Case Report

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Spermatic Cord and Peritoneal Metastases from Unruptured Hepatocellular Carcinoma

Radiology Section

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ABSTRACT

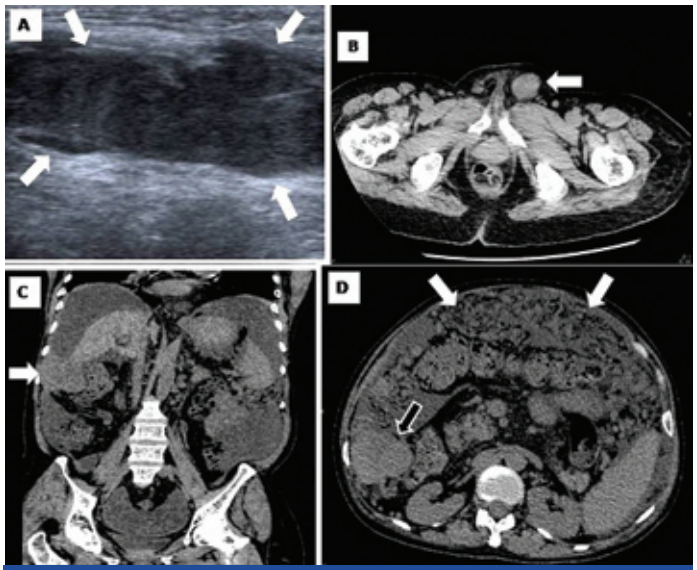
Extrahepatic metastases are not uncommon in patients with late-stage hepatocellular carcinoma (HCC). These extrahepatic lesions are most commonly found in the lungs, lymph nodes and bones. The authors report the case of a patient with chronic liver disease who presented with left inguinal swelling which was thought to be incarcerated hernia on clinical examination. Further evaluation revealed that the patient had HCC with spermatic cord metastasis which was masquerading as inguinal hernia. He also had extensive peritoneal dissemination. Awareness and accurate detection of these unusual sites of extrahepatic dissemination of HCC is of paramount importance for radiologists to avoid unnecessary surgery as well as after loco regional therapy to assess for recurrence. Details of the case are discussed with a review of the relevant literature.

Keywords: Disseminated, Extrahepatic, Inguinal

CASE REPORT

A 52-year-old male who was a known case of hepatitis-B virus (HBV) related chronic liver disease (CLD) and on regular follow-up at Institute of Liver and Biliary Sciences (ILBS, Vasant kunj, Delhi) presented to outpatient department with complaint of a firm to hard mass in left inguinal region. Clinical examination was suggestive of an incarcerated inguinal hernia. His initial laboratory investigations were as follows – haemoglobin-12.5g/dl, total leukocyte count-13000, serum bilirubin - 2.8mg/dl, serum albumin-2.2g/dl, alpha fetoprotein (AFP) of 352ng/ml and HBV DNA – 47.6 IU/ml. Rest of the liver function tests were within normal range. Ultrasound (USG) revealed a 41 x 20 x 29 mm sized heterogeneously hypoechoic lesion in left inguinal region inseparable from ipsilateral spermatic cord without any scrotal extension [Table/Fig-1a].

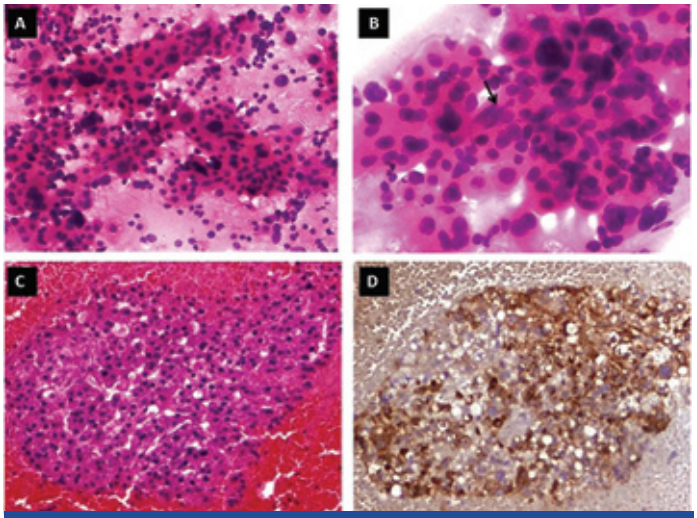
Additionally there was a 5.4 x 4 cm sized heterogeneously hypoechoic exophytic lesion in segment VI of right lobe of liver which was provisionally suggested to be hepatocellular carcinoma (HCC) in view of the background of HBV related CLD and raised AFP levels. Since the patient had deranged renal functions, a non-contrast computed tomographic (NCCT) scan of the abdomen was done which revealed findings similar to USG in addition to widespread diffuse nodular peritoneal thickening consistent with peritoneal carcinomatosis [Table/Fig-1b-d]. Biochemical and clinical evaluation was not suggestive of tumour rupture. This was followed by fine needle aspiration cytology (FNAC) from the hepatic lesion and inguinal and peritoneal metastases. Microscopy revealed high grade undifferentiated tumour which on immunohistochemistry of cell block sections from the aspirates of all the three sites was positive for Pan CytoKeratin, vimentin and Heat Stable Antigen (HSA) and negative for glypican 3 and desmin [Table/Fig-2,3]. Based on these findings a diagnosis of HCC with peritoneal carcinomatosis and spermatic cord metastases was made. As the patient was not a candidate for surgery, transplant or any other curative radiological interventional procedure, he was sent for palliative medical management to the oncology department and was started on Sorafenib therapy but the therapy was discontinued after a short period of 3 weeks as the patient developed severe adverse reactions including hand-foot syndrome and later succumbed to illness within a week.



