities was a secondary outcome. Metformin was more effective than placebo in improving the menstrual pattern (eight RCTs, N = 427; odds ratio [OR] = 1.7; 95% confidence interval [CI], 1.1 to 2.6). Pioglitazone (two RCTs, N = 70; OR = 8.9; 95% CI, 2.4 to 33) and rosiglitazone (two RCTs, N = 100; OR = 5.6; 95% CI, 2.2 to 14) also improved the menstrual pattern compared with placebo.

A Cochrane review (six RCTs, N = 174) compared the effectiveness and safety of insulin sensitizers with OCs in improving clinical, hormonal, and metabolic outcomes in women with PCOS.\(^2\) In two trials (n = 35), metformin was less effective than OCs in improving menstrual pattern (OR = 0.08; 95% CI, 0.01 to 0.45). Another RCT (n = 46), which was published after the Cochrane review, compared drospirenone/ethinyl estradiol with rosiglitazone.\(^3\) Normalization of menstrual pattern was a secondary measure achieved with both therapies (100% of patients receiving OCs had regular menstrual periods vs. 75% of those receiving rosiglitazone; \(P = .7\)), but the study was underpowered to detect a clinically meaningful difference.

REFERENCES

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