Case Report

DOI: 10.21276/APALM.2371

Primary Hepatic Osteosarcoma – A Rare Case Report

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ABSTRACT

Primary Hepatic Osteosarcoma is a very rare tumor with very few literatures available till date .We report a case of 61 year old male presented with abdominal pain and distention .MRI/CT showed a large heterogenous lesion in liver, which turned out to be primary hepatic osteosarcoma, and confirmed using Immunohistochemistry, after ruling out metastatic deposits

Keywords: *Osteosarcoma, Hepatic Neoplasm*

Introduction

Osteosarcoma is a common tumor which arises from skeletal tissue[2]. Osteosarcoma arising from extraskeletal tissue is very rare, which accounts only for 4%[3]. Primary hepatic osteosarcoma has been reported only in very few literatures till date[1,4] .

Case Report

A 61 year old male patient presented with abdominal distention and dyspnea since 2 months .Dyspnea was progressive in nature. Also complains of anorexia. On examination patient had icterus, right hypochondrial and epigastric tenderness elicited. Liver and spleen were palpable. Liver function test was altered.

Imaging: MRI/CT of chest, abdomen, pelvis and brain was carried out which showed large heterogenous calcified mixed signal intensity lesion measuring 8.3x7.9x6.8cm in the liver with breaching of capsule and invasion of diaphragm with infiltration of right, left portal vein and extending up to main portal vein, hepatic vein and IVC. Surrounding liver parenchyma is shrunken with irregular nodularities favouring background cirrhosis. Ascites, pleural effusion, splenomegaly noted along with enlarged peripancreatitic and porta hepatis group of lymph nodes.

MRI chest and whole spine and whole body appears normal. MRI brain shows features of hepatic encephalopathy. CT guided Liver biopsy was done and reported elsewhere with differentials of adenocarcinoma, sarcomatoid adenocarcinoma, malignant mesenchymal neoplasm – sarcoma. Rebiopsy was done and was sent to us which was processed and stained with H and E, following which immunohistochemisty was carried out.

Gross and Microscopy: Received single linear grey white soft tissue measuring 1.5 cm in length. Microscopy showed liver parenchyma infiltrated with tumor cells having elongated spindle shaped hyper chromatic, pleomorphic nuclei and moderate cytoplasm, Surrounding lace like osteoid noted. Few benign looking bile ducts and hepatocytes are also noted in the surrounding area. Impression was given as features are in favour of Osteosarcoma. For confirmation a panel of markers where employed which includes Heppar 1, AFP, CK 7, CK20, Vimentin, S100, CD 99, PSA and Ki67. Of which all markers turned out to be negative, except vimentin and ki 67 was 15%

Discussion

Osteosarcomas are common in skeletal tissues. Extraskeletal Osteosarcomas have an incidence of about less than 2% of all soft tissue sarcomas [5].Osteosarcoma of organs are very rare, but it has been reported in thyroid, kidney, gall bladder, mesentry, breast etc.[6,7]

Hepatic osteosarcoma is very rare till date to our knowledge only twelve cases has been reported of which five cases had underlying cirrhosis[8] . Exclusion of any other liver neoplasm and osteosarcomatous foci in other parts of the body is important to diagnose a primary osteosarcoma [9,10]

Our case being 13th case to be reported as primary hepatic osteosarcoma of which 6th case showing underlying cirrhosis. After ruling out other primary tumor of liver radiologically and histologically and complete radiological examination to rule out osteosarcomatous lesion.

Tumor also extends through the capsule to diaphragm, portal vein and hepatic vein, IVC. Thus, increasing the possibility of being primary tumor rather than deposit. Further immunohistochemistry rules out other primary tumor of liver, confirms it to be a case of primary hepatic osteosarcoma.

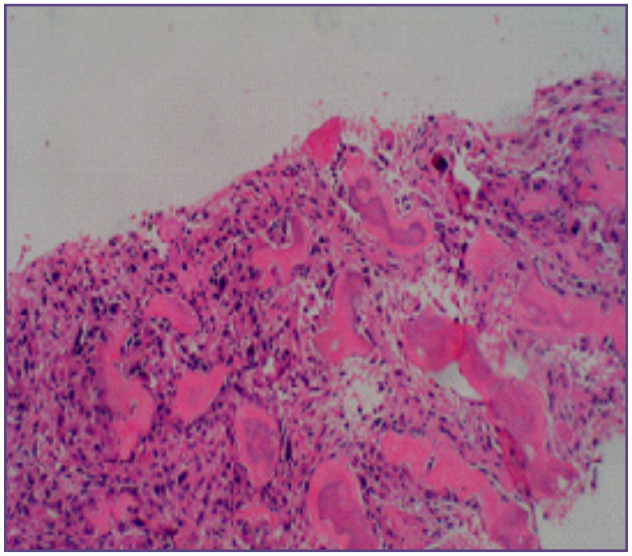

Fig. 1: Section shows liver parenchyma infiltrated with tumor cells having elongated spindle shaped hyper chromatic, pleomorphic nuclei and moderate cytoplasm. Lace like osteoid noted (LP).