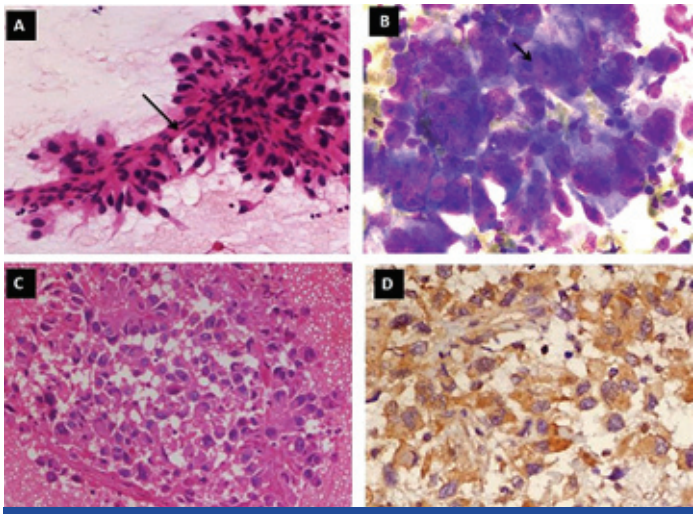
[Table/Fig-1a-d]: Heterogeneously hypoechoic lesion (arrows in A) seen inseparable from the spermatic cord on ultrasound. On axial CT image, thickened and mass like left spermatic cord is seen (arrow in B). Exophytic iso to hypodense lesion seen arising from segment VI of right lobe of liver seen in coronal image (arrows in C) along with diffuse nodular omental thickening (D) consistent with peritoneal carcinomatosis

DISCUSSION

The present report describes a patient with chronic liver disease and cirrhosis without any previously documented HCC who presented with complaint of left groin mass which was clinically diagnosed to be incarcerated inguinal hernia. USG was able to pin point the origin of inguinal mass from left spermatic cord which eventually led to further imaging and interventions leading to final diagnosis.



[Table/Fig-2a-d]: a) FNAC from liver lesion showing thick trabeculae of malignant hepatocytes (100X, H&E); b) Trabeculae have transgressing blood vessels (arrow) (200X, H&E); c) Cell block preparation of FNAC of liver lesion displaying thick trabeculae of malignant hepatocytes (100X, H&E); d) Malignant cells are Hep-par-1 positive (100X)



[Table/Fig-3a-d]: a) FNAC from inguinal swelling showing thick trabeculae of malignant cells with transgressing blood vessels (arrow) (100X, H&E), b) Malignant cells have prominent nucleoli (arrow) (200X, Giemsa), c) Cell block with sheets of malignant cells (100X, H&E), d) Cells are Hep-par-1 positive

Most common extrahepatic sites of metastases from HCC are lung, lymph nodes, bone and adrenal gland [1]. Spermatic cord is an uncommon site for the metastases [2]. According to Katyal et al., when the tumour is extrahepatic it is already intrahepatic stage IV tumour leading to a poor prognosis [3]. In our case also the extrahepatic metastases to peritoneum and to the spermatic cord precluded any possibilities of surgery, transplantation and any radiological interventional procedure.

Tumours of the spermatic cord are rare. The list of differential diagnosis of spermatic cord mass includes both benign and malignant masses. Amongst the benign causes few common ones are hernia, spermatocele, lipoma, hydrocele, haematocele, etc [4]. Malignant tumours, including primary tumours and metastases, are extremely rare. The most commonly reported malignant ones include liposarcomas, rhabdomyosarcomas, leiomyosarcomas, malignant fibrous histiocytoma, and fibrosarcomas. Metastatic disease includes those from lymphoma, carcinoma of lung, breast and colon [4]. Metastases can occur anywhere in the body and there are various modes described for it including haematogenous, lymphatic and direct invasion.

Haematogenous route is by far the most common mode of metastases [5]. Spermatic cord metastases in our case could also be attributed to the haematogenous mode of spread of the tumour as no lymphatic tissue could be identified on histopathological examination.

Various tumours which have been classically described for peritoneal carcinomatosis include carcinoma of ovary, stomach, large bowel, appendix, pancreas, breast, lung and malignant melanoma [6]. Peritoneal carcinomatosis following various tumours has been postulated via direct invasion, haematogenous spread and rarely via lymphatic spread [7]. Peritoneal dissemination of HCC following spontaneous rupture is not uncommon and has been described in literature and is attributed to direct tumour seeding [8]. Our case had peritoneal carcinomatosis without any clinical evidence of rupture. In this scenario the cause for peritoneal carcinomatosis is not clear but could be attributed to haematogenous spread as for the spermatic cord since lymphatic spread is quite rare and has been seldom reported in the literature as by Chiang et al., [9].

CONCLUSION

This report aims to create awareness about the uncommon extrahepatic metastases of HCC into the spermatic cord and peritoneum. Accurate interpretation and early detection of these extrahepatic metastatic lesions could prevent unnecessary therapeutic intervention and is important during follow-up of patients undergoing loco regional therapy to assess for recurrence.

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