An unusual case of anterior abdominal wall metastasis in hepatocellular carcinoma

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Citation

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Abstract

Hepatocellular carcinoma (HCC) causes about 1 million deaths each year worldwide. The patients usually present at an advanced stage when the growth is irresectable as there are no early presenting symptoms. Extrahepatic metastases of HCC occur in approximately 37% of patients. Common sites of hematogenous metastatic spread include the lungs, intra-abdominal organs, bones, adrenals, lymph nodes, peritoneum and, rarely, skeletal muscle. Together, spread of disease to the bones and muscle account for approximately 16% of all metastases. HCC metastases are found primarily with advanced disease. Anterior abdominal wall metastasis is known to occur after laparoscopy and as a result of needle tract implantation after percutaneous biopsy. However, primary anterior abdominal wall metastasis is extremely rare.We would like to present such an unusual case of hepatocellular carcinoma with anterior abdominal wall metastasis.

INTRODUCTION

Hepatocellular carcinoma (HCC) is a primary malignancy of the liver. The outcome is poor, presentation is at a very advanced stage and only 10-20% of HCCs can be removed completely using surgery. Treatment options depend on size of the lesion and condition of the patient. Surgical resection and liver transplantation are being replaced by radiofrequency ablation, percutaneous ethanol injection, transcatheter arterial embolisation, and cryosurgery. Metastasis occurs by hematogenous and lymphatic route. Extrahepatic hematogenous metastasis indicates poor prognosis, usual sites being lymph nodes, lungs, adrenal glands and bones. Extremely rare sites are skeletal muscles, especially chest wall muscles, gluteus muscle and anterior abdominal wall muscles. Generally, the primary in the liver is in a very advanced stage at the time of metastasis.

CASE REPORT

A 55-year-old male, petrol pump supervisor by occupation, presented with a lump in the right lower abdomen, incidentally noticed one month ago. The swelling was painless and not associated with any inflammatory changes. He was a chronic alcoholic with consumption of 180 ml of country liquor everyday for the past 35-40 years and history of tobacco chewing. He was also a recently diagnosed diabetic on oral hypoglycemic agents since the past two months.

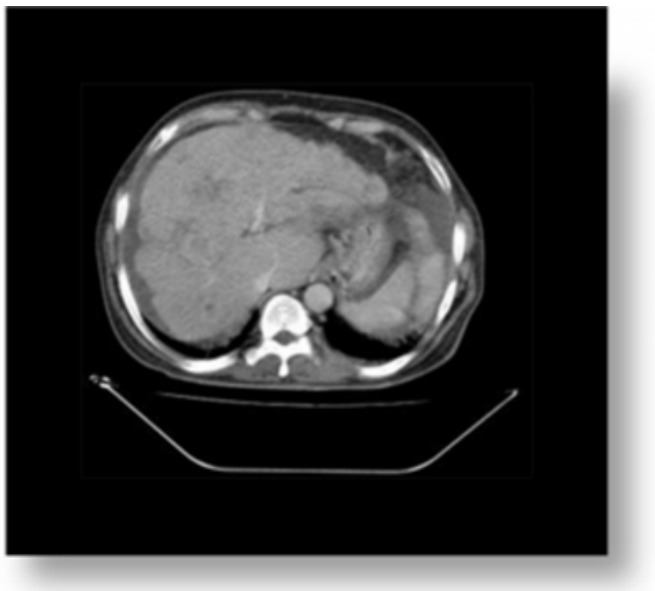
His routine blood investigations including hematology and biochemistry were within normal limits. Abdominal examination revealed a firm lump, 3x3cm in dimension, in the anterior abdominal wall, probably intramuscular in origin, 3cm below and to the right of the umbilicus.

Ultrasound of abdomen and pelvis showed cirrhotic changes in the liver, macronodular in type. However, there was no evidence of a definite mass lesion in the liver. Splenomegaly was present with splenic collaterals. A mass lesion in the anterior abdominal wall, well encapsulated and solid in consistency, was seen, probably arising from the rectus muscle, with no intraperitoneal extension. FNAC from the abdominal wall lesion was suggestive of adenocarcinoma, probably arising from colon or liver.

CT scan of the abdomen confirmed cirrhotic changes in the liver with multiple, small nodular lesions and varied degree of opacification, predominantly in segment IVa of the liver, and numerous dilated tortuous venous collateral channels seen protruding into the gastric lumen. There was no evidence of a significant mass lesion in the liver suggestive of a hepatic malignancy. The main portal vein was normal and there was evidence of moderate ascites.

