

Combined use of ultrasound and magnetic resonance imaging in perinatology: first successful management of a fetal ovarian cyst in Cuba: a case report

EP10.51

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Introduction

Advancements in imaging technologies have significantly improved prenatal diagnosis of fetal ovarian cysts, the most common cystic lesions in female fetuses, affecting 1 in 2,600 pregnancies, mainly detected in the second or third trimester. This case demonstrates a precise diagnosis of a large 300 ml ovarian cyst using obstetric ultrasound and fetal MRI.

Case report

A 36-year-old pregnant woman underwent routine obstetric ultrasound at 28 weeks of gestation, revealing a large, well-defined, anechoic pelvic cyst in a female fetus. The lesion measured approximately 300 ml, was unilocular, thin-walled, and showed no internal vascular flow on Doppler imaging. The cyst displaced adjacent abdominal structures

Diagnostic Evaluation

Fetal MRI confirmed the diagnosis, revealing a large, unilocular, avascular cyst occupying the left pelvic and hemi-abdominal region. The absence of septations, debris, or solid components supported the diagnosis of a simple ovarian cyst.

Management

At 35.1 weeks, under real-time ultrasound guidance, 220 ml of citrine fluid were aspirated after fetal sedation. The procedure was well tolerated with no immediate or delayed complications. Follow-up ultrasound showed a residual 60 ml cyst. Delivery occurred at 37 weeks via cesarean due to premature rupture of membranes, with no neonatal complications.

Conclusion

Ultrasound-guided prenatal aspiration is a safe and effective option for selected fetal ovarian cysts ≥ 40 mm, potentially preserving ovarian function and preventing torsion.

This case represents the first successful application of this technique in Cuba, demonstrating the value of combining ultrasound and MRI in perinatal care and establishing a precedent for future interventions in resource-limited settings.

