

Poster number (isuog2025.2e30a98).

Ultrasonic Characteristics and the Diagnostic Value of a Model for the Diagnosis of IVL.

Xinlu Wang

Objective

To extract the ultrasonic image and clinical parameter features of patients with intravenous leiomyomatosis (IVL) to establish a diagnostic model.

Methods

A retrospective analysis was conducted on the clinical data and ultrasonic images of 70 patients pathologically confirmed with IVL from January 2014 to December 2022. Meaningful ultrasonic images were used as primary parameters, and clinical data and atypical ultrasonic images were used as secondary parameters. The group with the highest diagnostic efficacy was selected and combined with the secondary parameters, to establish the IVL diagnostic model. An additional 40 patients diagnosed with IVL using this model from January 2023 to March 2025 were included, with 29 pathologically confirmed as IVL and 12 as non-IVL, to validate the diagnostic efficacy of the model.

Results

Typical ultrasonic images included: a morphology of lobulated/linear/worm-like, a close relationship with uterine or para-uterine vessels, and the presence of

hyperechoic strands. Clinical data included age ≤ 50 years, regular menstruation, pregnancy and childbirth history, history of uterine fibroid surgery, concurrent uterine fibroids, and ultrasonic atypical image features such as hypoechoic and blood flow. The morphology feature combined with the other four primary parameters in 8 different combinations was evaluated for IVL. The results showed that the combination of lobulated/linear/worm-like with three of the other four parameters had the highest diagnostic efficacy, with sensitivity, specificity, PPV and NPV of 0.620, 0.818, 0.600, and 0.450, respectively. The AUC was 0.72 (95% CI: 0.54-0.89). This combination, when meeting ≥ 2 secondary parameters, had the highest diagnostic efficacy, with sensitivity, specificity, PPV and NPV of 0.620, 0.909, 0.947, and 0.909, respectively. The AUC was 0.77 (95% CI: 0.61-0.92).

Conclusion

The diagnostic model established by combining ultrasonic parameters with clinical information significantly improves the diagnostic efficacy of IVL.

