

Diagnostic accuracy of ovarian reserve markers in the differentiation between responders and non responders after laparoscopic ovarian drilling

Abstract

Background: Polycystic ovary syndrome results in many endocrinological derangements leading to infertility. This warrants the search for proper solutions to achieve ovulation. However, the prediction of ovarian response represents a significant challenge.

Aim: To evaluate the diagnostic accuracy of ovarian reserve markers to differentiate between responders and non-responders among women with clomiphene resistance PCOS after doing LOD.

Methods: This prospective cohort study was conducted at the obstetrics and gynecology department at Fayoum university from May 2018 to February 2020. The study recruited 50 women diagnosed with PCOS who had clomiphene citrate resistance. Transvaginal sonography was done to confirm the diagnosis of PCOS, measure the ovarian volume, and assess the mean antral follicle count (AFC) in both ovaries. A venous blood sample was obtained for AMH measurement. LOD was done early in the follicular phase under general anesthesia. Ovulation induction was prescribed using clomiphene citrate 100- 150 mg from day 2 of the cycle.

Results: AMH had excellent discriminative power for response (AUC 0.995, the optimal cut-off point was 7.65 which yielded sensitivity 93.5%, specificity 100.0%, PPV 100.0% NPV 90.4% and accuracy 95.9%). AFC had good discriminative power for response (AUC 0.741, the optimal cut-off point was 16.5 which yielded sensitivity 51.6%, specificity 84.2%, PPV 84.2% NPV 51.6% and accuracy 63.9%). OV had poor discriminative power (AUC 0.540, the optimal cut-off point was 13.75 which yielded sensitivity 64.5%, specificity 52.6%, PPV 68.9% NPV 47.6% and accuracy 60.0%).

Conclusions: Serum AMH and AFC represent potent markers for predicting ovarian response in women with PCOS.

Keywords: PCOS; response; ovulation; AMH; AFC; ovarian volume.