INDICATIONS AND PATIENT SELECTION

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The indications for liver transplantation (LT) fall into four groups: 1 chronic liver disease (CLD); 2 acute liver failure (ALF); 3 metabolic liver disease (including liver-based inborn errors of metabolism); 4 primary hepatic malignancy (hepatocellular carcinoma [HCC], hepatoblastoma). The most common indication for LT is decompensated CLD (Table 89.1). In adults the most common causes are alco holic liver disease, non-alcoholic fa tty liver disease (NAFLD), chronic viral hepatitis (hepatitis B virus [HBV] and hepatitis C virus [HCV]), autoimmune liver diseases (primary biliary cirrhosis, primary sclerosing cholangitis , autoimmune hep atitis and overlap syndromes) and cirrhotic metabolic liver diseases (Wilson's disease). The specific frequencies of these aetiologies depend on geographical variations. In the last tw decades hepatitis-related CLD (HBV and HCV) was the most common indication for LT . However, with universal vaccina tion for HBV and newer treatment options for HCV and with increasing obesity in a ffl uent countries, NAFLD is projected to become the most common indication for LT in the future. In children, who account for around 10–15% of all LTs, bili ary atresia is the most common indication for transplantation. ALF requiring transplantation on an urgent basis accounts for approximately 10% of LT activity and is usually drug induced or viral (e .g. paracetamol overdose in the UK). There are a variety of non-cirrhotic metabolic diseases for which trans plantation o ff ers the prospect of cure, including urea cycle Samuel Alexander Kinnier Wilson , 1878–1937, Professor of Neurology at King's College Hospital, London, UK. He described hepatolenticular degeneration in his gold medal winning MD dissertation of 1912 titled 'Progressive lenticular degeneration', which led the disease to be named after him as Wilson's disease. defect, oxalosis and familial hypercholesterolaemia. Primary hepatic malignancy is more common in patients with cirrhosis, especially viral-induced liver disease and NAFLD, and may be best treated by transplantation when advanced liver disease precludes liver resection because of the risk of postoperative liver failure or when the tumour is multifocal as a result of field changes in the cirrhotic liver that predispose to recurrence or further primary malignancies. LTs are usually performed between ABO blood group-compatible donor–recipient pairs. Histocompatibility matching, as in kidney transplantation, has not been neces - sary in LT as the liver is consider ed a more immunologically privileged organ. In countries where living donor liver trans - - plantations (LDLTs) are performed in large numbers because of a lack of deceased donor or gans, there has been a recent increase in the number of ABO-incompatible LT s when there is no blood group-compatible donor available. However, there - is an increased risk of infection owing to a higher immunosup - pression protocol and a higher incidence of antibody-mediated rejection with this type of transplantation. o Potential candidates undergo a comprehensive multi - disciplinary assessment, including hepatologists, transplant sur - - geons, anaesthetists, specialist n urses in LT , drug and alcohol rehabilitation services, dietician, psychologists and specialists from other clinical disciplines where indicated. Thr ee under - lying

principles dictate which patients should be referred for, - and potentially undergo, LT . First, the recipient should have irreversible liver disease (acute or chronic) tha t is expected to be fatal without transplantation. Second, the patient should have su ffi cient reserve to survive the operative and periopera - tive period. Finally , the candidate should be expected to have - significant survival (>50% at 5 years) and quality of life benefit from LT .

The complications after liver transplantation • Living donor and paediatric liver transplantation • The causes of liver graft dysfunction • Liver graft preservation techniques •

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Aetiology in adult Acute liver failure Drugs (paracetamol overdose) Hepatitis A and E (severe acute impairment of liver Acute Wilson’s disease function with encephalopathy that Autoimmune hepatitis occurs within 8 weeks of the onset Acute fatty liver of pregnancy of symptoms and no recognised underlying chronic liver disease) Fatty liver disease: alcohol or non-alcohol Chronic liver disease related (any diseases that cause cirrhosis Chronic viral hepatitis B, C, D and its associated complications) Autoimmune liver diseases: primary biliary cirrhosis, primary sclerosing cholangitis, overlap syndromes Genetic haemochromatosis Wilson’s disease -antitrypsin de /f_i ciency 1 Secondary biliary cirrhosis Variant syndromes Intractable pruritus Hepatopulmonary syndrome (metabolic liver disease with Familial amyloidosis life-threatening extrahepatic Primary hypercholesterolaemia complications in children) Hepatic epithelioid haemangioendothelioma Recurrent cholangitis Nodular regenerative hyperplasia Hereditary haemorrhagic telangiectasia Glycogen storage disease Ornithine transcarbamylase de /f_i ciency Primary hyperoxaluria Maple syrup urine disease Porphyria Amyloidosis Hepatocellular carcinoma Liver tumours Rarely – cholangiocarcinoma, neuroendocrine tumours, colorectal liver metastasis

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