Figure 1

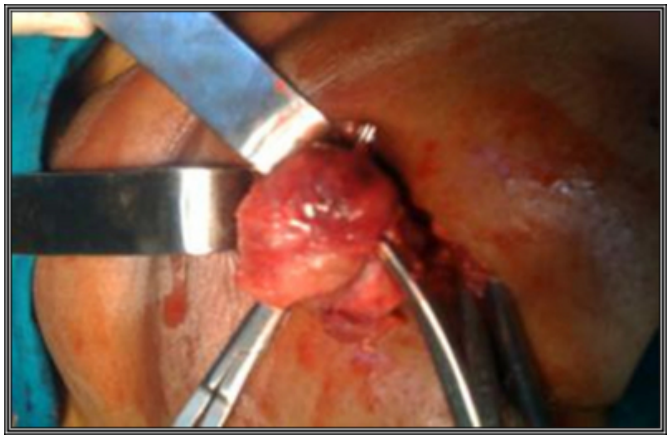
Fig. 1: CT: Multiple nodular lesions with varied degree of opacification



Work-up for colonic malignancy proved to be negative. Excision biopsy of the abdominal wall lesion was then performed for final diagnostic confirmation. Intra-operatively, the lesion seemed to arise from the right rectus abdominis muscle, but was well encapsulated, with no involvement of the posterior rectus sheath.

Figure 2

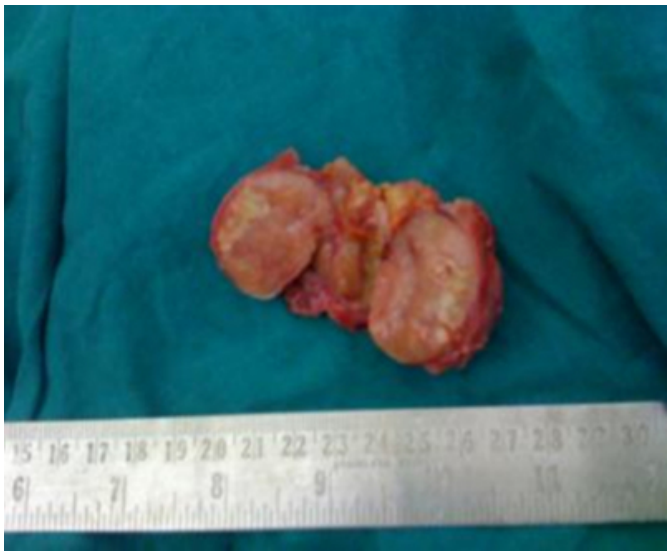
Fig. 2: Lump arising from within rectus abdominis muscle



On gross examination, it was a well encapsulated mass measuring 4x3.5x3.5cm. No areas of necrosis were seen. Cut section showed a yellowish pink surface, multilobulated and with multiple septae.

Figure 3

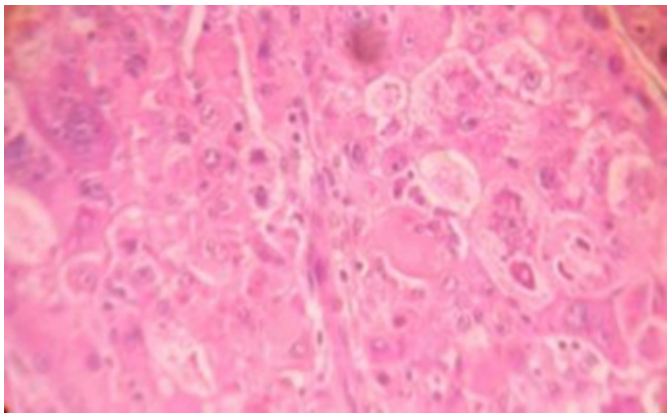
Fig. 3: Cut section of the mass



Histopathology confirmed a metastatic, moderately differentiated hepatocellular carcinoma. Immunohistochemistry confirmed it as a lesion with hepatocyte-specific antigen positivity.

Figure 4

Fig. 4: Histopathology of the specimen showing features of moderately differentiated HCC.



Tumor markers were sent for and alfa-Fetoprotein was raised to 1074 IU/ml (normal range: 0-20 IU/ml). However, CEA was 5.33 ng/ml (normal limit: 5.0).

Antibodies to HCV, IgM and IgG were negative and diagnostic ascitic tap did not reveal any abnormality or malignant cells.

