

## Case Report

# A rare case of sternal bony metastasis in hepatocellular carcinoma

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### ABSTRACT

Hepatocellular carcinoma (HCC) is one of the most common malignancies of the world and about 30-50% cases of HCC have extra hepatic metastases.<sup>1</sup> Bone is considered to be an uncommon site for metastasis in HCC. We report a case of HCC with secondaries in the body of sternum. Review of literature also shows that bone is not that uncommon site for metastases in HCC and HCC should be considered in the differential diagnosis of patients with bony metastases.

**Keywords:** Hepatocellular carcinoma, Bony metastases in HCC

## INTRODUCTION

Bone is not a common site for metastases in HCC.<sup>1</sup> When any patient presents with bony metastases in any part of body we usually think of breast, lung and prostate as 3 out of 4 cases have primary malignancy in these organs and HCC is often overlooked. The incidence of bone metastases in HCC varies in different studies and is showing an upward trend.<sup>2</sup> Painful bone metastases are one of the distressing clinical situations in patients with HCC.<sup>3</sup> We present a case of HCC with underlying chronic liver disease secondary to HCV infection which presented with bone metastases and on work up patient was found to be having abdominal metastases also.

## CASE HISTORY

A 65 years old female presented with history of pain abdomen in the right hypochondrium, swelling in front of the chest and weight loss of 10 kgs over the last 4 months. Chest swelling, which started as a peanut size, increased to gross levels with extension to right side in centre of chest over this period.

On examination patient was having anaemia, clubbing, emaciation with temporal fossae hollowness and loss of buccal pad of fat and pedal oedema. On further workup

patient had cirrhosis of liver secondary to HCV infection with portal hypertension and ascites. Ultrasound abdomen showed cirrhosis liver with two hypoechoic areas in right lobe of liver largest being 4.5 cm x 2.4 cm suggestive of HCC, finding confirmed by C.T. Scan along with periportal, peripancreatic pre& Paraaortic lymph nodes. Alpha fetoprotein (AFP) levels were significantly raised to 443.8 ng/ml. Though histology of SOL liver could not be done but clinical picture and imaging was suggestive of HCC. A hard swelling was arising from the upper part of body of sternum at the manubrio-sternal junction with soft-tissue extension to right supramammary region of chest. X-ray chest for bony cage revealed lytic lesion and histological examination of bony biopsy was suggestive of secondaries from HCC. Bone scan could not be done because of non availability of facility. Patient was explained the prognosis and she opted for symptomatic care.

## DISCUSSION

Bone metastases is usually considered to be from primary sites like breast, lung and prostate as 3 out of 4 cases with bone metastases have primary malignancy at these sites. However autopsy studies show bone to be 3<sup>rd</sup> commonest site for metastases in HCC next only to lung and lymph nodes. Lung (55%), abdominal lymph nodes (41%) and bone (28%) are most common sites of metastases in

HCC.<sup>4</sup> In a report by Natsuzak M et al frequent sites of extra hepatic spread of HCC are lung (53.8%), bone (38.5%) and lymph nodes (33.8%).<sup>5</sup>



**Figure 1: Patient image showing bony metastasis.**



**Figure 2: CECT abdomen films showing hepatocellular carcinoma.**



**Figure 3: CECT abdomen film showing hepatocellular carcinoma.**

In a review of Toussiro E et al, out of 10 cases with anterior chest wall malignancy two had metastatic bone disease one from adenocarcinoma lung and one from HCC.<sup>6</sup>

Possible mechanism of bony metastases is thought to be through portal vein-vertebral plexus because of portal vein thrombosis or portal hypertension which explains the frequent site of bony metastases as craniospinal and pelvic bones. However, case report of upper and lower

limb bone involvement<sup>7</sup> are not in line with this view and even our case has sternal bone involvement which has not been reported in literature till date. Soft tissue swelling is also a common accompaniment of the bone metastases in HCC.<sup>8</sup> In our case also there was soft tissue extension to the right supramammary region.

Review of literature and the present case reinforce the view that HCC should be considered as one of the differential diagnosis in patient presenting with bone metastases and we should not be carried away by the impression that breast, lung and prostate are the only common primary sites for metastatic bone disease. Though craniospinal and pelvic bones are common sites of bone metastases in HCC it can also occur in other bony sites as our case had sternal involvement.

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