

Giant Fetal Hepatic Hemangioma- Prenatal diagnosis with postnatal outcome

Brinda Sabu, Anu S Kumar

Department of Maternal Fetal Medicine, KIMSHEALTH, Trivandrum, Kerala, INDIA

Introduction

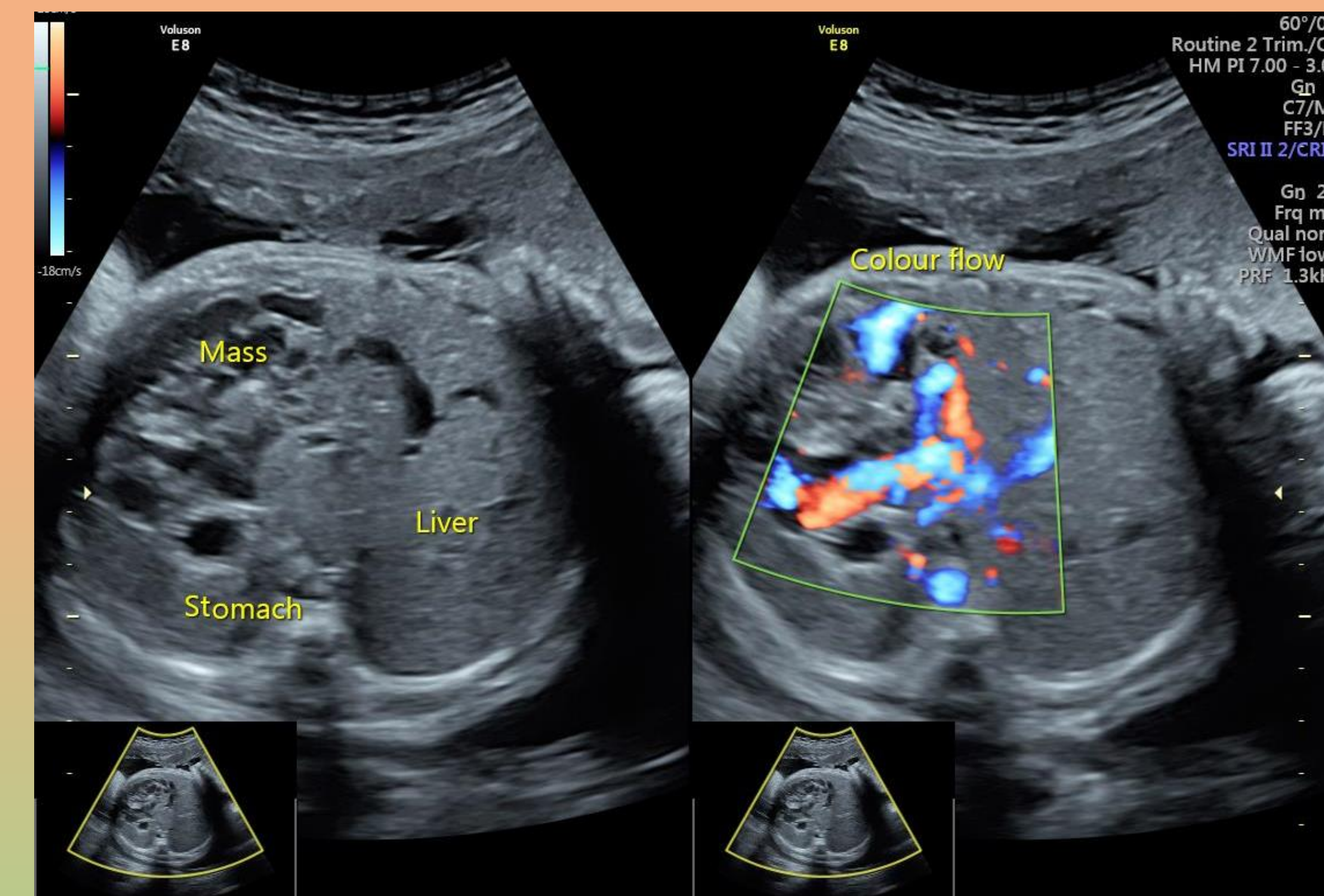
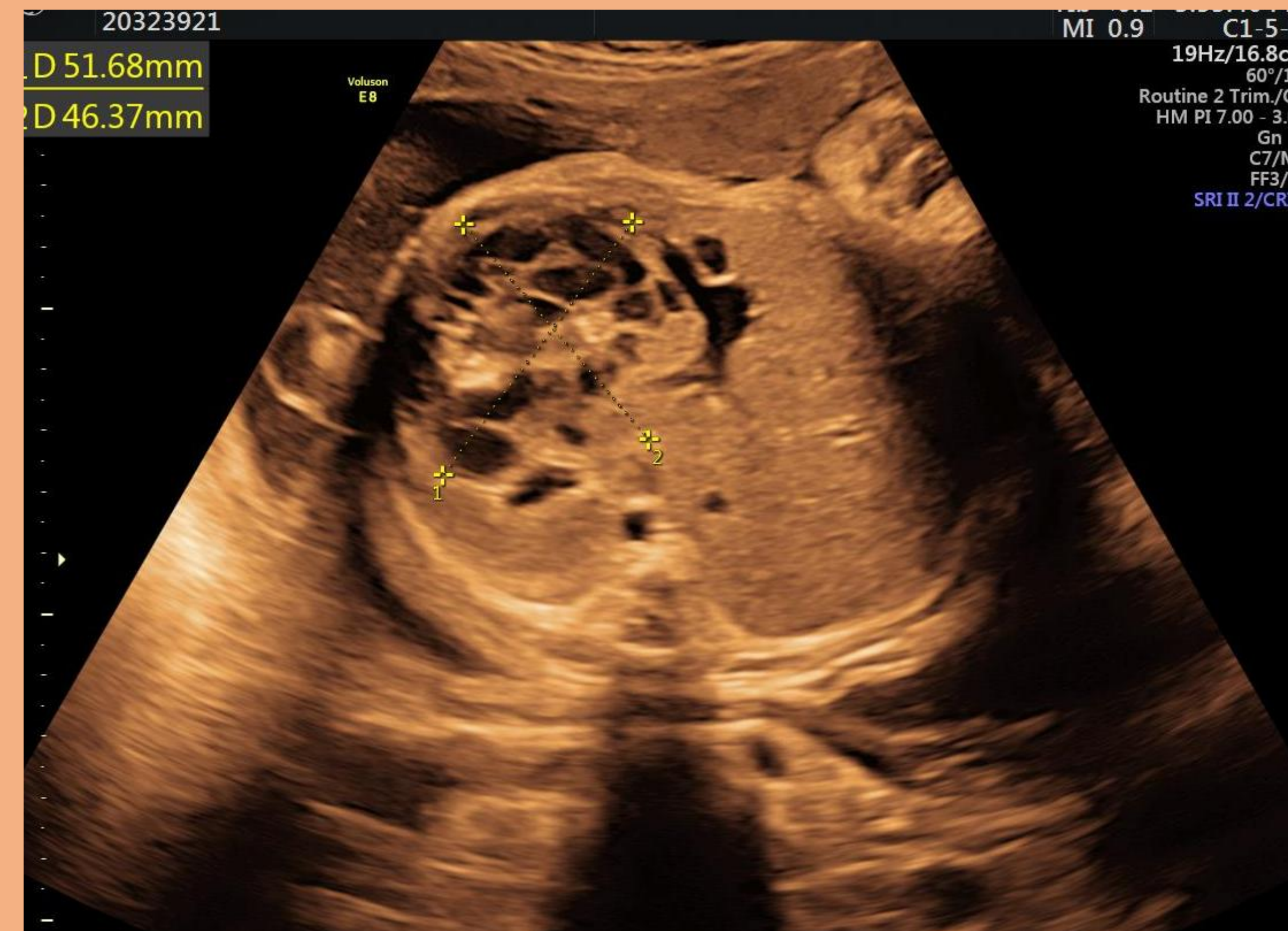
Hepatic hemangioma is the most common benign vascular liver tumor and accounts for 12% of the pediatric hepatic tumors with a prevalence of 1 in 100, 000 births. Giant hepatic hemangioma, defined as more than 4 cm in diameter though rare can lead to life-threatening complications. Though prenatal diagnosis is not very precise, the diagnostic features would be mixed solid and cystic hepatic mass with increased blood flow on colour doppler imaging. As the neonatal mortality rate is about 30-80%, serial monitoring every 2 weeks is advised to monitor the size of the tumor and development of heart failure and polyhydramnios.

