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In-utero thoracic drainage for fetal pleural effusion at 27 weeks: a life-saving intervention

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Introduction

Fetal pleural effusion is a rare condition that can compromise lung development and perinatal outcomes.

Case

A 34-year-old gravida 3 para 3 was referred at 27 weeks of gestation for suspected fetal hydrothorax identified during a routine ultrasound. Detailed ultrasonography and fetal echocardiography confirmed a large unilateral pleural effusion with mediastinal shift but no associated structural anomalies (Figure1). Doppler studies were normal, and no signs of fetal hydrops were observed at initial evaluation. Due to the significant size of the effusion and the potential risk of pulmonary hypoplasia, an in-utero thoracic drainage procedure was performed under ultrasound guidance. A percutaneous thoraco-amniotic shunt was successfully placed, leading to an immediate reduction in fluid accumulation and improvement in the fetal thoracic anatomy (Figure 2).

Post-procedure ultrasound follow-up demonstrated stable lung expansion and resolution of mediastinal shift.

No complications, such as premature rupture of membranes or preterm labor, occurred.

The pregnancy progressed without further intervention, and at 38 weeks, a healthy male infant was delivered via spontaneous vaginal delivery (Figure 3). Postnatal assessment confirmed normal respiratory function, with no residual pleural effusion or pulmonary compromise. The infant remained asymptomatic at follow-up.

Conclusion

In-utero thoracic drainage is a feasible and effective intervention for large fetal pleural effusions, reducing the risk of pulmonary hypoplasia and improving neonatal outcomes. This case highlights the importance of timely fetal intervention in selected cases of significant pleural effusion to optimize perinatal prognosis.



Figure 1 : pleural effusion



Figure 2 : percutaneous thoraco-amniotic shunt



Figure 3: after the delivery