International Journal of Research and Review
[Indexed, Peer-Reviewed Journal]
Volume 13; Issue: 8; August 2026
Website: www.ijrrjournal.com
Case Report *E-ISSN: 2349-9788; P-ISSN: 2454-2237*

A Gentle Giant in the Liver: A Case Report of Hepatic Mesenchymal Hamartoma in an Infant

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DOI: https://doi.org/10.52403/ijrr.20260830

ABSTRACT

Hepatic mesenchymal hamartoma is a rare, benign tumour of the liver and one of the few solid hepatic masses in children that resolves fully with surgery, yet it can mimic malignant lesions such as hepatoblastoma on presentation. We report the case of a 1-year-old boy who presented with progressive abdominal distension and hepatomegaly, initially suspected clinically to be a space-occupying lesion of the liver with hepatoblastoma as the leading differential. Contrast-enhanced computed tomography (CECT) of the abdomen revealed a grossly enlarged liver with a large complex cystic lesion occupying the right lobe, causing displacement of the hepatic veins and compression of the inferior vena cava. The patient underwent a right hepatectomy, and histopathological examination confirmed the diagnosis of hepatic mesenchymal hamartoma. The postoperative course was uneventful, and the child was doing well at followup on postoperative day 15. This case highlights the importance of considering mesenchymal hamartoma in the differential diagnosis of large paediatric liver masses, as complete surgical resection offers an excellent prognosis.

Keywords: Hepatic mesenchymal hamartoma, hepatic tumour, liver tumor

INTRODUCTION

Hepatic tumours in children are relatively rare, with a worldwide incidence of approximately 1 per million among children under 14 years of age.[1] Mesenchymal hamartoma is reported to be the third most common hepatic tumour and the second most common benign hepatic tumour in children,[1] and it affects males more often than females.[2] Hamartomas represent a misfired, non-cancerous, abnormal growth of normal tissue, occurring in tissues that are underdeveloped, and are most commonly found in the head and neck region. When they occur in the liver, a large tumour with an otherwise silent presentation can be challenging to diagnose. Complete resection of the tumour remains the treatment of choice and is associated with an excellent prognosis.[3]

CASE PRESENTATION

A 1-year-old boy was brought in with a complaint of abdominal distension of 3 months' duration, insidious in onset and gradually progressive, with no history of vomiting, abdominal pain, or trauma. The

parents also gave a history of cough without expectoration for 2 weeks prior to presentation.

On examination, vital signs were stable. Per abdomen examination revealed uniform distension; the abdomen was soft and non-tender, with no guarding or rigidity. Hepatomegaly was noted, and bowel sounds were normally heard. Based on these findings, a provisional clinical diagnosis of a space-occupying lesion of the liver, with hepatoblastoma as the leading differential, was made.

Investigations

Contrast-enhanced computed tomography (CECT) of the abdomen showed a grossly enlarged liver with a craniocaudal dimension of 16 × 16.5 cm. A well-defined, large, complex cystic lesion with multiple internal septations and peripheral foci of solid component was seen nearly occupying the right lobe of the liver. The lesion measured 10.6 × 11.7 × 15.3 cm (AP × TR × CC), with an estimated volume of 900–1000 cc. The lesion caused significant displacement of the right and middle hepatic veins and compression of the inferior vena cava (IVC). The right portal vein was not visualised, and the pancreas was displaced to the left side due to the mass effect (Figure 1).

