CASE REPORT

A case of hepatic mesenchymal hamartoma: cytohistological concordance

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INTRODUCTION

Mesenchymal hamartoma is a consequence of anomalous development. 95% percent of cases were reported below the age of 5 years¹,². With an incidence of 8%, it is second most common paediatric benign hepatic lesion after infantile haemangioendothelioma³. The histogenesis of this rare lesion is uncertain but sometime synchronous mesenchymal stem villous hyperplasia of placenta was noted⁴. Association with other congenital anomaly like biliary atresia, gut malformation and congenital heart disease have been mentioned by some authors⁵.

CASE REPORT

A two and half years old girl child attended paediatric surgery outpatient door with complaint of abdominal swelling and pain for last two years. Swelling was gradually increasing in size. On general examination, there was no pallor, jaundice and cyanosis. Abdominal examination revealed palpable liver, 6 cm below the right subcostal margin in the mid-clavicular line. On further examination, it appeared firm in consistency and there was no tenderness. Rest of the systemic examination revealed no abnormal finding. Result of routine haematological examination was unremarkable. Coagulation profile including bleeding time, clotting time and prothrombin time were within normal limit. Liver function test was normal (serum bilirubin 0.60 mg/dl, SGPT- 30U/L, SGOT- 40U/L). Serum level of tumour markers, including β-human chorionic gonadotropin and α-fetoprotein were negative. Radiological investigation was advised for further evaluation. Transverse US image shows a large well-defined solid mass with anechoic cystic area in the right lobe of liver. A plain non-contrast CT scan demonstrated complex solid mass with cystic component containing thin septa measuring 11.5 X 11.3 X 10 cm in size [Figure- 1]. There was no lymphadenopathy and ascites. On clinical and radiological examination provisional diagnosis of mesenchymal hamartoma was suspected. For rapid preoperative diagnosis, percutaneous CT- guided fine needle aspiration was performed using a 21 gauge lumbar puncture needle fitted to a 20-ml disposable syringe attached to a metallic syringe holder. Informed consent for anaesthesia and biopsy was obtained from parents. Two slides were air dried and stained with May-Grunewald-Giemsa (M.G.G) stain. Two slides were fixed in 95% ethyl alcohol and stained with Papanicolaou stain. Stained smears showed clusters of bland looking spindle cells against a background of myxoid materials [Figure-2]. Laparotomy was arranged and a mass arising from right lobe of liver was noted intraoperatively [Figure-3]. Complete surgical excision was performed. Gross examination revealed solid-cystic mass with presence of yellow coloured gelatinous material in cystic spaces [Figure-4]. Microscopically, a mass composed of myxomatous connective tissue containing scattered bland stellate-shaped mesenchymal cells with interspersed cystic spaces lined by the bile duct epithelium was found [Figure-5]. A histopathological diagnosis of a mesenchymal hamartoma was made. Postoperative period was uneventful.

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Figure 1: A plain non-contrast CT scan demonstrated complex solid mass with cystic component containing thin septa.

Figure 2: FNAC smears showed clusters of bland looking spindle cells against a background of myxoid materials. (MGG, 400X).

Figure 3: Intraoperative picture showing mass arising from liver.

Figure 4: Gross examination revealed solid-cystic mass. (scale is in centimetre)

Figure 5: Histopathological image showing cystic spaces separated by loose myxoidmesenchyme. (H&E, 400X)

DISCUSSION
Albrech first used the term hamartoma and Edmondson designated this tumour as mesenchymal hamartoma. Though etiopathogenesis uncertain, it is postulated that several factors like bile duct and lymphatic duct obstruction, hepatic lobe ischemia or degeneration lead to development of this congenital lesion. With the introduction of molecular technology, an association with balanced translocation at 19q13.4 was reported. Mesenchymal hamartoma which is benign tumour of childhood and infancy occurs mostly in the right lobe of liver. In the present case, right lobe of liver was involved. In majority cases, findings of routine haematological and biochemical findings including the level of tumour markers are unremarkable. Our case also revealed similar findings. Diagnosis is based on the radiological and histopathological evaluation. Appearance of this tumour in radiological evaluation varies from multicystic to solid mass depending on its gross pathological appearance. In our case, it was predominantly solid with cystic areas. Presence of fascicles of spindle cells admixed with bile duct epithelium in a myxoid background in FNAC smears gives rise to possibility of mesenchymal hamartoma. Histopathological examination leads to final diagnosis. Although it is a benign tumour, rare incidence of malignant transformation to undifferentiated embryonal sarcoma has been reported. Predominantly solid mass leads to diagnostic difficulty mimicking hepatoblastoma and differential diagnosis of simple cyst, hydatid disease, and abscess are considered in cystic mass. Preoperative image guided FNAC helps in proper triaging. In summary, mesenchymal hamartoma is a benign with excellent prognosis. Though histopathological examination is mandatory, FNAC can help in rapid preoperative diagnosis to avoid unnecessary chemo-radiotherapy.

REFERENCES