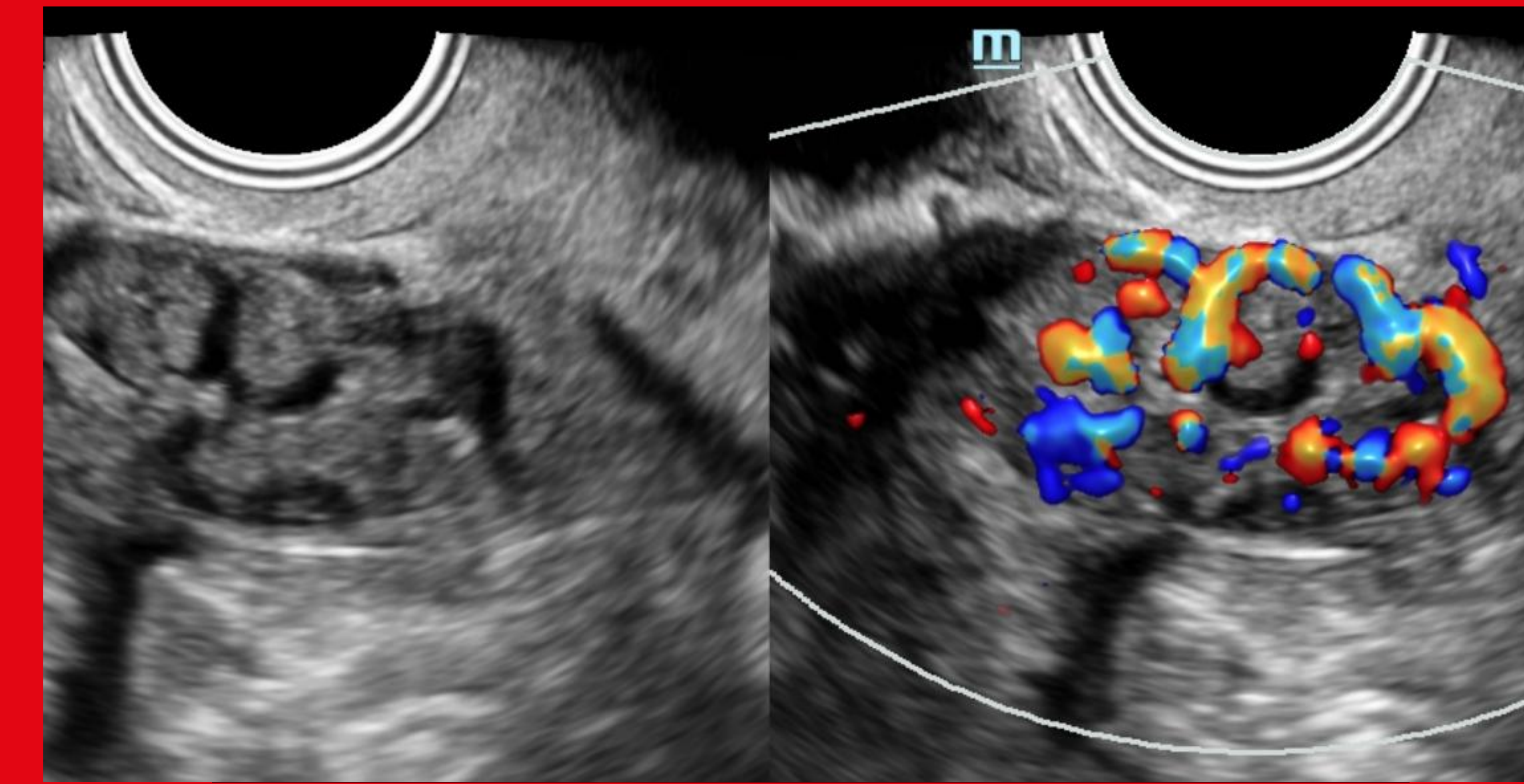


Figure 1. Morphology of lobulated-like

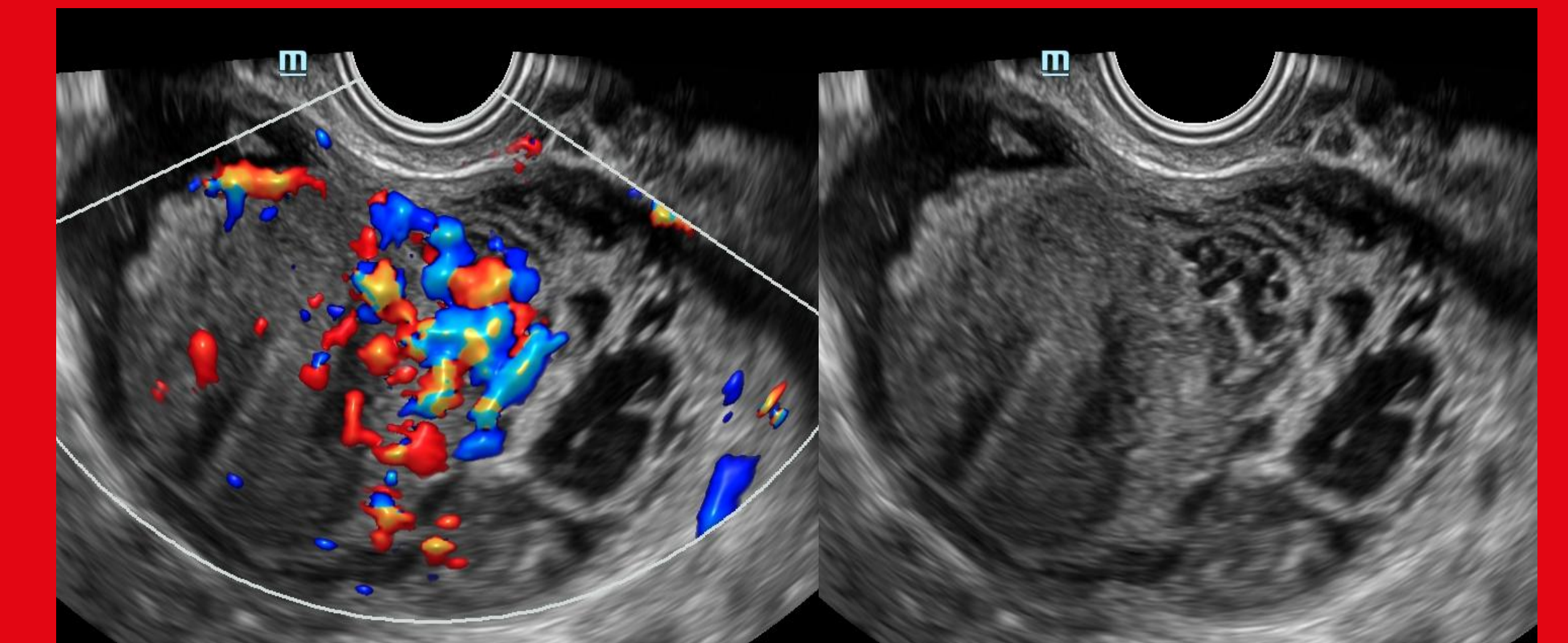


Figure 2. Close relationship