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A Case of Fetal Mature Cystic Teratoma with Difficult Prenatal Differentiation from CPAM

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Introduction

Congenital pulmonary airway malformation (CPAM) is the most commonly suspected diagnosis in fetal cystic lung lesions. Teratomas occur in approximately 1 in 20,000–40,000 births, and only about 4% arise in the mediastinum. Among mediastinal tumors, thymic teratomas account for only 2–3%, and cases identified during the fetal or neonatal period are extremely rare.

CASE

40-year-old, primigravida

Mode of conception: Frozen embryo transfer

21 weeks of gestation:

An echo-free space was detected in the fetal left lung

23 weeks gestation:

Ultrasonography at our hospital.

A cystic mass occupying a large portion of the left thoracic cavity, with a cyst volume ratio (CVR) of 0.25. (figure.1)

We considered Stocker type 1 CPAM.

27 weeks of gestation:

The CVR increased to 1.27 and the lesion became bilocular. A nodular lesion also appeared. (figure.2)

Fetal MRI at 31 weeks of gestation:

a bilocular cystic lesion with high signal intensity on T2-weighted images in the left thoracic cavity, accompanied by a thin septum and mediastinal deviation.(figure.3)

Delivery Outcomes

Gestational age at delivery: 38 weeks + 4 days

Mode of delivery: Cesarean section

Sex: Male

Birth weight: 2,950 g

Contrast-enhanced CT after birth:

A mature teratoma in the left thoracic cavity

Postnatal Corse

Day 10

Tumor resection was performed.

A cystic mass containing yellowish fluid, calcification, and hair components.

Histopathological examination: a thymic mature teratoma

Day19

The patient was discharged.

Discussion

Mediastinal teratomas typically present as heterogeneous masses containing cystic and solid components, calcifications, and fat. However, these characteristic features may not be clearly visualized prenatally.

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Conclusion

Evaluation of CVR progression, multilocular structure, and the presence of calcification or fat components are useful for differential diagnosis.

