

## Case report

# An unusual presentation of hepatocellular carcinoma – Case report

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### Abstract:

Hepatocellular carcinoma (HCC) is the most common primary malignant tumor of liver. If it is left untreated, the mean survival rate is less than 1 year. The most common sites for extra hepatic spread is lung (37-70%) followed by regional lymph nodes (23 – 45%). Bone metastases are rare with an incidence of 3 – 20%.The lumbosacral and thoracic spine is most common vertebrae affected. AFP can be normal in larger tumors. Hence novel markers are used for diagnosis and prognosis. HCC with intrahepatic metastasis has poor prognosis than synchronous tumors. Sorefenib which is an inhibitor of angiogenesis is recommended in advanced stage of HCC. Key words- Hepatocellular carcinoma, spinal cord compression, vertebral metastasis

### Introduction:

Hepatocellular carcinoma is the 6<sup>th</sup> most common cancer and 3<sup>rd</sup> most common cancer causing death worldwide. <sup>(1)</sup> Hepatocellular carcinoma is the most common primary malignant tumor of liver. If it is left untreated, the mean survival rate is less than 1 year. <sup>(2)</sup> It is more common in males than females. Incidence of HCC is highest in Asia and Africa. <sup>(3)</sup> They have a high endemic prevalence of Hepatitis C and Hepatitis B causing chronic hepatitis. <sup>(3)</sup> The most common sites for extra hepatic spread is lung (37-70%) followed by regional lymph nodes (23 – 45%). Bone metastases as initial presentation is rare with an incidence of 5-7%. <sup>(2)</sup> Among the bone secondaries, the most common is axial skeletal in which vertebrae is most common followed by pelvis, ribs and skull. <sup>(4, 5)</sup> The lumbosacral and thoracic spine are most common vertebrae affected. These lesions are osteolytic in nature. They present as back pain or pathological fracture. <sup>(6)</sup>

### Case report:

A 60 year male presented to outpatient department with complaints of back pain since 2 months. He had one episode of hematemesis. Two weeks later the patient developed jaundice. There was no history of loss of weight or appetite. Family and personal history was unremarkable. On examination pallor was present with a per abdominal examination mass in the right lumbar region measuring 2 x 2 cm. There was no ascites present on examination. Basic hemogram showed anemia with hemoglobin of 7g/dl. Peripheral blood smear showed dimorphic anemia. Liver function tests showed an elevated total bilirubin (2.97 mg/dl) with increased conjugated bilirubin. INR was increased to 1.4. Blood ammonia levels were elevated to 119µmol/L. Ca 19.9 was elevated (95.40 U/ml). Alpha

fetoprotein was normal (5.79 ng/ml). CEA and PSA were within normal limits .USG abdomen showed chronic liver disease with multiple focal hepatic lesions. CECT abdomen and pelvis showed Chronic liver disease with multiple small hyper dense lesions with largest measuring 2.9 x 3.1cm in the right lobe of liver with early enhancement in arterial phase. There was involvement of regional lymph nodes. A lytic lesion in the inferior plane of L3 vertebrae was also present..MRI spine showed lytic lesions in C6, C7, L3 and L4 vertebrae. Biopsy from vertebral lesion showed metastatic adenocarcinoma to L3 vertebrae. Liver biopsy showed well differentiated Hepatocellular carcinoma with cirrhosis. CECT chest was normal. Immunohistochemistry of the liver biopsy showed positivity for Hep par 1 and Glypican 3.Patient underwent open reduction and internal fixation for vertebral fracture. Patient was put on Sorafenib for two weeks. The patient expired in the next one month.

