



UNCOMMON PRESENTATIONS OF MALIGNANCIES: A CASE SERIES OF IMAGING IN METASTATIC HEPATOCELLULAR CARCINOMA, PROSTATE CANCER, AND COLON CANCER

Radio-Diagnosis

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ABSTRACT

Background: Malignancies gradually present with classic symptoms, but sometimes atypical manifestations can lead to diagnostic delays and complications. Hepatocellular carcinoma is a leading cause of cancer mortality which presents with abdominal pain, jaundice, and ascites. These atypical presentations highlight the need for routine surveillance of high-risk patients. Prostate cancer most commonly metastasizes to bones and lymph nodes, often presenting with urinary symptoms and bone pain. However, some patients may exhibit atypical symptoms like weight loss or fatigue. Imaging studies can reveal atypical findings such as lymphadenopathy or visceral organ involvement that were not clinically suspected. Ovarian cancer typically presents with vague symptoms such as abdominal discomfort, bloating, and changes in bowel habits. It can also manifest atypically through systemic symptoms like unexplained fever or anemia. Rare complications, including paraneoplastic syndromes or malignant ascites, may occur due to advanced disease, concerning for suspicion of timely diagnosis.

KEYWORDS

Hepatocellular carcinoma, Prostate cancer, Ovarian cancer, malignant ascites.

INTRODUCTION

This case series emphasizes the need for healthcare professionals to recognize uncommon malignancy presentations. Atypical presentations of malignancies can complicate diagnosis and treatment, often leading to delays in appropriate care. This study focuses on hepatocellular carcinoma (HCC), prostatic adenocarcinoma, and ovarian malignancies, discussing their unusual presentations and the implications for clinical practice.

Hepatocellular carcinoma is the most common primary liver cancer, often arising in the context of chronic liver disease, notably cirrhosis. While typical symptoms include weight loss, jaundice, abdominal pain, and ascites, HCC cases are discovered incidentally during imaging studies performed for other reasons. This is particularly common in patients with chronic liver disease who undergo routine surveillance¹. Rarely, HCC may present with paraneoplastic syndromes such as hypercalcemia or erythrocytosis due to ectopic production of hormones like parathyroid hormone-related peptide (PTHrP) or erythropoietin, respectively. These symptoms can mislead clinicians into considering non-malignant causes before identifying the underlying cancer². Patients often show clinical signs of Budd-Chiari syndrome due to hepatic venous outflow obstruction caused by tumour invasion into the hepatic veins or the inferior vena cava. Symptoms can include abdominal pain and ascites but may initially be attributed to other causes³.

Adenocarcinomas usually originate in glandular tissue and can occur in various organs. Pancreatic Adenocarcinoma often presents late due to vague symptoms like back pain or weight loss. Some patients may exhibit atypical symptoms such as new-onset diabetes mellitus or unexplained thrombosis due to hypercoagulability associated with malignancy⁴. Patients might also experience unusual symptoms like bowel obstruction due to extrinsic compression from a mass⁵.

Ovarian cancer often presents at an advanced stage due to its subtle symptoms. Atypical presentations include unexplained fever (PUO) and anemia without the classic abdominal distension or pain symptoms. This was illustrated in a case where a patient was misdiagnosed with renal tuberculosis before ovarian cancer was identified⁶. Patients may experience gastrointestinal disturbances like

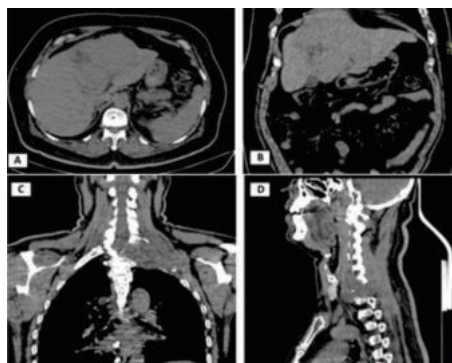
nausea, vomiting, or changes in bowel habits, which can mimic benign gastrointestinal disorders. The lack of typical signs such as palpable masses or ascites can lead to misdiagnosis⁷. Ovarian tumors may secrete hormones leading to atypical presentations such as abnormal vaginal bleeding or signs of hyperandrogenism (e.g., hirsutism) in women⁸.