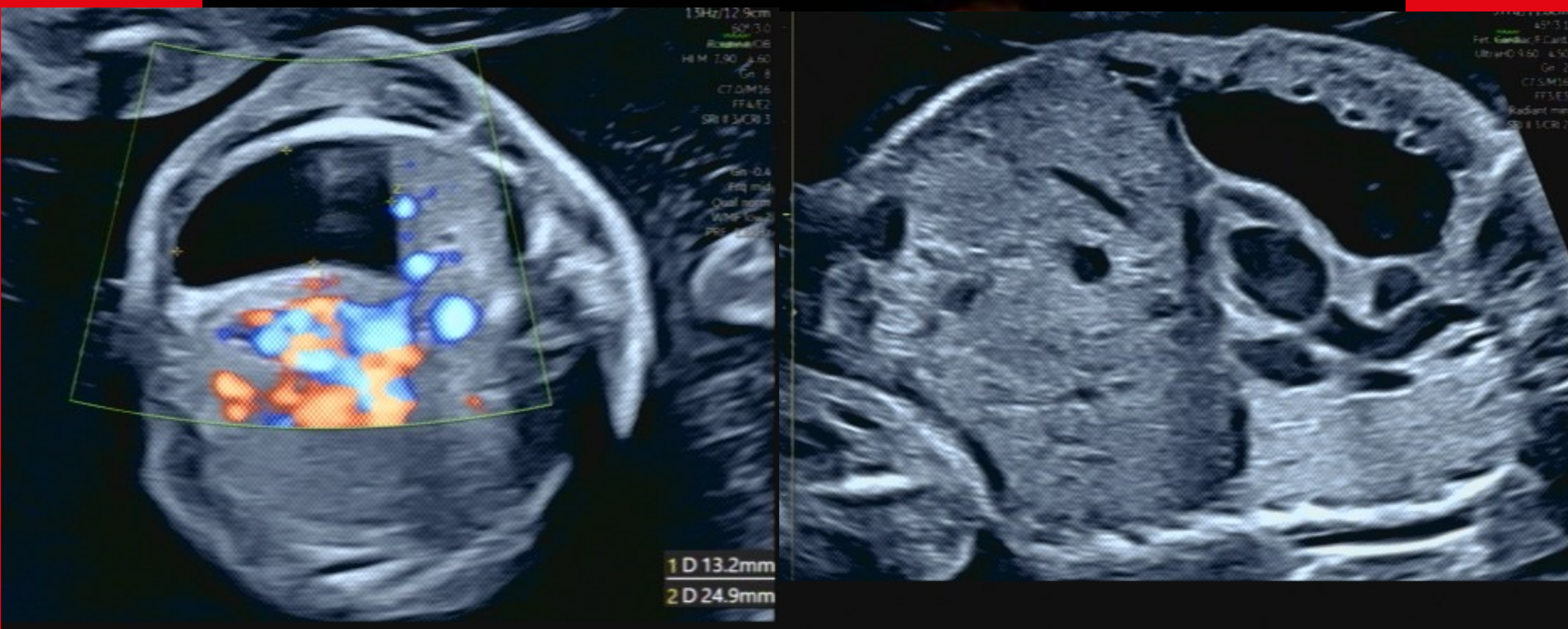


Figure 1. 23 weeks ultrasonography. CVR is 0.25.

