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CASE REPORT

Imaging of Kaposi sarcoma in a transplanted liver: A rare case report

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Abstract In post-transplant patients, de novo malignancies such as post-transplant lymphoproliferative disease (PTLD), lung carcinoma, renal cell carcinoma, cutaneous malignancies, and Kaposi sarcoma are now seen. The immunotherapy used to prevent graft failure indirectly increases their risk. We present a rare case of visceral Kaposi sarcoma in a patient with orthotopic liver transplant.

1. Introduction

De novo malignancy is now seen to have a rising trend after solid organ transplant. The incidence of de novo malignancy is said to range from 2.3% to 26% (1,2). Various de novo malignancies are seen after liver transplant. Most common of them is cutaneous malignancies as said in western literature, followed by post-transplant lymphoproliferative disease (PTLD) (1). Other visceral organ malignancies include lung cancer, renal cell carcinoma, and hepatocellular carcinoma. Visceral Kaposi sarcoma is a rare de novo malignancy seen in postliver transplant patients. We report a rare case of visceral Kaposi sarcoma seen in an Asian male after orthotopic liver transplantation.

2. Case report

A 35 year old male from Mongolia suffering from HCV related chronic liver disease (CLD) was referred to our institute for liver transplantation. Preoperative CT was consistent with CLD. Orthotopic right lobe liver transplant from a living donor was performed. The post-operative period was uneventful and patient was discharged from the hospital. He was given tacrolimus, mycophenolate mofetil and prednisolone as immunosuppressants. The patient was asymptomatic for 6 months postoperatively till he presented to a local hospital in Mongolia with jaundice and increased total bilirubin and alkaline phosphatase. The patient was referred back to our

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institution. Triphasic CT revealed irregular hypodense lesions in relation to segment 8 of the grafted liver and also along its inferior and posterior margins. Irregular hypodense soft tissue was noted in periportal region extending along periportal planes into the liver parenchyma, thereby causing mild intrahepatic biliary radical dilatation. All of these lesions showed significant peripheral arterial phase enhancement with washout on delayed phase. In addition to these lesions, multiple heterogeneously enhancing enlarged lymph nodes were seen in periportal and peripancreatic, gastro hepatic space and along pre and para-aortic regions (Fig. 1).

Ultrasound guided biopsy was performed, which was reported as spindle cell sarcoma. In view of history of immunosuppression, immunohistochemistry markers for Kaposi sarcoma were evaluated. CD 34 and CD 31 markers came out to be positive, and the diagnosis of Kaposi's sarcoma was made (Fig. 2).

Patient was admitted and immunotherapy was changed to sirolimus and ganciclovir. Follow-up imaging with MRI revealed multiple well defined T2 hyper intense lesions in the liver along with extensive soft tissue at the porta, peripancreatic and pre aortic area (Fig. 3). These lesions did not restrict on diffusion weighted image. MRCP revealed intrahepatic biliary radical dilatation for which percutaneous trans-hepatic biliary drainage was performed. However patient deteriorated, developed multiorgan failure and ultimately died.

3. Discussion

The risk of de novo malignancies is said to be increased by 200–500 times after solid organ transplantation (3). The type of malignancy varies with the type of immunosuppressants used. For example, tacrolimus is said to increase the risk of haematological malignancies and cyclosporine increases the risk of skin cancers.

Kaposi sarcoma (KS) is a low grade vascular tumor and in 60% of cases, it presents as skin and mucosal lesions. In 40%

