Vascular complications

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Hepatic artery thrombosis (HAT) is one of the most dreaded complications after LT , and may occur spontaneously or as a result of acute rejection; it is more common in children and in adults with PSC. The incidence of HAT has been reported to be in the range of 1–10% after LT . Anatomical variant grafts such as split, reduced and LDLT grafts have a higher risk of HAT when compared with whole-organ LT . Early HAT (within 4 weeks of LT) may present as a rise in serum transaminase levels, unexplained fever or bile leak. The risk factors for early HAT are not only related to technical factors such as vessel kinking, stenotic anastomosis and intimal dissection, but also to other factors such as elderly donors with calcified vessels, a hypercoagulable state in the recipient and rejection episodes. Doppler ultrasound or CT angiography is used to confirm the diagnosis, and urgent retransplantation is usually required. Endovascular interventions and thrombolysis are rarely successful. The UK super-urgent liver scheme allows listing of those patients who develop early HAT , up to 21 days after transplantation. Late HAT (after 4 weeks of LT) usually has an insidious course and can present as asymptomatic elevation of liver enzymes, bile duct strictures or liver abscess. The bile ducts su ff er the most ischaemic insult as they primarily depend on arterial blood supply with no portal venous blood supply . Retransplantation is usually reserved for those with severe biliary complications. Portal vein thrombosis and stenosis are rare and can pres ent with features of portal hypertension. The management usually involves endovascular interventions such as balloon dilatation or stent insertion, surgical bypass or retransplanta tion. Late portal vein thrombosis/stenosis manifests as portal - conservatively without risk of graft loss. Hepatic venous outflow obstruction often presents with increasing ascitic fluid losses over the postoperative period. A ca vogram with hepatic vein pressur e studies should be under - taken to confirm the diagnosis, and insertion of vascular stents, surgical correction or retransplantation may be required to treat the problem.

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