Unusual Initial Presentation of Hepatocellular Carcinoma: Skeletal Metastases.

Sonal Saran¹, Pushpinder Singh Khera¹, Rengarajan Rajagopal¹, Neeraj Mehta¹, Poonam Elhence²

ABSTRACT
Skeletal metastases from Hepatocellular carcinomas are rare and very rarely present as the initial symptom. We therefore report a case with multiple exclusively skeletal metastatic masses from hepatocellular carcinoma in a patient with no prior history of chronic liver disease.

Keywords: Hepatocellular carcinoma, Skeletal metastasis, Ultrasonography.

INTRODUCTION
The most common malignant neoplasms causing skeletal metastases are breast and lung carcinomas.[1] Very rarely Hepatocellular carcinomas (HCC) may present as a skeletal metastatic mass as the presenting symptom.[2] These skeletal secondaries generally occur in the late stage of HCC.[3] We hereby present a case report of a HCC with disseminated metastases in the skeletal system as the presenting complaint.

CASE REPORT
A 71 year old normotensive, non-diabetic, non-alcoholic, HBsAg negative man with no history of chronic liver disease, presented with the complaints of swelling in right shoulder for three months with restriction of movements. Swelling was also present in the right paraspinal lumbar region and left hip with pain and restriction of movement for two months. Serial radiographs were obtained from right shoulder, pelvis and lumbar spine which revealed osteolytic areas with wide zone of transition and soft tissue shadows consistent with the malignant etiology, probably metastases from an unknown primary (Figure 1). An Ultrasound examination of abdomen was performed to rule out any primary malignancy from the solid visceral organs. Simultaneously, Ultrasound examination of the soft tissue masses with high frequency probe (7–14 MHz) was also done. Ultrasonography (USG) revealed a large mass in the right lobe of liver with heterogeneous hypoechoic echotexture and irregular margins. Rest of the liver showed homogenous parenchymal echotexture with no evidence of cirrhosis. USG of Soft tissue masses revealed same sonographic pattern with osteolysis of the underlying bones (Figure 2). Triple phase computed tomography revealed arterial phase enhancing mass lesions in the 7th segment of liver, 11th rib, spine and body of right scapula, left femoral neck and left inferior pubic ramus. Bony lesions had large soft tissue component with destruction of the underlying bone and arterial phase enhancement (Figure 3). Magnetic resonance imaging (MRI) of the whole spine and right shoulder was performed which revealed well defined circumscribed soft tissue mass in the right posterior abdominal wall, hyperintense as compared to the muscles on T2 W images. Scapular mass involved the supraspinatus and infraspinatus muscles with destruction of spine and body of scapula having similar signal characteristics with the abdominal wall mass (Figure 4).

FNAC from the mass in right scapula revealed metastatic carcinoma from primary HCC (Figure 5). Further investigations revealed normal hematological and biochemical parameters. Serum alpha feto protein (AFP) level was more than 1000 IU/mL.

DISCUSSION
HCC is the most common primary malignancy of the liver.[4] It is commonly observed in the 6th and 7th decades of life, and the most common causative factor is the chronic viral hepatitis by hepatitis B virus, particularly in the presence of cirrhosis.[5] Our patient had no history of chronic liver disease as well as no symptoms related to the primary HCC. Trevisani F et al stated that approximately 20% of hepatocellular carcinomas occur in non cirrhotic livers.[6] Santhosh Gaddikeri et al reviewed about HCC in non cirrhotic liver and stated that these tumors are often detected at an advanced stage as in our case.[7] Metastases of HCC occurs frequently by intrahepatic blood vessels, lymphatic or direct infiltration. Hematogenous spread oc-
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Figure 1(a): Radiograph of pelvis AP view shows osteolytic areas in left inferior pubic ramus and medial aspect of the neck of left femur.

Figure 1(b): Radiograph of right shoulder AP view reveals osteolytic area involving body and spine of scapula. The osteolytic areas have irregular margins with wide zone of transition suggestive of malignant etiology.

Figure 2(a): Ultrasonography reveals a mass in the 7th segment of liver with heterogeneous hypoechoic echotexture and irregular margins. There is no evidence of cirrhosis.

Figure 2(b): Ultrasonography of soft tissue mass in the right lumbar region reveals well marginated heterogeneous hypoechoic mass.

Figure 3(a): Triple phase computed tomographic image shows arterial phase enhancing mass lesions in the a) 7th segment of liver and 11th rib and.

Figure 3(b): Triple phase computed tomographic image shows arterial phase enhancing mass lesions in left inferior pubic ramus. Skeletal lesions have large soft tissue component with destruction of the underlying bone.
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Figure 4(a): T2 W MRI shows well defined circumscribed masses hyperintense to the underlying muscles in the right posterior abdominal wall.

Figure 4(b): T2 W MRI shows well defined circumscribed masses hyperintense to the underlying muscles in the right posterior scapular muscles with destruction of the spine of scapula.

Figure 5(a): FNAC from mass in right scapula reveals a) tumor cells forming acini and in isolation showing large nuclei with prominent nucleoli and abundant eosinophilic cytoplasm with similar morphology in the cell block prepared.

Figure 5(b): FNAC from mass in right scapula reveals a) tumor cells forming acini and in isolation showing large nuclei with prominent nucleoli and abundant eosinophilic cytoplasm with similar morphology in the cell block prepared.

Figure 5(c): FNAC from mass in right scapula reveals a) tumor cells forming acini and in isolation showing large nuclei with prominent nucleoli and abundant eosinophilic cytoplasm with similar morphology in the cell block prepared.

Figure 5(c): These tumor cells are strongly positive for HEPAR 1 on immunohistochemistry confirming that the primary site from which the metastasis originated was HCC.

curs with the involvement of either hepatic or portal veins or the vena cava. Hematogeneous extrahepatic metastases are common and the commonly involved sites are lungs, regional lymph nodes, kidneys, bone marrow and adrenals.\(^{[8]}\)

Si MS et al determined the prevalence and risk factors of metastases in HCC and found that skeletal metastases are seen in 10% of cases and it rarely presents as the first manifestation of HCC.\(^{[9]}\) The most common sites for skeletal metastases are the vertebra and pelvis.\(^{[10]}\)

Borghetti M et al reviewed bone metastases of HCC and concluded that skeletal metastases from HCC are reported rarely and its incidence was observed only in 5.5% cases.\(^{[11]}\) Our patient had metastases located only in the skeletal system. Chi-Lai Ho et al reported that metastases from HCC isolated to bone (12%) was more common than metastases to bone and other sites (7%).\(^{[12]}\)

In conclusion, a patient presenting with multiple skeletal masses should be evaluated for HCC even if the patient is HBsAg negative and have no positive history of alcohol consumption.

“The authors declare that there is no conflict of interest regarding the publication of this paper.”
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REFERENCES
