

Diagnostic accuracy of clinical and sonographic markers for predicting adnexal torsion: a combined predictive model

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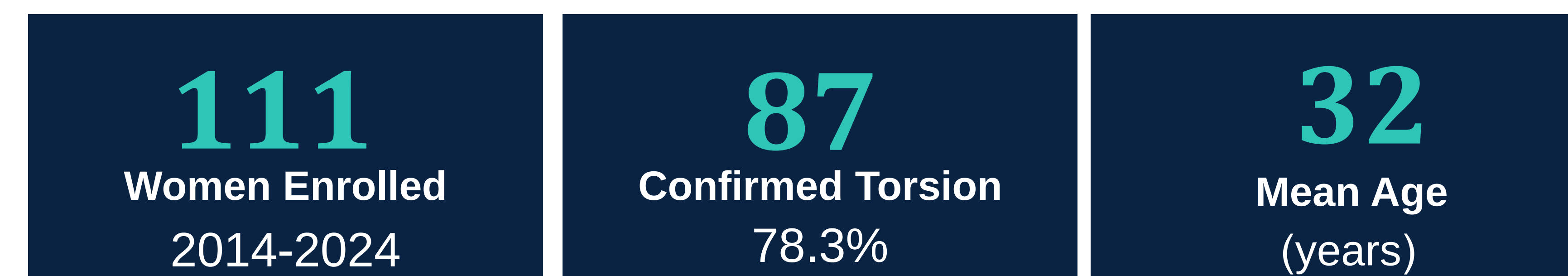
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Objectives: We aimed to evaluate the diagnostic accuracy for adnexal torsion and to identify clinical and sonographic predictors of confirmed torsion.

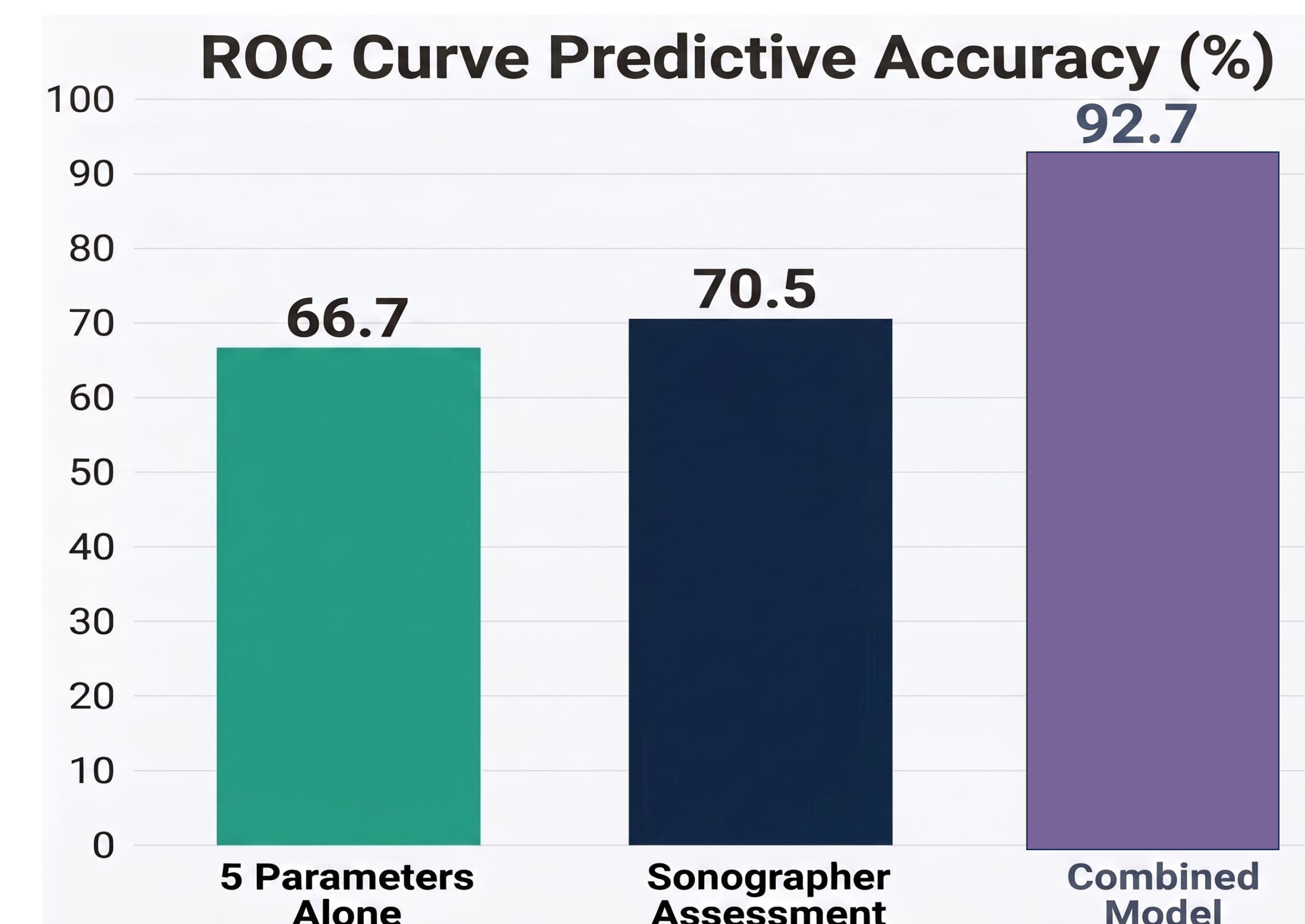
Methods: Retrospective observational study of women with suspected adnexal torsion who underwent laparoscopy (2014-2024). Surgical findings served as the gold standard for confirmation or exclusion of adnexal torsion. Preoperative ultrasound images and clinical reports were reviewed for predefined markers.

Combined clinical & sonographic prediction models were evaluated to identify the strongest predictors.



Significant Predictors of Confirmed Torsion:

- 1 Absence of fever $p = 0.018$
- 2 Enlarged adnexa $p = 0.015$
- 3 Unilateral pain $p = 0.019$
- 4 Absence of GI/urinary symptoms $p < 0.01$
- 5 "Whirlpool" sign on ultrasound $p = 0.020$



Results: Adnexal torsion was surgically confirmed in 78.3% of women presented with clinical and sonographic suspicion (87 / 111).

Five parameters were each independently associated with confirmed torsion: absence of fever, enlarged adnexa, unilateral pain, absence of GI/urinary symptoms, and the whirlpool sign.

The sonographer's subjective "high risk" global assessment was the strongest single predictor (AUC 70.5%), outperforming the five parameters alone (66.7%).

Integrating the sonographer's assessment with the five parameters substantially improved predictive accuracy to 92.7%, demonstrating the value of a combined approach.

Conclusions: The diagnosis of adnexal torsion remains challenging. In this cohort, the sonographer's subjective final assessment was the strongest single predictor (70.5%). However, combining the sonographer's impression with five objective clinical-sonographic parameters achieved **92.7% predictive accuracy**.