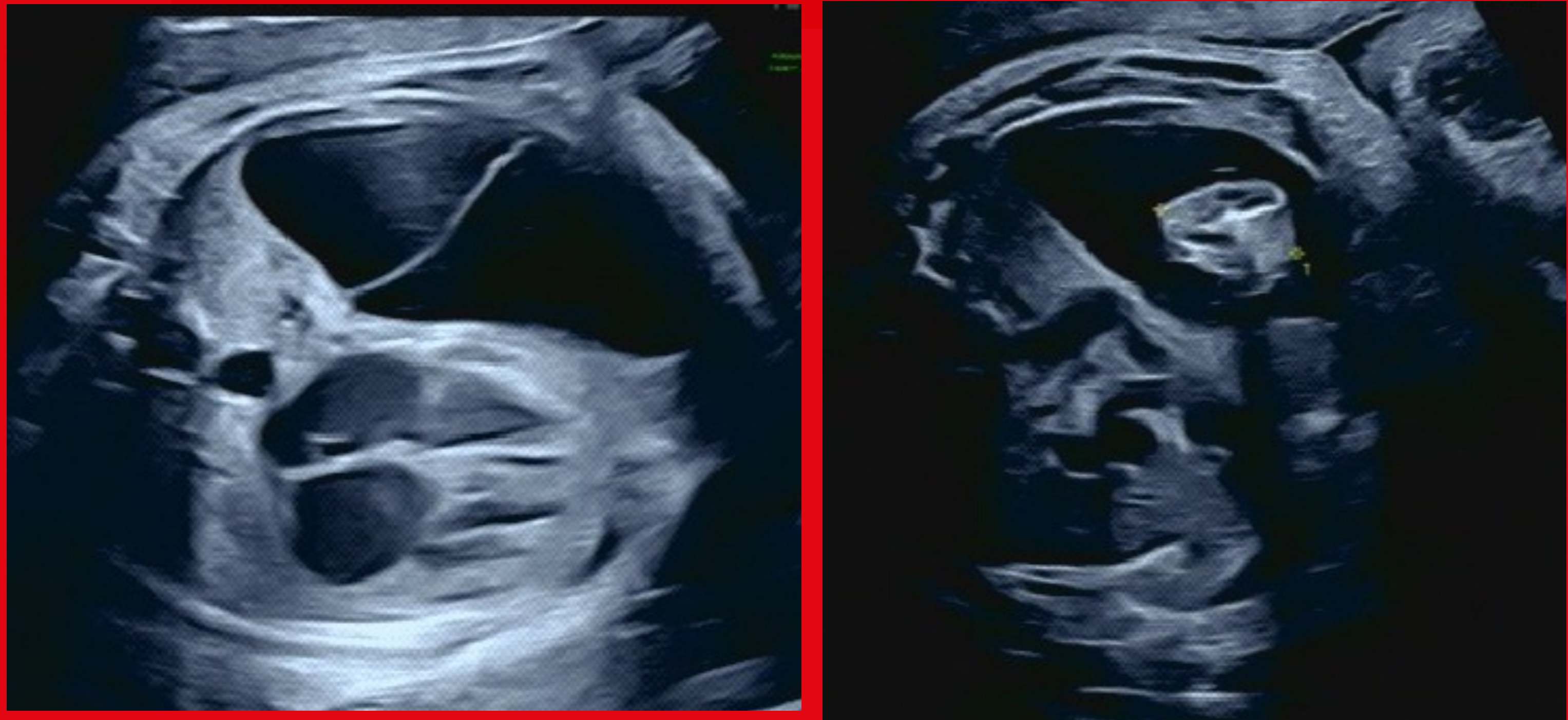


Figure 2. 27 weeks ultrasonography.
A bilocular lesion and nodular lesion

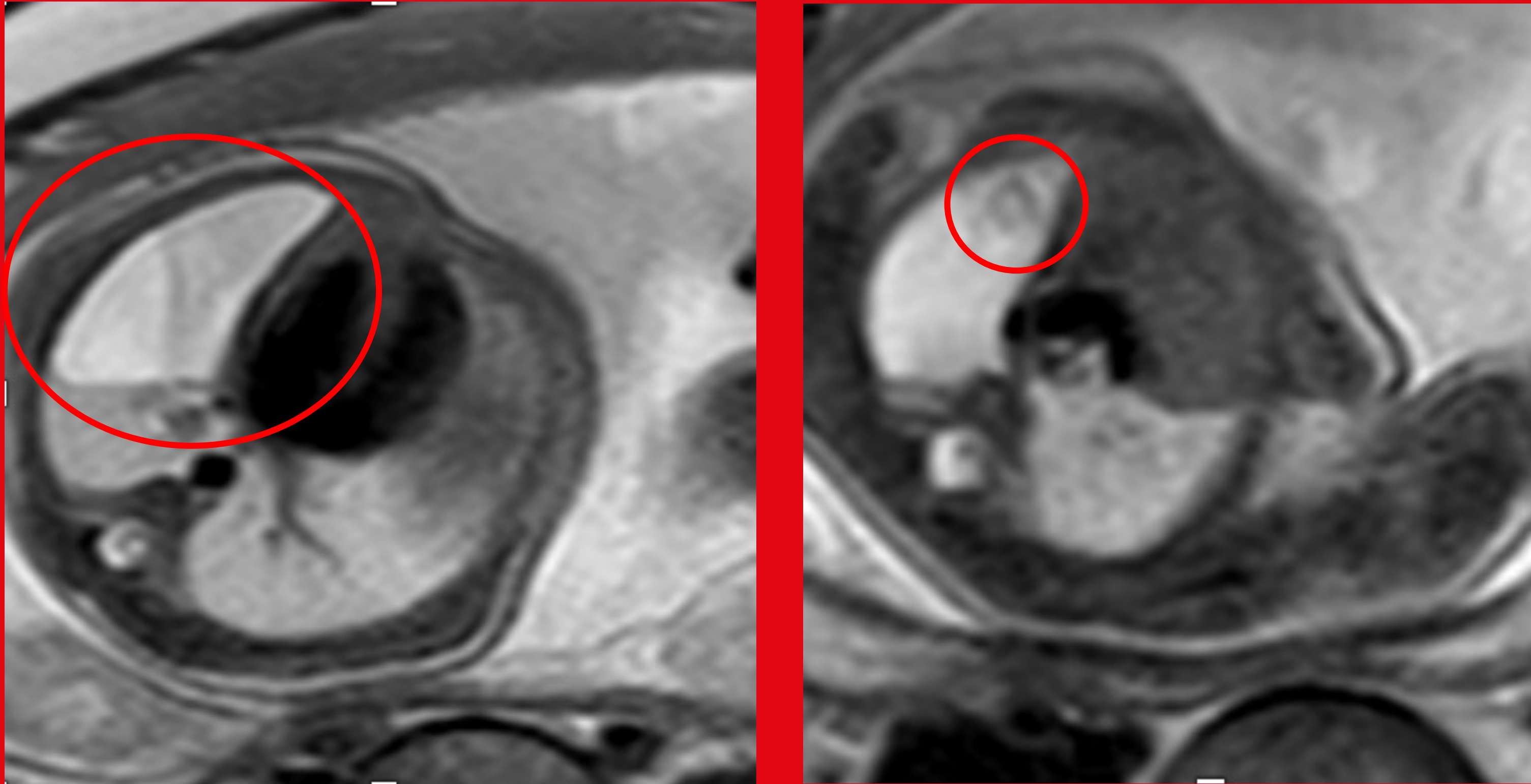


Figure 3. Fetal MRI (T2-weighted image)
a bilocular cystic lesion and nodular lesion