DISCUSSION

HCC is responsible for about 1 million deaths annually worldwide. The difficulty in treatment of this cancer and the reason for high mortality is the association of this cancer

with cirrhosis which limits both the treatment options and increases morbidity of any modality of treatment. HCC is usually asymptomatic at early stages and has a great propensity for intrabiliary and intravascular invasion even when the tumor is small; hence HCC is usually at an advanced stage when discovered. The presentation may either be asymptomatic or as obstructive jaundice, or with metastases. The most common sites of metastases of HCC include lung, peritoneum, adrenals and lymph nodes. Rare sites of metastasis include bone and skeletal muscle. A case of HCC with adrenal gland metastasis was reported by Hirotaka et al., where the primary tumour was controlled with percutaneous ethanol injection therapy while the adrenal gland was resected[1]. In another study by Katyal et al., tabulation of all extrahepatic metastatic sites showed the most common sites to be the lung in 81 (55%) patients, abdominal lymph nodes in 60 (41%) patients, and bone in 41 (28%) patients[2]. Hofmann et al. reported metastasis to the anterolateral right chest wall from HCC[3]. CT and MRI had shown a homogeneous mass around the 4th rib but not penetrating the subcutaneous tissues and lung. Neither a lung scan nor a needle biopsy revealed the primary nature of the tumour. The patient was treated with en bloc resection and partial resection of the adjacent 3rd and 4th rib. The frozen section diagnosis confirmed a metastasis from a primary hepatocellular carcinoma. Coban et al. reported metastasis to the anterior chest wall[4] in form of a left axillary mass where the primary symptom was jaundice with shoulder pain. Hepatitis B virus surface antigens, IgG antibody to the core antigen, anti-HBe and HBV-DNA with polymerase chain reaction were positive, while HBe antigen, anti-Delta and serological markers of hepatitis C were negative. Ultrasonography showed ascites, splenomegaly and diffusely nodular heterogeneous echogenic patterns in the liver. Upper gastrointestinal endoscopy was normal except for esophageal varices. CT of the thorax confirmed a mass on the left anterolateral chest wall and FNAC from the mass was consistent with metastatic hepatocellular carcinoma. The patient had an elevated serum alpha-Fetoprotein (AFP) level of 60.000 ng/ml. AFP, when elevated, usually correlates with tumor size. AFP doubling time is also closely related to tumor doubling time[4]. In a study by Lee et al., metastasis of HCC was demonstrated in the left psoas muscle[6] and found one year after trisegmentectomy for HCC. The lesion was successfully resected with the muscle, and no other metastatic lesions have been found in 5 months of follow-up. Baretta et al. demonstrated the importance of immunohistochemistry to study the correlation of tumour markers with disease. In the study by Horita et al., bony metastasis to the sternum from HCC was demonstrated[5]. This is one of the rare instances of bony metastatic HCC. Munk et al. demonstrated metastasis in HCC to sacrum and gluteus muscles while Matsunaga et al. found extrahepatic metastasis to the distal phalanx of a finger[7,8]. A 49-year-old woman with a history of HCC and metastatic lung cancer presented with severe swelling and pain of the left little finger. She had undergone partial hepatectomy for hepatocellular carcinoma and pulmonary resection for metastasis 5 years and 1 year, respectively, prior to this presentation. Complete destruction of the distal phalanx of the left little finger was seen and disarticulation was done, histopathology confirmed an extrahepatic metastasis of hepatocellular carcinoma. Extrahepatic metastasis from primary hepatocellular carcinoma to the hand is extremely rare with a poor prognosis and only four cases have been reported in the literature.

Takamori et al. advised against indiscriminate percutaneous needle biopsy of suspicious hepatic lesions due to a significant risk for needle-tract implantation[9]. These biopsies should be reserved for those lesions in which no definitive surgical intervention is planned and pathological confirmation is necessary for a nonsurgical therapy. Darzi et al.[10] demonstrated abdominal wall metastasis following HCC after laparoscopy. The possible factors responsible for this include an increased exfoliation of tumor cells following manipulation by laparoscopic instruments of an unsuspected malignancy, repeated close contact between tumour-laden instruments with the port and the passage of resected tissue through a small incision which may coat the wound with potentially malignant cells.

Our patient had presented with a mass in the right rectus muscle which on excision showed evidence of metastasis of moderately differentiated HCC. The patient had no symptoms of primary hepatic malignancy either clinically or on investigation. Immunohistochemistry was conformational in diagnosis with hepatocyte-specific antigen positivity. Immunohistochemistry has a high sensitivity and specificity for antigen status of hepatocellular carcinoma. Also, AFP levels were significantly raised in our patient, which correlates with HCC. It needs to be mentioned, however, that our patient had no evidence of a primary HCC on abdominal CT scan. Therefore, neither a needle biopsy preoperatively nor a hepatic resection subsequently was considered. The excision of the metastatic lesion already performed was considered adequate at present. Regular follow-up of the

patient for the development of a definite mass lesion in the liver (and then a possible hepatic resection) is probably the only option in this scenario. The patient has since then not followed up beyond two months and no further disease progression can be determined.

In conclusion, metastatic HCC may present asymptomatically as far as the liver pathology is concerned. Hence no definitive treatment can be offered for the primary and excision of the metastatic lesion is the only option. So there is a need to accurately diagnose these varied presentations and follow up with detailed investigations which may lead to earlier diagnosis and further definitive management.

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