Assessing the Predictive Value of Oocyte Recovery Rate (ORR) for ICSI Outcomes and Live Birth Rates: A Retrospective Cohort Study

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Abstract

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To evaluate the utility of the Oocyte Recovery Rate (ORR) in predicting treatment outcomes, including chemical pregnancy and live birth rates, among infertile women undergoing intracytoplasmic sperm injection (ICSI), and to compare its predictive performance to conventional ovarian reserve markers.

Methods:

This retrospective cohort study included 200 infertile women who underwent ICSI treatment at Kamali Hospital Center. Data on patient characteristics, ovarian reserve markers (AMH, AFC, FSH, LH), and ICSI outcomes were collected. The ORR was calculated as the ratio of the number of retrieved oocytes to the number of follicles that were more than 14 mm on trigger day (FTD). Receiver operating characteristic (ROC) curve analysis was used to assess the predictive performance of ovarian reserve markers for chemical pregnancy and live birth.

Results:

ORR demonstrated statistically significant, albeit moderate, predictive value for both chemical pregnancy (AUC=0.58) and live birth (AUC=0.60) rates. The predictive performance of ORR was comparable to that of AMH. A high ORR (≥0.88) and high AMH, were associated with increased odds of chemical pregnancy and live birth. ORR and follicles on trigger day (FTD), but not AMH, were directly related to mature oocyte production (EMOP) efficacy.

Conclusion:

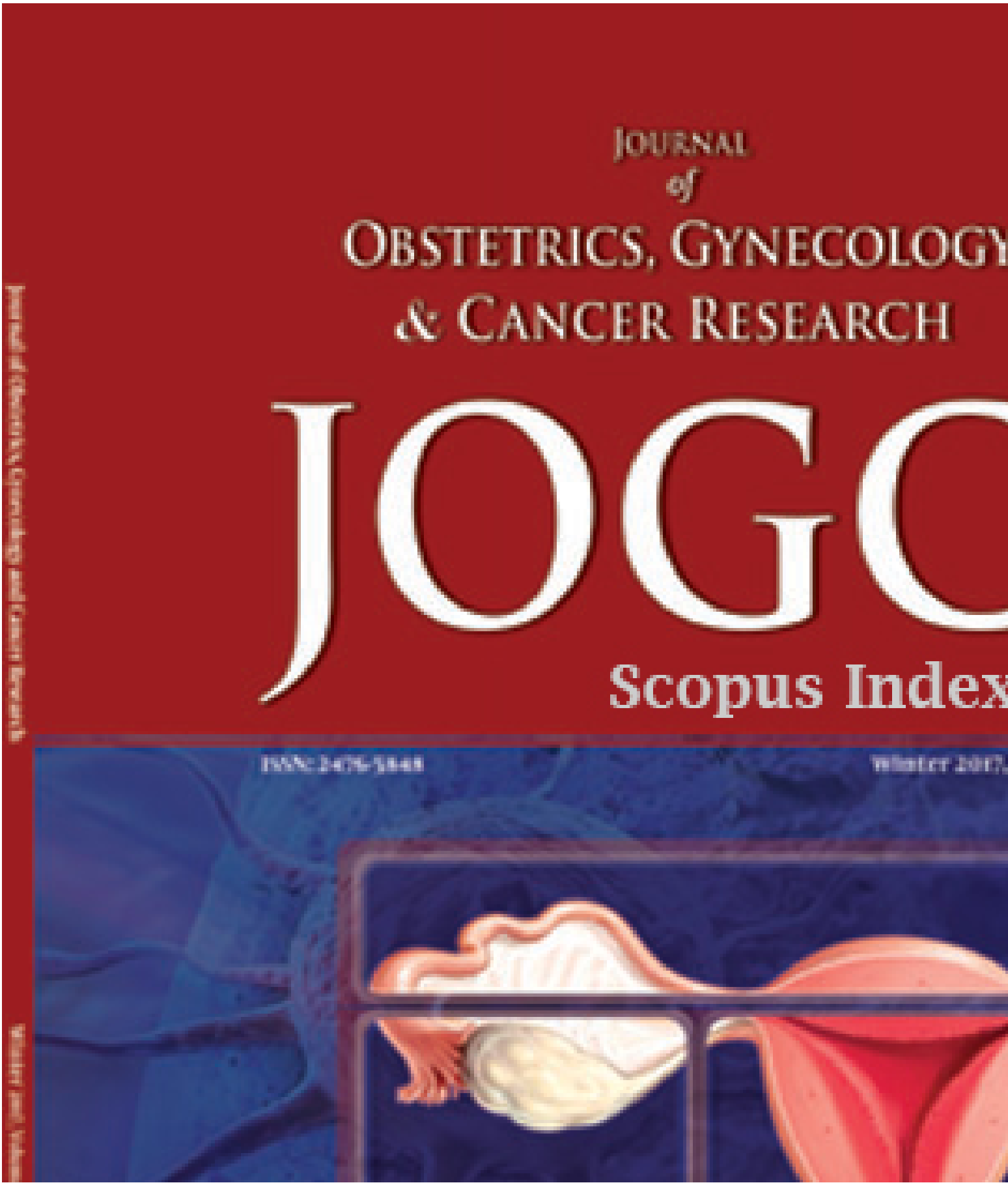
ORR demonstrated moderate predictive value for ICSI outcomes, comparable to conventional ovarian reserve markers. An ORR threshold of 0.88 may identify patients with improved chances of live birth following ICSI.

Keywords

- Rate of Oocyte Recovery Rate (ORR)
- ICSI Outcomes
- Live Birth Rate
- chemical pregnancy

Main Subjects

- Reproductive Medicine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