

METASTASIS TO THE CHEST WALL: A RARE MANIFESTATION OF HEPATOCELLULAR CARCINOMA IN NON-CIRRHOTIC PATIENT

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ABSTRACT

Hepatocellular carcinoma (HCC) is the most frequent primary malignant tumor of the liver. Chronic hepatitis B infection is the most common cause of HCC. Bony metastasis of HCC is usually rare, in which the most common sites involved are vertebra, pelvis, rib and skull. Still rarer are metastasis to the chest wall. Metastatic HCC has an aggressive course and poor prognosis. Hereby, we report an unusual case of HCC metastasis which presented initially as swelling of the anterolateral aspect of the chest wall.

Keywords: Hepatocellular carcinoma; Metastases; Chest wall

Introduction

Hepatocellular carcinoma (HCC) is the most frequent primary malignant tumor of the liver.¹ It is usually seen in sixth and seventh decades of life in the western world, whereas in Asia and Africa, it usually occurs in the fourth decade of life.² It is found more commonly in the males.² Chronic hepatitis B infection has been defined as the most common etiologic factor.¹ Hematogenous extrahepatic metastases are common, with lungs, regional lymph nodes, kidneys, bone marrow and adrenals being the most frequent sites.³ Metastasis of HCC to bones is usually rare, in which the most common sites involved are vertebrae and pelvis. Metastases to the chest wall have rarely been reported before.

Case Report

A 75 year old male was referred for ultrasonography (USG) of chest with complaints of swelling in the left anterolateral chest region of 4 months duration. There was no history of pain over the swelling, jaundice, fever, night sweats or alcohol intake. His physical examination revealed a 9x8 cm, fixed, hard swelling

in the left anterolateral region of the chest.

USG of the swelling in the left chest region (Fig. 1a) revealed solid, heterogeneous mass predominantly echogenic with increased internal vascularity. USG abdomen (Fig. 1b) revealed large, well defined, heterogeneous mass of size 13x8.5 cm in the left lobe of liver.

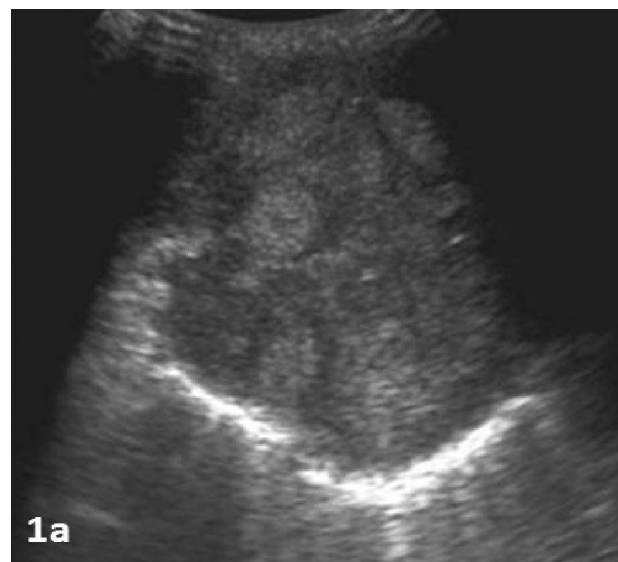


Figure 1a: USG chest showing heterogeneous mass lesion in left anterolateral chest wall.

Total and direct bilirubin and liver enzymes were within normal limits. Viral marker profile was not reactive for both HBsAg and HCV.

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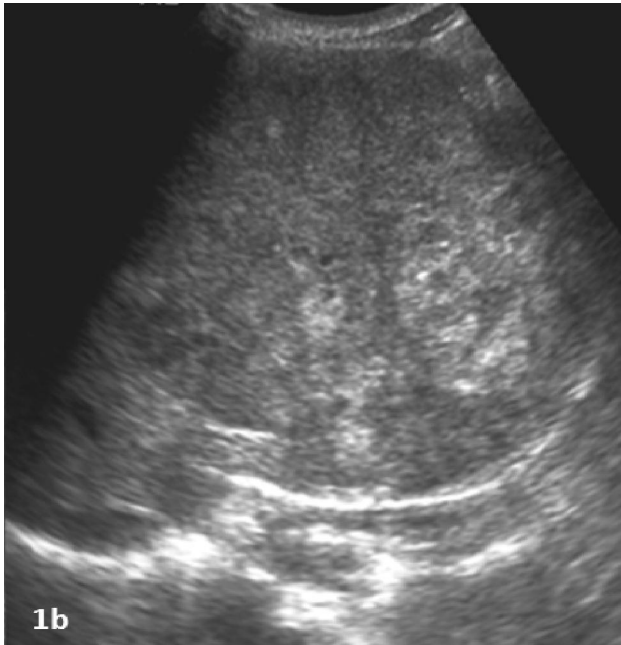


Figure 1b: USG abdomen showing heterogeneous mass in left lobe of liver.