Case Report

20 Year old Primigravida was referred to us at 38 weeks for second opinion for fetal hepatic mass. Her first-trimester aneuploidy screening at 11-14 weeks was low risk and anomaly scan at 20 weeks also was reported to be normal. On Ultrasound(USG) examination of the fetal abdomen a mixed echogenic, heterogenous lesion measuring 5.1 x 4.6 cm was noted in the left lobe of the liver. Color flow mapping showed increased vascularity- suggestive of Hepatic hemangioma. Fetal Echo was normal with no evidence of hemodynamic compromise in the fetus. There were no associated anomalies and growth,liquor and doppler studies were normal. The patient delivered a term live female baby vaginally with a birth weight of 2.7 Kg with good APGAR scores.

Postnatal USG abdomen showed a space-occupying lesion of size 5 x 4.5 cm in the left lobe of liver with multiple tortuous channels suggestive of infantile hepatic hemangioma. Her liver function studies were normal. As the child was stable with no complications, she was suggested serial USG follow-up every 6 months. The child is presently 1 year and 6 months old and the size of the lesion is < 2 cm and is asymptomatic with normal neurodevelopment and on followup.

AXIAL IMAGES OF HEPATIC HEMANGIOMA



Discussion

Hepatic hemangiomas can occur in either or both lobes of the liver and can be solitary or multifocal with varying sizes. Giant hepatic hemangioma is defined as more than 4 cm in diameter. Complications may include high-output congestive heart failure, non-immune hydrops, severe anemia, consumptive thrombocytopenic coagulopathy (Kasabach-Merritt syndrome), and hemorrhage after tumor rupture. Differential diagnoses include hepatoblastoma and metastatic malignant tumor. By USG, Hepatic hemangiomas are well-defined mixed, solid lesions with hypervascularization and fine granular calcifications. Hepatoblastomas are spoke-wheel-like solid tumors with poor vascularization and coarse, dense calcifications. Metastatic liver tumors are solid masses with a bull's-eye configuration and primary lesions. Though USG helps in the prenatal diagnosis of hepatic hemangiomas, doubtful cases can be confirmed with prenatal MRI which can reveal smaller lesions not detected on prenatal USG. In large hemangiomas associated with high-output heart failure, maternal administration of steroids may arrest the growth of the tumor and increase the survival rate to 80%. Mode of delivery is unrelated to size, number or location of the lesion or gestational age and Cesarean section is for obstetric indication. Postnatally the neonate is managed conservatively with or without medications (Propranolol and steroids) and Surgery is rarely indicated. There is no increased risk of chromosomal abnormalities or risk of recurrence in subsequent pregnancies.

Conclusion

Fetal Hepatic hemangiomas are benign vascular tumours and are the most common hepatic tumours in fetus and newborn. Although hemangiomas resolve spontaneously, they can be life threatening with congestive heart failure, hydrops, consumptive coagulopathy and hemorrhage. Hence serial followup every 2 weeks and delivery in a tertiary care center with provision of pediatric surgery is advised.

References

- 1) Sepulveda W, Sepulveda F, Corral E, Gutierrez J. Giant hepatic hemangioma in the fetus: case reports and updated review of the literature. J Matern Fetal Neonatal Med. 2021 Aug;34(15):2554-2566. doi: 10.1080/14767058.2019.1669555. Epub 2019 Oct 3. PMID: 31530056.
- 2) Morris J, Abbott J, Burrows P, Levine D. Antenatal diagnosis of fetal hepatic hemangioma treated with maternal corticosteroids. Obstet Gynecol. 1999;94(5):813-5.