



Metastatic Hepatocellular Carcinoma Masquerading as Soft Tissue Sarcoma

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Abstract

Hepatocellular Carcinoma (HCC) is the 5th most common cancer in men and the second most common cause of death from cancer worldwide. Most cases present with right upper abdominal pain and a palpable mass. Extrahepatic metastasis is usually to the lungs (49%), followed by other intra-abdominal organs (24%) and bones. We present a 60-year-old gentleman with chief complaints of rapidly progressing soft tissue swelling over the left scapular region. CECT scan revealed a swelling of 7 cm × 9 cm × 6 cm over the left scapular region and a well-defined lesion of size 2.5 cm × 3 cm × 4 cm in segment 8 of the liver (enhancing in the arterial phase with washout of the contrast in the delayed phase, suggestive of Hepatocellular carcinoma). Metastatic lesions were also found in bilateral lungs, T11 vertebral body, and left inferior pubic ramus. A core needle biopsy of the swelling confirmed the diagnosis of HCC. To the best of our knowledge soft tissue metastases is extremely rare and very cases are described in literature.

Keywords: Hepatocellular carcinoma; Metastases; Soft tissue swelling; Cancer

Introduction

Hepatocellular Carcinoma (HCC) is the most common primary tumor of the liver [1]. It is the 5th most common cancer in men and the second most common cause of death from cancer worldwide [2]. Most of the patients present at an advanced stage in their 5th or 6th decade of life [3]. Extrahepatic metastasis from HCC is usually to the lungs (49%), followed by other intra-abdominal organs (24%) and bones [4]. To the best of our knowledge, initial presentation of HCC with soft tissue metastasis is rare and only very few cases have been reported. Here we report a patient one such case of who presented to us with a soft tissue swelling over the left scapular region as the first manifestation of hepatocellular carcinoma.

Case Presentation

A 60-year-old gentleman came with chief complaints of rapidly progressing swelling over the left scapular region for 1 month. He complained of continuous dull-aching pain over the swelling. He had no other significant complaints. On examination, a 10 cm × 10 cm swelling was present over the left scapular region extending superiorly up to the spine of scapula, inferiorly 4 cm below the angle of scapula, medially up to the medial border of the scapula, and laterally up to the posterior axillary fold. The swelling was non-tender without any local rise of temperature, smooth in surface, hard in consistency. The swelling was mobile with the scapula; however, mobility was restricted on contraction of the underlying Latissimus Dorsi muscle. Systemic examination was normal. A presumptive diagnosis of soft tissue sarcoma was made based on the clinical features.

Contrast-enhanced CT scan of thorax and abdomen revealed a swelling of 7 cm × 9 cm × 6 cm over the left scapular region, arising from the Latissimus Dorsi, infiltrating the subscapularis and infraspinatus, closely abutting the serratus anterior muscle (Figure 1). A well-defined lesion of size 2.5 cm × 3 cm × 4 cm in segment 8 of the liver, enhancing in the arterial phase with washout of the contrast in the delayed phase suggestive of hepatocellular carcinoma (Figure 2) was also noted. Hypodense lesions suggestive of metastases were seen in bilateral lungs, T11 vertebral body, and left inferior pubic ramus. Histopathological examination of the swelling revealed tumour cells infiltrating into the skeletal muscle (Figure 3). The tumour cells showed trabecular arrangement with a vesicular nucleus and prominent nucleoli, suggestive of hepatocytes (Figure 4). On immunohistochemical staining they were positive for Hep par-1 (Figure 4) thus confirming that

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Figure 1: CECT coronal section of the chest, abdomen and pelvis showing a well-defined, enhancing 7 cm × 9 cm × 6 cm lesions over the left scapular region.



Figure 2: CECT abdomen - transverse section shows a 2.5 cm × 3 cm × 4 cm lesions in segment 8 that enhances in the arterial phase with contrast washout in the delayed phase.

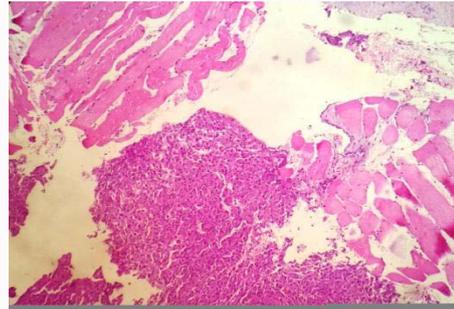


Figure 3: A 10x magnification photomicrograph demonstrating infiltration of the skeletal muscle by the tumor cells.