Chest radiograph (Fig 2) demonstrated well defined mass in the left mid and lower zones with destruction of the left anterior 4th rib.

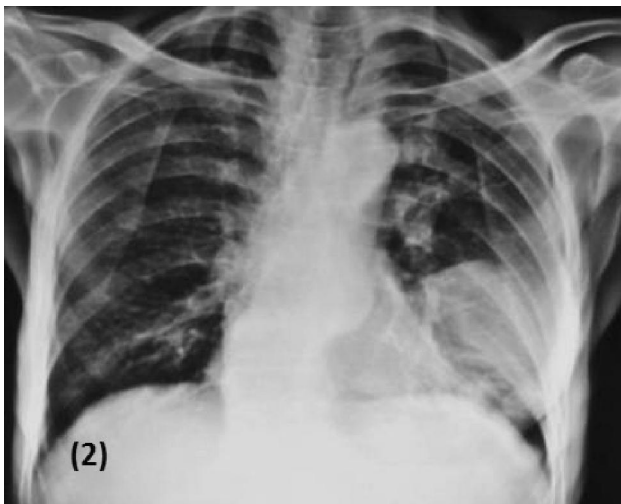


Figure 2: X-ray chest PA view showing left mid & lower zone mass with destruction of left anterior 4th rib.

Computed tomography (CT) of the thorax (Fig.3 a&b) revealed soft tissue mass lesion in the left anterolateral aspect of the chest wall with intra and extrathoracic component along with destruction of the left anterior 4th rib. There was also destruction of 8th, 9th & 10th dorsal vertebrae along with soft tissue component causing compression of the spinal cord at the same level. Abdominal CT scan (Fig. 4) revealed a

13 x 8.5 cm, well circumscribed, heterogeneous mass in the left lobe of the liver. There were no enlarged abdominal and chest lymph nodes.

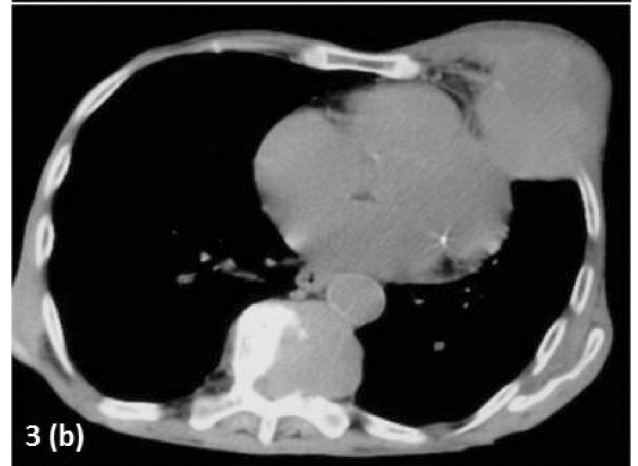


Figure 3a & b: Axial CT scan of the chest showing mass in left anterolateral chest wall with intra & extrathoracic component along with destruction of adjacent rib and vertebral destruction with soft tissue component.

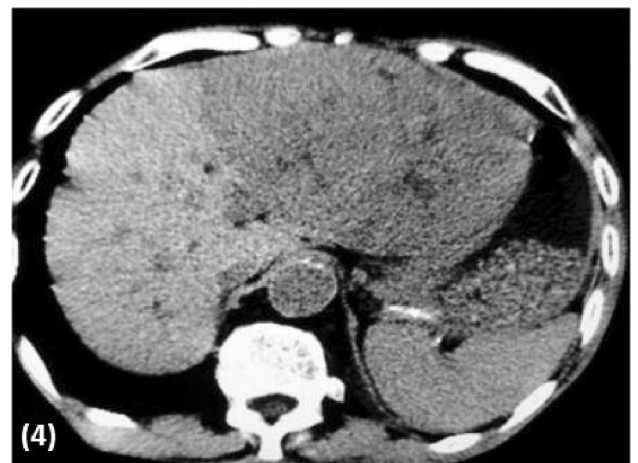


Figure 4: Axial CT scan of the abdomen showing a well defined heterogeneous mass lesion in the left lobe of liver.

Cytological examination (Fig. 5 a & b) of a fine needle aspirate taken from the mass in the chest wall as well as in the liver was consistent with the diagnosis of HCC.