#### **Discussion:**

HCC is the 3<sup>rd</sup> most common cause for cancer mortality<sup>(3)</sup> Chronic liver disease like hepatitis B and C are the most common etiology for HCC. Our patient was a case of cirrhosis. Most of the patients present with abdominal mass or pain. Extra hepatic presentations are not common. The most common site for metastasis is lung. Incidence of bone metastasis alone as initial lesion is rare accounting for 5-7 %.<sup>(2)</sup> The frequency of involvement of vertebrae is thoracic (70%), lumbosacral(20%) and cervical (10%)<sup>(2)</sup>. Our patient had both cervical (C5 and C6) and lumbar involvement. Extrahepatic lesions are a clue to advanced disease.<sup>(3)</sup> Pain is most common symptom in bone metastases and our patient presented with back pain.<sup>(6)</sup>It can be the earliest sign of spinal cord compression (SCC) which is an oncology emergency.<sup>(2)</sup> The patho physiology of vertebral metastasis is formation of collaterals between portal vein, abdominal vein and pelvic vein system in a setting of portal hypertension.<sup>(7)</sup> Lumbar and thoracic spine are most commonly affected. The most common tumor marker is alpha feta protein (AFP) especially in lesions greater than 3cm in diameter. It is rarely elevated in tumors less than 2 cm in diameter. It has low specificity in that it is also elevated in chronic hepatitis without HCC. AFP need not be elevated in a significant proportion of HCC patients.<sup>(2,7)</sup> In our case, AFP was normal. This has led to the development of other novel tumor markers like AFP-L3, des-γ-carboxy prothrombin (DCP) and osteopontin. AFP-L3 is a predictor of poor prognosis and osteopontin has good sensitivity in AFP negative HCC.<sup>(8)</sup> Extra hepatic HCC present an advanced stage IVa disease carries a dismal prognosis in which only systemic treatment or supportive care is available.<sup>(6)</sup>Grossly, there can be multiple nodules in liver which can either be satellite nodules from a main tumour (intra hepatic metastases) or synchronous tumors. The former group can present more advanced disease.<sup>(1)</sup> The diagnostic modalities include biomarkers, imaging modalities like USG, MRI or CT. Resection is the choice of treatment only in early stage of HCC without cirrhosis or absence of portal hypertension.<sup>(7)</sup>. Sorefenib which is an inhibitor of angiogenesis is recommended in HCC of advanced stage.<sup>(7)</sup>

#### **Conclusion:**

Extra hepatic spread to lungs and lymph nodes is common but metastasis to only vertebra is rare. SCC due to vertebral metastasis is an oncology emergency. Therefore development of any new back pain should arise the suspicion of early signs of SCC and further investigations should be done to rule out vertebral metastasis. Emphasis

should be done on surveillance and timely diagnosis of HCC. Also the clinician should keep in mind the possibility of a extrahepatic metastasis during the complete work up of HCC.

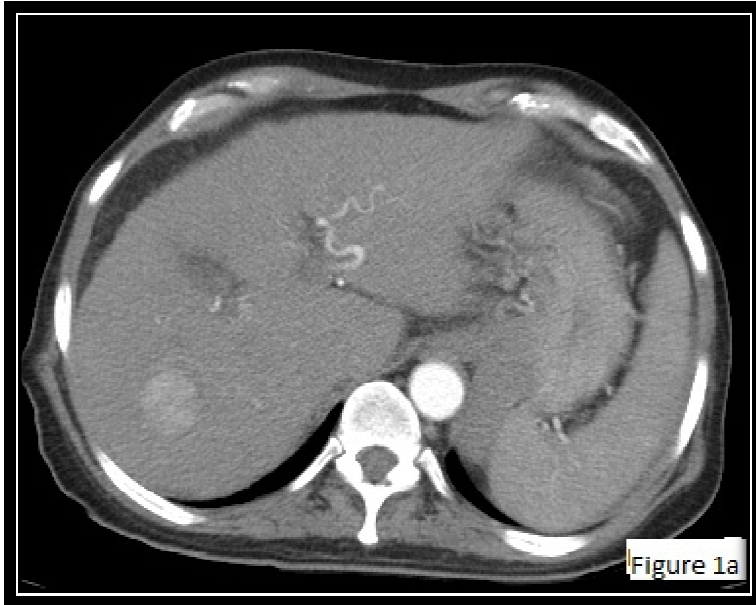


Figure 1a: Well defined hyperdense lesion in liver with early arterial enhancement