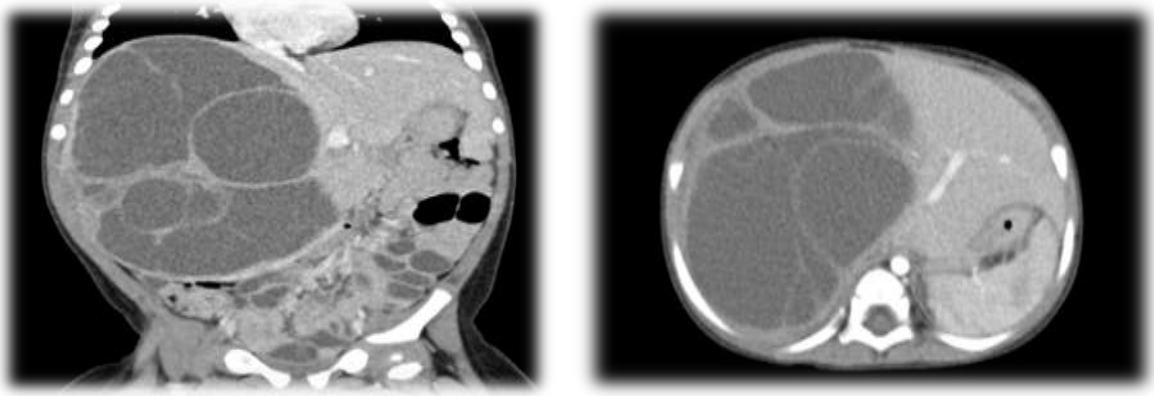


Figure 1 and 2: Contrast-enhanced CT of the abdomen showing a large complex cystic lesion with peripheral solid components occupying the right lobe of the liver.

Management and Intraoperative Findings

The patient underwent a right lobe hepatectomy under general anaesthesia. Intraoperatively, the right lobe of the liver was grossly enlarged with a fluid-filled cystic cavity. The gallbladder and caudate lobe were pushed to the left side, and neovascularisation was noted over the right lateral border of the liver. There was no hilar involvement, and no biliary communication to the right lobe was identified (Figure 2). The postoperative course was uneventful, and the patient was doing well at postoperative day 15 (POD15).

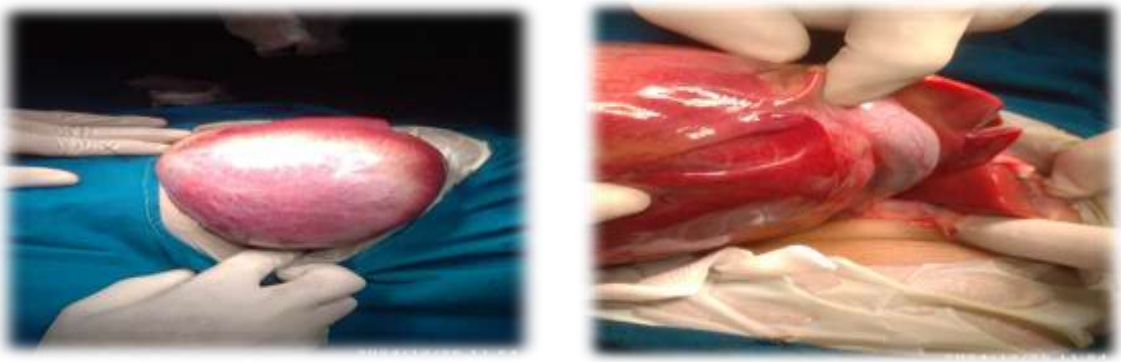


Figure 2-3: Intraoperative photographs showing the grossly enlarged right lobe of the liver.

Gross and Histopathological Findings

Gross examination of the resected specimen confirmed an enlarged right hepatic lobe replaced by a large cystic lesion with variable proportions of solid and cystic components (Figure 4).