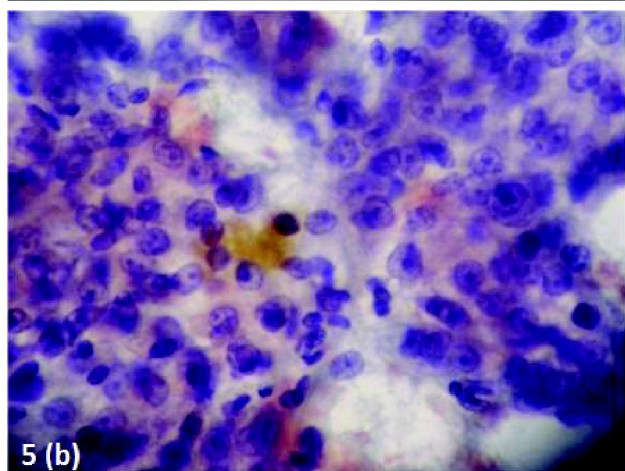
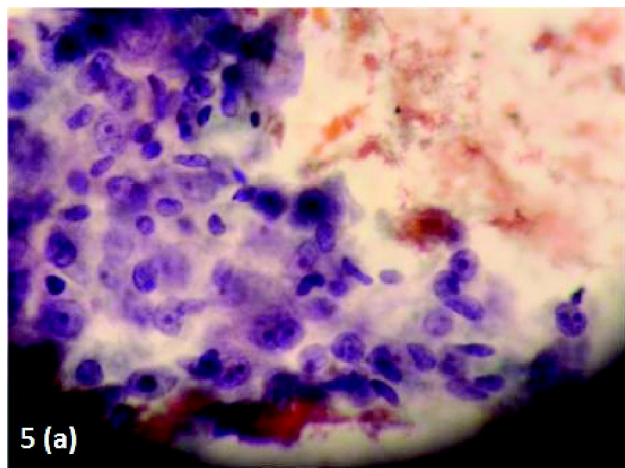


Figure 5a & b: (a) Cytological examination from the chest wall swelling shows malignant hepatocytes and traversing endothelial cells consistent with metastatic hepatocellular carcinoma (X 400 Papanicolaou stain). (b) Cytological examination from the lesion in the liver shows malignant hepatocytes and traversing endothelial cells along with intracellular bile pigment consistent with hepatocellular carcinoma (X 400 Papanicolaou stain).

Discussion

Metastatic HCC has an aggressive course with a very poor outcome.⁴ The 5-year survival in patients with symptomatic HCC being 0.8% in men and 4.4% in women.⁴ Hematogenous metastases is common, and the usual sites are lung (49%), bone (16%), adrenal glands (15%), pancreas (4%), kidney (3%) and the spleen (2%), as ascertained in an autopsy series.⁴ Metastasis of HCC occurs frequently through intrahepatic blood vessels, lymphatic permeation or

direct infiltration. HCC metastases to bone is seen in 3.0-10.0% of HCC patients.⁵⁻¹⁰ The common sites are vertebra, pelvis, ribs and skull.¹¹ The bony lesions due to metastatic HCC in our case was osteolytic. However, multiple osteolytic lesions simulating multiple myeloma can be due to metastatic HCC.¹² The etiology of HCC is still unknown in this patient. Clinical, laboratory parameters or radiological features were not suggestive of chronic liver disease. HCC is usually been found to develop on a background of cirrhosis but can also originate in normal or non-cirrhotic hepatic parenchyma. Primary HCC in patients without cirrhosis occurs in 37.0% of South African black population.¹³ Aflatoxin B produced by aspergillus species can be one of the cause. A close correlation between the degree of fungal contamination and frequency of HCC has been reported in tropical areas like sub-Saharan Africa and South East Asia.^{14,15}

Chronic hepatitis B infection has been defined as the most common etiologic factor for HCC.¹ But in our case as the viral marker profile was not reactive for both HBsAg and HCV, hence it excludes the possibility of chronic hepatitis B infection.

To diagnose metastatic HCC without an unknown primary is a great challenge. It can be explained as being either due to ectopic liver carcinogenesis or hepatoid adenocarcinoma.^{16,17} Hepatoid adenocarcinoma is a variant form of adenocarcinoma, characterized by vast hepatic differentiation that produces alpha-fetoprotein, while having the same function and form as HCC.¹⁶

In our case, primary HCC was confirmed by fine needle aspiration cytology and hence the presence of primary HCC and multiple metastases in chest wall and vertebrae excludes ectopic HCC.

Conclusion

We conclude hereby that bony metastasis of HCC should be included in the differential diagnosis of lump in the chest wall even in the absence of chronic liver disease.

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