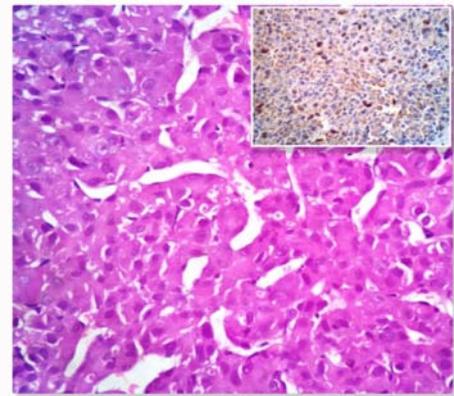


Figure 4: A 40x magnification image showing Hematoxylin and Eosin staining of the tumor cells showing trabecular arrangement of cells with vesicular nucleus and prominent nucleoli (Inset shows immuno histo chemical study of tumor cells revealing positivity for Hep Par-1).

the swelling was a metastatic deposit from the HCC. We then staged the tumour according to the Barcelona Clinic Liver Cancer Staging Classification as Stage C, Advanced disease and the various palliative care options were discussed with the patient. He refused any further treatment and was lost to follow up.

Discussion

Hepatocellular Carcinoma (HCC) is the most common primary hepatic tumour. It has a high incidence in sub-Saharan Africa and Asia. Any chronic hepatic inflammation is considered as a risk factor but cirrhotic liver accounts for 80% of HCC. Patients usually present with complaints of abdominal pain (60% to 95%), abdominal mass (30%), anorexia, weight loss, hematemesis and bone pains [4].

Extrahepatic spread is present at the time of diagnosis in only about 5% to 15% of patients [5]. Poorly differentiated cancer and absence of cirrhosis were considered risk factors for extrahepatic metastases. The reasons elicited were that non-cirrhotics present at a later stage due to absence of symptoms of liver failure, coupled with an early tendency for portal tree invasion [6]. In a retrospective study by Katyal, CT scans of 403 HCC were reviewed, and the frequencies of HCC metastatic sites were found to be; lungs (55%), lymph nodes (53%), bone (28%), adrenal glands (11%), peritoneum and/or omentum (11%), and brain (2%). Rare sites of metastasis include the rectum, spleen, diaphragm, duodenum, esophagus, pancreas, seminal vesicle, and bladder [7]. Initial presentation as a soft tissue swelling, like the one described in our case is very rare. In a case report by

Sinha et al. [8], similar presentation of HCC as soft tissue swelling in a forearm was described. There was another case report in Turkey, where the authors have described thoracic wall metastases [9]. Shah et al. reported two cases of HCC with chest wall metastases [10].

The metastases in HCC occur via blood vessels, lymphatics or through direct invasion. In our patient, the lungs were involved hematogenous via the pulmonary capillary network. The T11 vertebrae and pelvis were also invaded. Some authors view that bone metastasis occurs *via* the portal vein vertebral vein plexus, explaining the more frequent craniospinal and pelvic bone metastases [11]. The prognosis of these patients with extra hepatic metastases is usually poor. Natsuizaka et al. [12] reported a 1-year survival rate of 24.9% with a median survival period of 7 months in patients with extra hepatic HCC.

US abdomen and Alpha Fetoprotein (AFP) are considered as modalities of surveillance in high risk patients. A spiral CT or a triphasic CT of HCC typically shows as a hyper attenuated lesion in the arterial phase (25-30 seconds after contrast injection) with a following washout to iso- or mostly hypo attenuation in the Portal venous phase (70-80 seconds after contrast injection) or delayed phase (180-210 seconds after contrast injection) [13]. There are several staging systems in HCC, but AASLD advocates use of the BCLC staging system as it predicts the prognosis using three variables *viz.* radiologic tumor extent, liver function test and performance status. Treatment options for patients in stage C include conventional systemic chemotherapy with agents like 5-fluorouracil, doxorubicin,

interferon, cisplatin, tamoxifen, and capecitabine. Targeted systemic chemotherapy with sorafenib has shown convincing results in the recent SHARP study by extending survival by decreasing tumor progression [14].

Conclusion

Soft tissue metastasis in hepatocellular carcinoma is a unique, rare phenomenon and can occur especially in unusual locations.

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