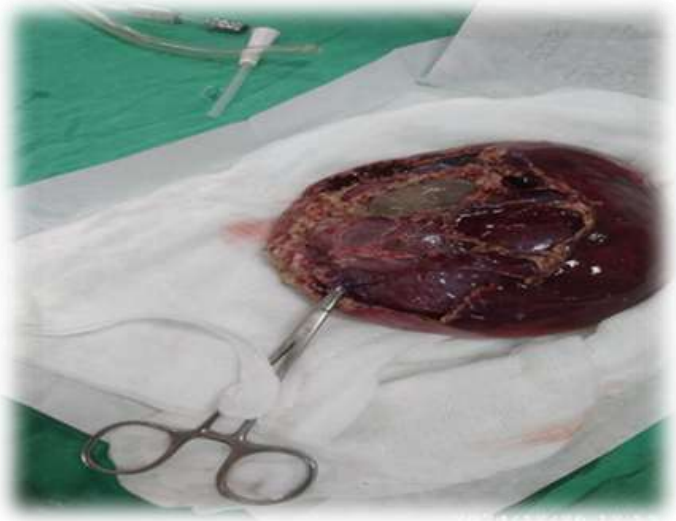
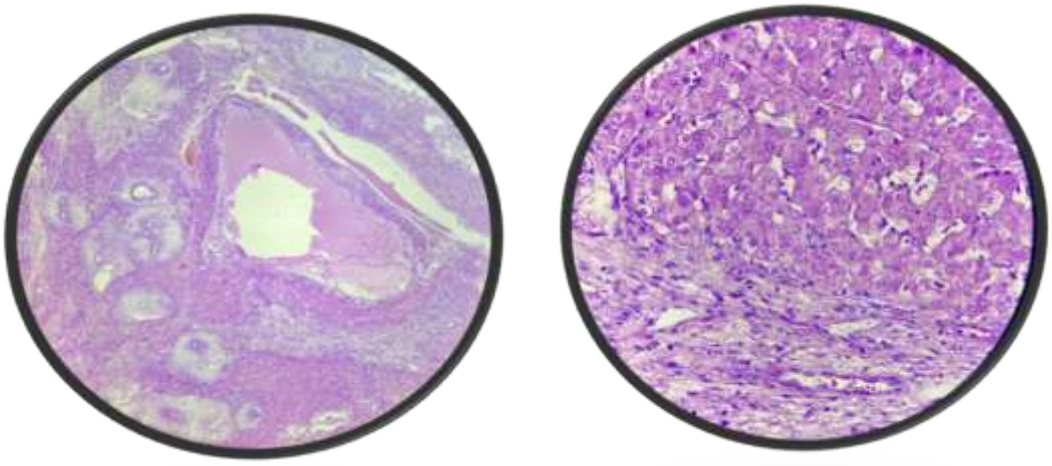


Figure 4. Cut surface of the resected liver specimen showing variable proportions of solid and cystic components

Microscopic examination showed eosinophilic material with cystic degeneration of the portal triad, along with variable proportions of solid and cystic components, confirming a diagnosis of hepatic mesenchymal hamartoma



(Figure 5-6).

Figure 5-6: Photomicrographs showing eosinophilic material with cystic degeneration of the portal triad and variable proportions of solid and cystic components, confirming hepatic mesenchymal hamartoma.

DISCUSSION

Hepatic mesenchymal hamartoma is a rare, benign tumour that nonetheless can present as a large, rapidly enlarging abdominal mass, as seen in this case. Because of its size and silent clinical course, it can closely mimic more common and aggressive paediatric liver tumours such as hepatoblastoma, as reflected in the initial provisional diagnosis in this patient; this diagnostic overlap has been highlighted as a recurring challenge in the paediatric literature.[4,5] Imaging typically shows a multiloculated cystic mass with septations and variable solid components, consistent with the CECT findings described above, and definitive diagnosis rests on

histopathological confirmation.[4] In this case, microscopy revealed eosinophilic material with cystic degeneration of the portal triad and variable solid and cystic components, features characteristic of hepatic mesenchymal hamartoma. Similarly large lesions requiring major hepatic resection have been reported in recent paediatric case series, [7] and although the tumour occurs predominantly in infancy, isolated cases have also been described in adults. [6] Recognising this entity as a differential diagnosis for large paediatric liver masses is important, since its management and prognosis differ substantially from those of malignant hepatic tumours.

Figure 7: POD15 Follow-up photograph of the patient

CONCLUSION

Hepatic mesenchymal hamartoma is often an incidental finding in a child presenting with a mass per abdomen; however, prenatal and neonatal presentations have also been reported, occasionally with life-threatening presentations. Complete surgical resection of these tumours is the gold standard, eliminating local recurrence and the possibility of long-term malignant transformation.

Declaration by Authors

Acknowledgement: None

Source of Funding: None

Conflict of Interest: No conflicts of interest declared.

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How to cite this article: Sushmitha Ravi Kumar, Venkatachalapathy T S, Ananda BB, Adithi Rajeevan, Tanu YM. A gentle giant in the liver: a case report of hepatic mesenchymal hamartoma in an infant. *International Journal of Research and Review*. 2026; 13(8): 311-314. DOI: *https://doi.org/10.52403/ijrr.20260830*

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