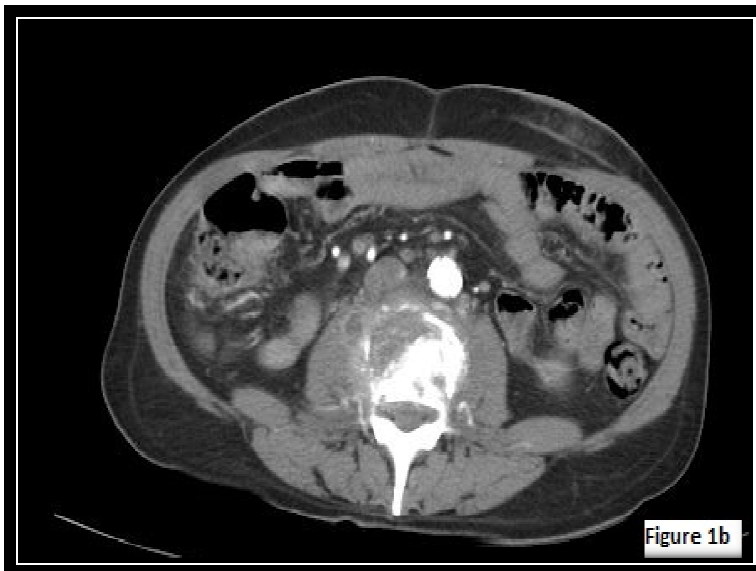


Figure 1 b: A lytic lesion in L3 vertebra with soft tissue involvement

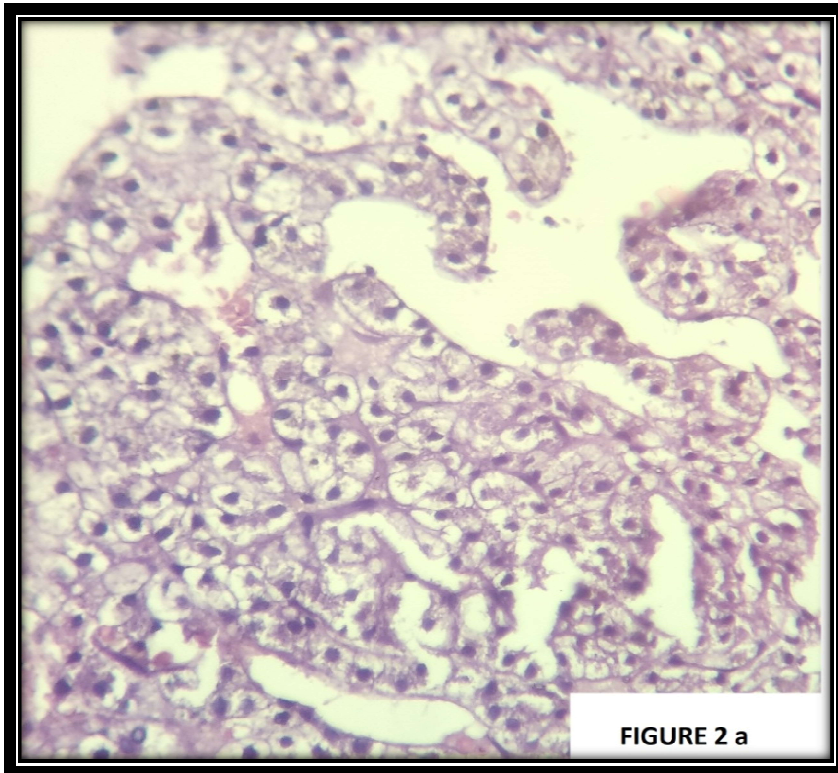


Figure 2a: Well differentiated HCC with tumor cells arranged in trabeculae and have abundant clear cytoplasm with hyperchromatic nucleus. (40X, Liver biopsy)

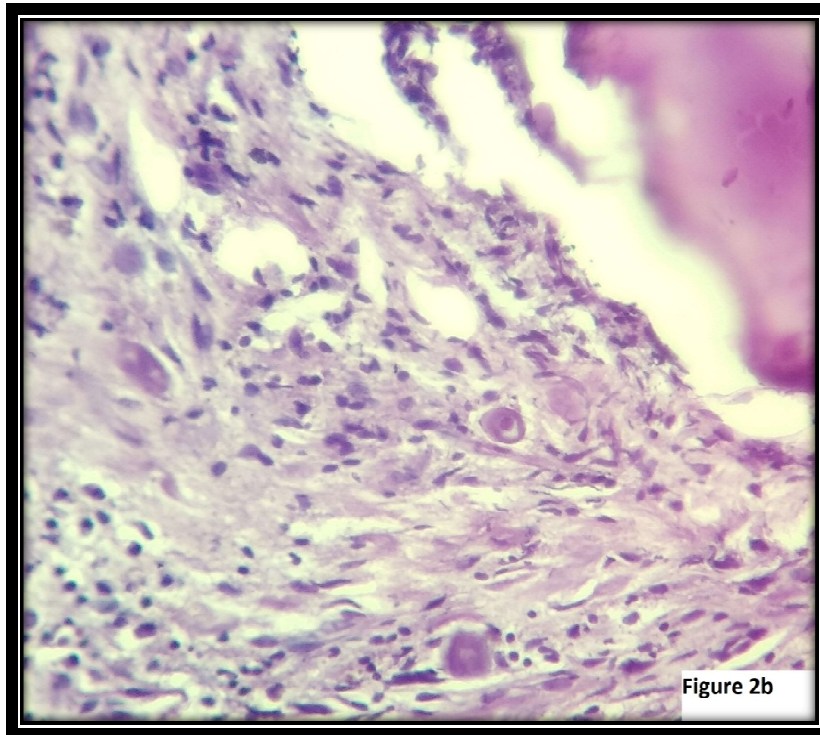


Figure 2b: Metastatic Hepatocellular carcinoma with tumor cells in tiny aggregates with clear to pale eosinophilic cytoplasm (40X, Vertebral biopsy)

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