Answer: Hepatocellular carcinoma with vascular invasions

The panel shows a large hepatocellular carcinoma (HCC) occupying most of the right lobe of the liver with hepatic vein involvement and extension into the right atrium and also direct extension in the intrahepatic inferior vena cava.

Tumour thrombus is one of the complications of hepatocellular carcinoma (HCC) and is usually associated with a poor prognosis. Autopsy studies of HCC with vascular invasion reported that the portal and hepatic veins were involved in 62.2% to 90% and 23.3% respectively. 1 Extension of hepatic vein thrombus into the inferior vena cava has been demonstrated in 3.8% of cases, with a reported untreated median survival of only three months after diagnosis. 2 Generally, the more advanced the tumour is, the more extensive and distant the tumour thrombus will get. Tumour thrombus in biliary duct, parumbilical veins and as far as into the heart, though very rare, has also been reported.

Tumour thrombus occurs when the tumour cells spread along the vascular channels and commonly occurs in those with advanced disease. On histology, tumour thrombus consists of tumour mass with thrombus on the surface. On imaging, large tumour thrombus has the same imaging characteristics of the main tumour and may show contrast enhancement. However, this is not always the case especially in smaller tumour thrombus.

A complications is embolisation of tumour thrombus resulting in cardiopulmonary arrest and death.

The treatment options for HCC with vascular invasion are very limited and most of the experience has been with portal vein involvement. Often treatment is not curative. The role of liver transplantation is very limited. Non surgical interventions such as systemic chemotherapy and chemo-embolisation are recommended rather than surgery due to poor prognosis and morbidity and mortality associated with surgical intervention. However, surgical interventions (radical resections with thrombectomy) for portal vein involvement has been shown to have better one, two and three years survival rates (52.2%, 23.2% and 11.6% respectively) compared to the reported one year survival rate of 7% to 18% in non-surgical management. 3 Patient selection and surgical experience are very important. Further studies are required to assess whether the result of radical interventions for portal vein involvement can be translated to hepatic vein involvement.

REFERENCES