MATERIALS AND METHODS

Our department performed all scans on the Somatom scope 16-slice CT machine and the 1.5 Tesla Siemens Magnetom Essenza. MRI was the investigation of choice for the first two cases with CT correlation whereas the last case had CECT done. Sequences for MRI included T1W, T2W, and STIR sequences. CECT technique included sagittal, coronal, and axial sections of regions of interest.

RESULTS

Case 1: A 65-year-old male presented with left upper limb weakness. Elevated alpha-fetoprotein (AFP) levels were noted. CT revealed an expansile, lobulated heterogenous lesion arising from the posterior aspect of the left 1st rib infiltrating vertebral bodies and the left pedicles and lamina of C7 and T1 vertebrae, indicating metastatic involvement. CECT confirmed the bony metastases involving C7-T1 vertebral bodies and showed a hypodense mass in the left lobe of liver revealed to be hepatocellular carcinoma on histopathological examination (HPE).



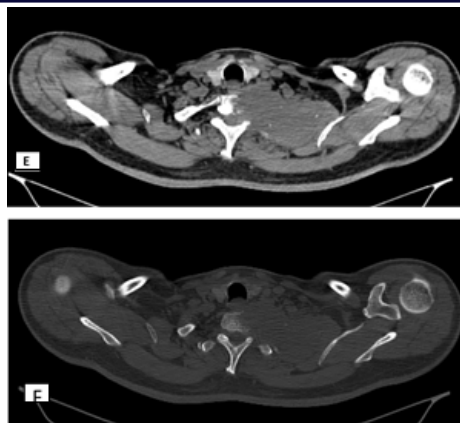


Figure: CT showed a hypodense mass in the left lobe of liver revealed to be hepatocellular carcinoma on histopathological examination (HPE) and bony metastases involving C7-T1 vertebral bodies.

Case 2: A 70-year-old male presented with left supraclavicular lymphadenopathy. MRI showed a predominantly T2 hypointense mass lesion in the peripheral zone of base and mid- gland of prostate infiltrating the right neurovascular bundle and showing restricted diffusion. HPE report revealed the lesion to be adenocarcinoma of prostate. CECT revealed extensive retroperitoneal and pelvic lymphadenopathy with multiple, well-defined bony lesions in the head & neck of bilateral femoral bones, right acetabulum, left superior and inferior pubic rami, suggesting bony metastases.

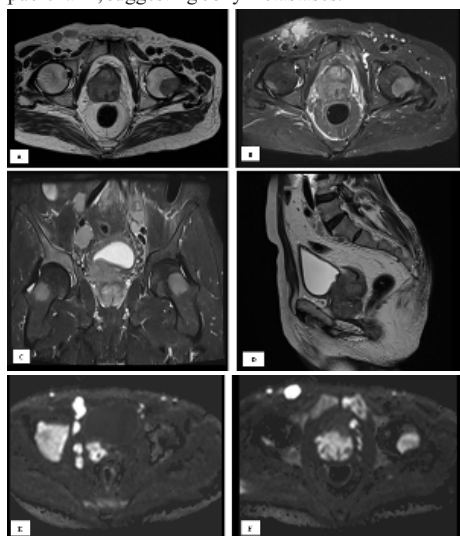


Figure: MRI showed a predominantly T2 hypointense mass lesion in the peripheral zone of base and mid-gland of prostate infiltrating the right neurovascular bundle and showing restricted diffusion. HPE report revealed the lesion to be adenocarcinoma of prostate

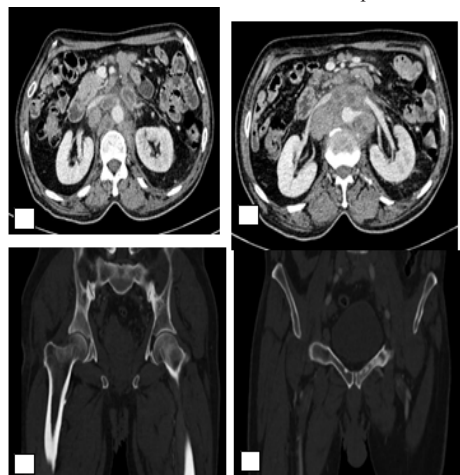


Figure: CECT of the same case revealed extensive retroperitoneal and pelvic lymphadenopathy with multiple, well-defined bony lesions in the head & neck of bilateral femoral bones, right acetabulum, left superior and inferior pubic rami, suggesting bony metastases. Left supraclavicular lymphadenopathy was noted

Case 3: A 55-year-old female presented with abdominal discomfort and bilateral solid ovarian lesions. CECT scan revealed an enlarged, bulky, heterogeneous mass lesion in the left ovary with pelvic peritoneal metastatic deposits, omental deposits, moderate ascites, large right pleural effusion, and few enlarged para-aortic lymph nodes. There was a diffuse, malignant wall thickening in the hepatic flexure of the colon and sub-solid partly ground glass nodules in the upper and lower lobes of right lung, likely colonic and pulmonary metastasis.

