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Donor Liver Availability: Addressing the Global Shortage for Liver Transplantation

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Introduction

Liver transplantation is a life-saving surgical procedure that involves replacing a diseased or failing liver with a healthy one from a donor. This intervention is primarily indicated for patients suffering from end-stage liver disease or acute liver failure when other treatments fail to restore liver function. Since its first successful operation in 1967, liver transplantation has evolved into a well-established and widely practiced procedure, offering hope and extended life to thousands of patients worldwide. The liver is a vital organ located in the upper right quadrant of the abdomen. It performs numerous critical functions essential for maintaining overall health, including. Processing carbohydrates, proteins, and fats. Filtering harmful substances from the blood. Facilitating digestion and absorption of dietary fats. Reserving essential nutrients such as glycogen, vitamins, and minerals. Synthesizing proteins required for blood coagulation. Given its multifaceted role, liver failure can lead to severe systemic complications and necessitate urgent intervention. Liver transplantation is considered in cases where the liver can no longer function adequately to sustain life. Caused by conditions such as hepatitis B, hepatitis C, alcoholic liver disease, or Non Alcoholic Steatohepatitis (NASH). Progressive destruction of bile ducts. Chronic inflammation and scarring of bile ducts.

Description

Rapid loss of liver function due to causes like drug toxicity (e.g., acetaminophen overdose), viral hepatitis, or autoimmune hepatitis. When confined to the liver and meeting specific criteria. Conditions such as Wilson's disease, hemochromatosis, and alpha-1 antitrypsin deficiency. Disorders like biliary atresia, particularly in paediatric patients. Liver transplantation requires a suitable donor, which can be categorized as follows. Most liver transplants utilize livers from deceased donors who have consented to organ donation. Allocation is governed by systems like the Model for End Stage Liver Disease (MELD) score, which prioritizes patients based on the severity of their liver disease. A portion of the liver from a living donor, often a relative, is transplanted. The liver's remarkable ability to regenerate allows both the donor and recipient to regain full liver function within weeks. A single liver from a deceased donor can be divided and transplanted into two recipients, typically an adult and a child. Comprehensive evaluation is critical to assess a candidate's suitability for liver transplantation. Determining the underlying liver disease and overall health status. Assessing mental health, support systems, and the ability to adhere to post-transplant care. Imaging studies, blood tests, and liver biopsies to evaluate the extent of disease and exclude contraindications.

Conclusion

Active infections, severe cardiovascular or pulmonary diseases, and active substance abuse may preclude transplantation. Liver transplantation is a complex surgery performed under general anaesthesia and typically takes 6 hours-12 hours. The failing liver is excised while preserving major blood vessels. The donor organ is connected to the recipient's blood vessels and bile ducts. Ensuring proper blood supply to the new liver. Post-surgical monitoring in the Intensive Care Unit (ICU) is crucial for managing potential complications. Recovery after liver transplantation involves rigorous monitoring and adherence to medical advice. To prevent rejection, recipients must take lifelong immunosuppressive medications such as tacrolimus, cyclosporine, or mycophenolate mufti. These drugs suppress the immune response but increase susceptibility to infections. Routine blood tests and imaging to monitor liver function and detect complications early.

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None.

Conflict of Interest

The authors declare that they have no competing interests.

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