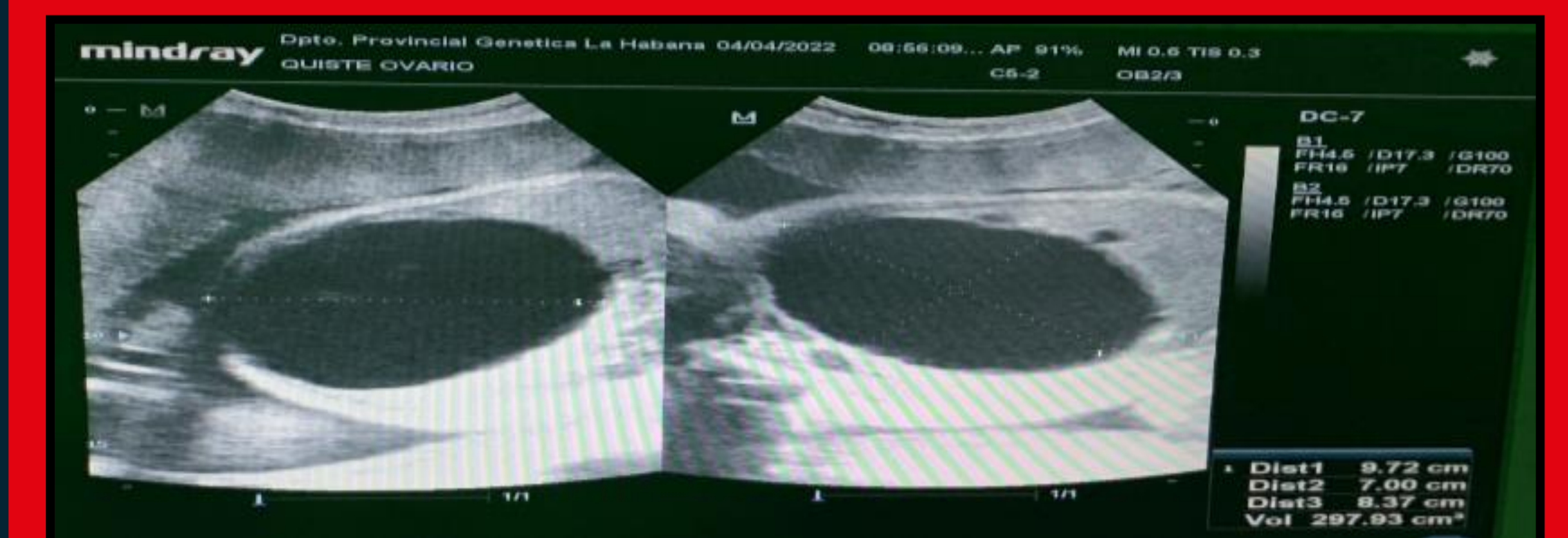


Figure 1. Obstetric ultrasound at 28 weeks – initial detection of fetal ovarian cyst.

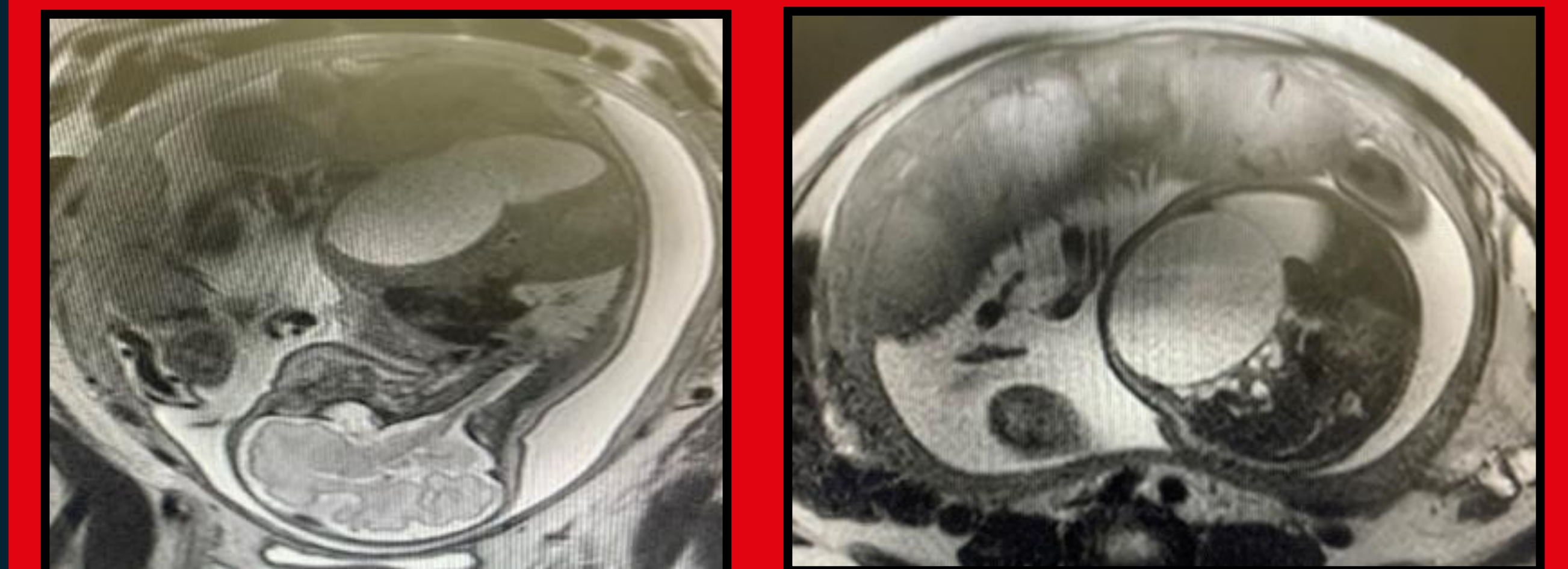


Figure 2. Fetal MRI – confirmation of simple cyst and displacement of adjacent structures.



Figure 3. Ultrasound-guided percutaneous aspiration of fetal ovarian cyst.