with uterine or para-uterine vessels

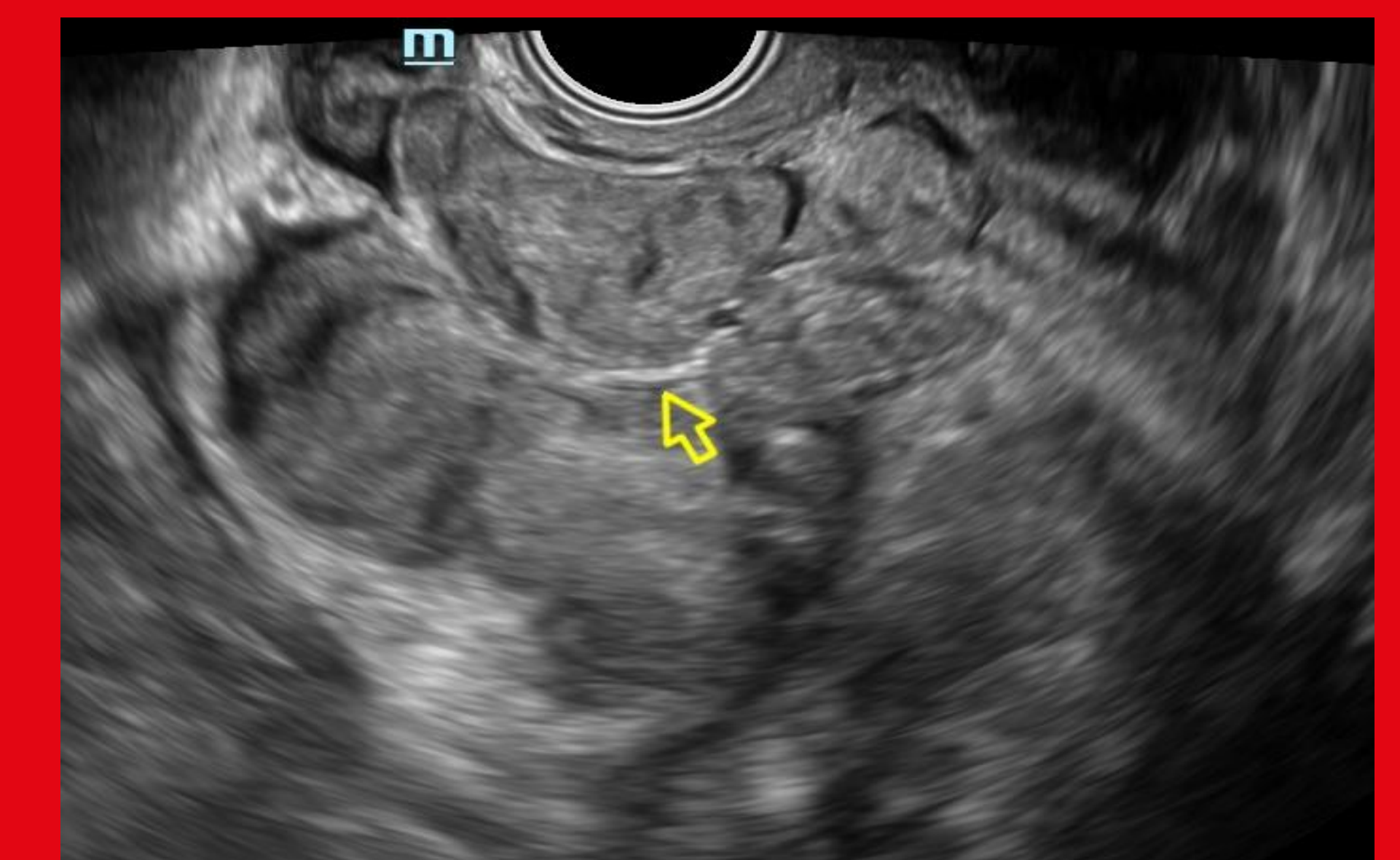


Figure 3. The presence of hyperechoic strands (Arrow indicates).