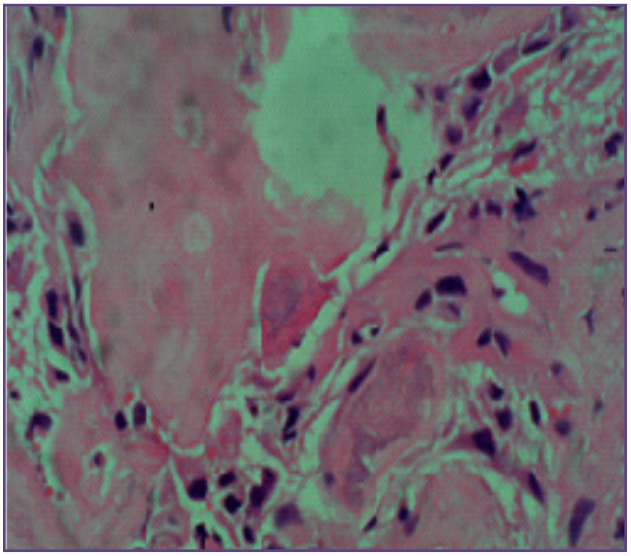

Fig. 2: Section shows elongated spindle shaped hyper chromatic, pleomorphic nuclei with moderate cytoplasm and surrounding lace like osteoid noted.

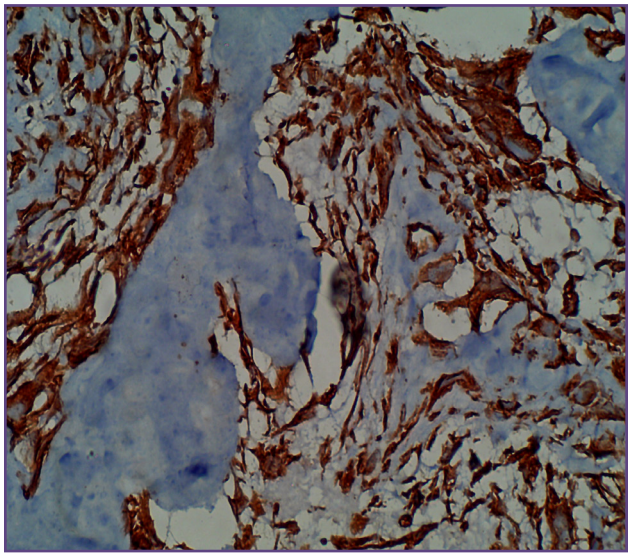

Fig. 3: Section shows strong positivity with vimentin.

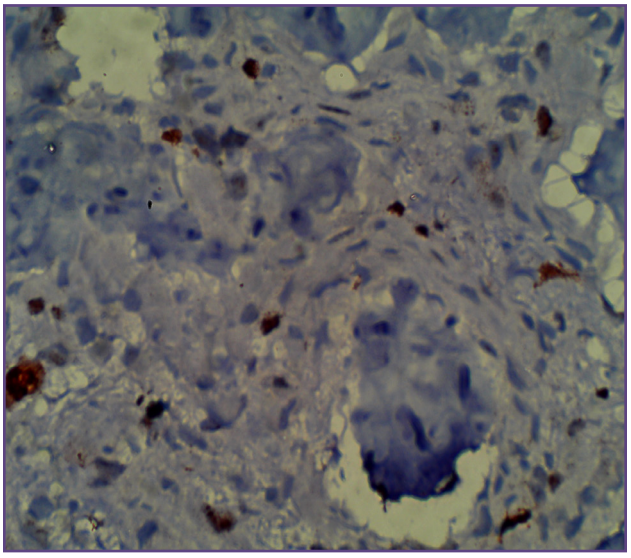

Fig. 4: Section shows Ki67 of around 15%.

Conclusion

Since it is a rare tumor with dismal prognosis. Treatment strategies are still unclear. More Research activities are needed for this rare primary osteosarcoma for a better treatment strategy.

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Financial or other Competing Interests: None.