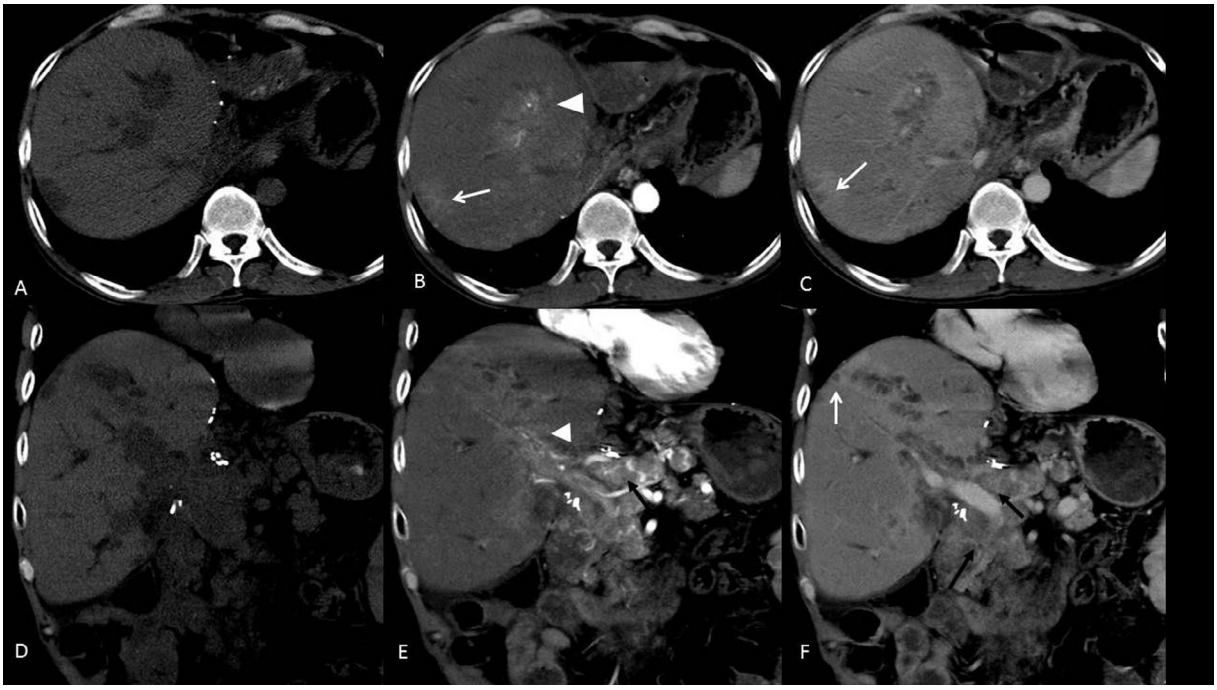

Fig. 1 CT triple phase liver angiography images on plain (A and D), arterial (B and E) and portal (C and F) phases, multiple hypodense lesions at periportal region, showing arterial phase enhancement and washout on portal images (black arrow). Multiple arterial enhancing intraparenchymal lesions (arrow head) seen traversing along the portal vessels and also in subcapsular location (white arrow).

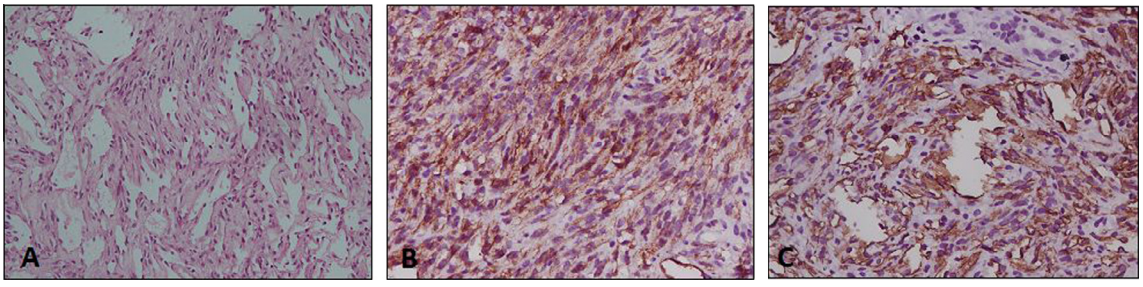

Fig. 2 Histopathology slides in HE (A) showing spindle cells. Immunohistochemistry marker slides, positive for CD 31 (B) and CD 34 (C).