

Hepatocellular Carcinoma with metastasis to humerus — A case report and review of literature

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Abstract

Bone is an uncommon site of metastasis in patients with hepatocellular carcinoma (HCC), but an increase in the incidence of bone metastasis in HCC has been reported. We report a case of HCC presenting with metastasis to the humerus which, along with a review of literature, reinforces the idea that HCC should be considered in the differential diagnosis in patients presenting with metastasis to bone.

INTRODUCTION

There are at least 1 million new cases of HCC detected every year.⁽¹⁾ The etiologic association between hepatitis B infection and HCC is well established. The hepatitis C virus has also been associated with HCC.

Even though HCC is a slowly growing tumor, the majority of patients present at an advanced stage. Small tumors are most often asymptomatic and are usually discovered during screening programmes or incidentally during imaging performed for other abdominal conditions.^(2,3)

The most common clinical presentation of HCC is the triad of right upper quadrant pain, mass and weight loss.^(4,5)

The incidence of bone metastasis is 3 to 20% and shows a definite upward trend.^(6,7,8,9) There are multiple case reports in literature, where bone metastasis has been the presenting symptom in patients with HCC. It is unique among the hematogenous metastasis of HCC in that it occurs before the other clinical manifestations of HCC become apparent, with the majority of patients with bone metastasis being symptomatic.^(6,8) The prognosis is usually good and the presence of isolated bone metastasis does not necessarily confer a poor prognosis.⁽¹⁰⁾

CASE REPORT

Y.K., a 38-year-old male, presented to the OPD with history of noticing a swelling on the right shoulder for 3 months associated with pain. He also complained of pain with fullness in right hypochondriac region for 2 months. There was history of decreased appetite and weight loss for 2

months. There was no history of vomiting, hematemesis, melaena, altered bowel habits or bleeding per rectum.

On examination, there was pallor and no icterus.

Abdominal examination revealed that the liver was enlarged, 8cm below the costal margin and non-tender. Per-rectal examination was normal.

There was a swelling on the right shoulder, 8x6cm and hard in consistency. Right shoulder joint mobility was restricted.

Investigations:

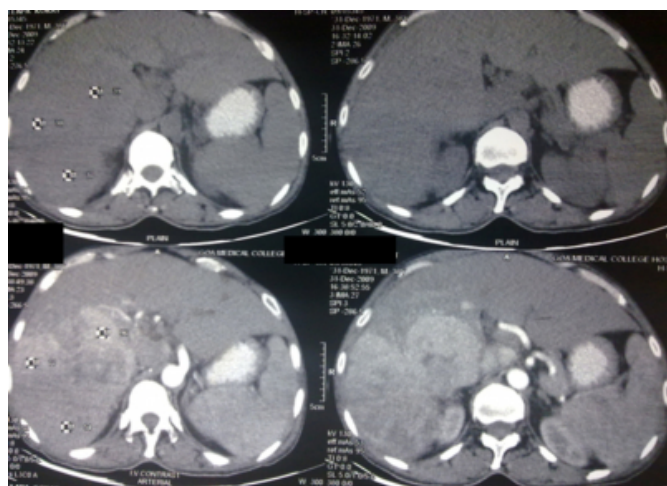
- Hb – 8gm%.
- TC - 9000/cumm
- Blood urea - 11mg%
- Serum creatinine - 0.7mg%
- LFT: Serum bilirubin - 0.7mg%
- SGOT - 131 U
- SGPT - 22 U
- ALKALINE PHOSPHATASE - 210 U
- Serum Alpha-fetoprotein - 512 IU/ml (normal range 0.5-5.5 IU/ml)

Abdominal ultrasound showed that the liver was enlarged and there were multiple rounded echogenic nodules noted in

the right lobe of the liver varying in size from 1 to 4cm. There was an echogenic lesion in the inferior vena cava extending into the right atrium measuring 4.9x2.2 cm in size.

CECT of the abdomen revealed a lesion in the entire right lobe of the liver showing enhancement in the arterial phase.

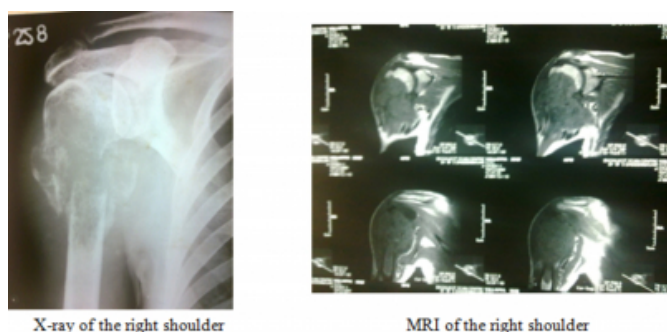
Figure 1



CECT of the abdomen showing a lesion in the right lobe of the liver

X-Ray of the right shoulder revealed a osteolytic lesion in the proximal shaft of the right humerus extending to the head of the humerus.

Figure 2

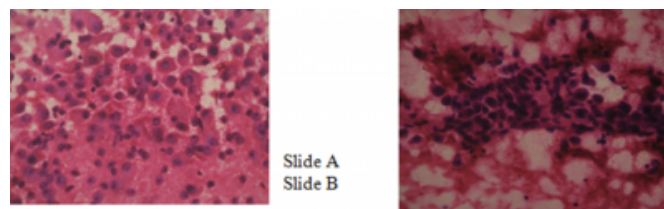


MRI of the right shoulder showed a 9x5.8x6.6cm lobulated expansile destructive mass lesion arising from the proximal metaphysis of the humerus with cortical destruction and periosteal elevation extending into the lower part of the proximal epiphysis and the upper part of the diaphysis. There was thickening of the inferior gleno-humeral ligament of the joint capsule, suggestive of invasion.

USG-guided FNAC of the liver nodule showed features suggestive of hepatocellular carcinoma.

FNAC of the right humeral swelling showed neoplastic hepatocytes arranged in groups and sheets suggestive of metastasis from hepatocellular carcinoma.

Figure 3



Slide A shows neoplastic hepatocytes with hyperchromatic nucleus and eosinophilic cytoplasm.

Slide B shows similar cells in between bony trabeculae suggestive of metastasis from HCC to bone

The patient was advised to go to a higher oncological centre for advice regarding hepatectomy and radiotherapy for the bone metastasis, but he refused treatment and has not followed up since then.

DISCUSSION

Bone involvement in patients with HCC is on the rise and one of the main reasons for this is the better survival of HCC patients due to recent progresses made in both diagnosis and treatment of the disease.^[6,7]

Some authors support the view that metastasis to the bones occurs via portal vein-vertebral vein plexuses (owing to either portal thrombus and/or portal hypertension which allows bypass through the plexus), thus explaining the more frequent cranio-spinal and pelvic bone metastasis; however, case reports of upper and lower limb bone involvement argue against that.^[6,7]

The diagnosis is usually made by Tc^{99m}-labelled bone scan as is done in bone metastasis in other cases.^[11]

There is enough literature to suggest that HCC should always be considered in the differential diagnosis in the patients presenting with bone metastases, with a few reports even suggesting that they could be the first manifestation of HCC.^[6,7,8,9,10,11,12] There are reports that patients with HCC and bone metastasis do well and show long-term survival after hepatectomy and radiotherapy to bone metastases.^[10]

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