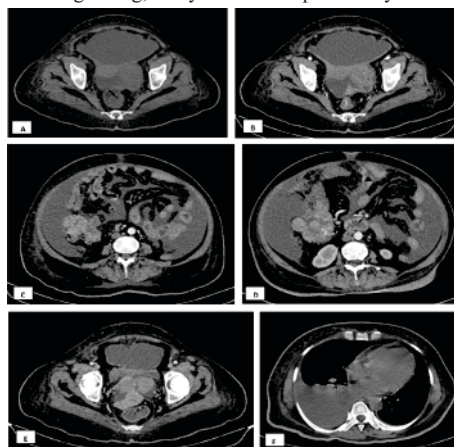


Figure: CECT shows an enlarged, bulky, heterogenous lesion in the left ovary with pelvic peritoneal metastatic deposits, omental deposits, moderate ascites, large right pleural effusion, and few enlarged para-aortic lymph nodes. There was a diffuse, malignant wall thickening in the hepatic flexure of the colon and sub-solid partly ground glass nodules in the upper and lower lobes of right lung, likely colonic and pulmonary metastasis.

DISCUSSION

The importance of recognizing uncommon presentations of malignancies cannot be overstated. In our case series involving imaging findings in metastatic hepatocellular carcinoma, prostate cancer, and colon cancer, we observed several key themes: Advanced imaging techniques such as CT scans and MRIs are crucial in identifying atypical presentations. Studies by El-Serag et al. 2011, and Kauffman et al. 2009, explained that in metastatic HCC, imaging may reveal unexpected vascular complications or incidental findings that prompt further investigation^{3,5}. Mottet et al. 2017, explained that in prostatic cancer cases, imaging can uncover distant metastases that were not clinically apparent at presentation⁹.

Atypical presentations can significantly impact patient management. For instance, Saad et al., in 2020 described that a patient with colon cancer presenting with pyelophlebitis may require urgent intervention for septic thrombophlebitis rather than standard oncological treatment¹.

Similarly, recognizing unusual metastatic patterns in prostate cancer can alter treatment strategies and improve patient outcomes.

There is a pressing need for increased awareness among healthcare providers regarding the potential for atypical presentations of common malignancies. Reck et al. 2020, highlighted unusual manifestations can serve as valuable educational tools to enhance clinical acumen¹⁰.

The complexity of diagnosing and managing atypical malignancy presentations necessitates a multidisciplinary approach involving oncologists, radiologists, and pathologists. Goff et al. 2004, inferred that collaborative efforts are essential for accurate diagnosis and timely treatment⁶.

The atypical presentations of hepatocellular carcinoma, adenocarcinoma, and ovarian malignancies highlight the need for heightened awareness among healthcare providers. Recognizing these unusual manifestations is crucial for timely diagnosis and effective management. Clinicians should maintain a high index of suspicion when evaluating patients with nonspecific symptoms that could indicate underlying malignancies, particularly in high-risk populations. Early detection strategies and appropriate imaging techniques are essential for improving outcomes in patients with these cancers.

CONCLUSION

This case series emphasizes the need for healthcare professionals to recognize uncommon malignancy presentations. By identifying atypical symptoms, utilizing appropriate diagnostic tools, and employing a multidisciplinary approach, clinicians can facilitate early diagnosis and optimize treatment outcomes for cancer patients.

List of Abbreviations

CT - Computerised Tomography MRI – Magnetic Resonance Imaging
FLAIR – Fluid-Attenuated Inversion Recovery SWI – Susceptibility
Weighted Imaging DWI – Diffusion-Weighted Imaging CE – Contrast
Enhanced PUO – Pyrexia of Unknown Origin HCC - Hepatocellular
Carcinoma

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