Liver Transplants

In some cases, hepatitis causes liver cancer or severe damage to the liver, resulting in end-stage liver disease and ultimately liver failure. At this time, the only effective treatment for end-stage liver disease is a liver transplant.

The first human liver transplant was attempted in Denver, Colorado, in 1963 by a team headed by Thomas Starzl, MD. Four years later, the procedure was performed successfully. Survival rates have been steadily improving, particularly with the introduction of anti-rejection medications. Liver transplantation is a complicated surgery, requiring lifelong follow-up care. However, liver transplant recipients are usually able to return to normal activities after recovering for several months.

Transplant Evaluation

You may be referred for a transplant evaluation, although you may not actually need a liver transplant. The evaluation is an extensive process, conducted by a transplant team. Eligibility is determined on a case-by-case basis, but there are general guidelines. Some of these criteria are absolute and some are relative, depending on the practices of specific transplant centers.

Potential disqualifications for liver transplantation:

- Active alcohol or substance abuse with less than six months of abstinence
- Metastatic cancer and active septic infections
- Other serious health issues; advanced heart, lung or kidney disease; severe infection; other terminal conditions; whether or not a center transplants people living with HIV

Other factors that may affect liver transplantation qualifications:

- Morbid obesity
- Inability to follow medical instructions
- Lack of support to help manage post-surgical medication regimen

- Advanced age
- Smoking or marijuana use

If you are eligible, you will be place on the transplant waiting list. The sickest people are at the top of the list. The time you have to wait for a donated liver will vary, depending on factors such as how sick you are, your blood type, and the availability of a matching donor.

The MELD Score

The severity of your liver disease determines your position on the transplant list. A scoring system called the Model for End-Stage Liver Disease, or MELD, is used to evaluate how advanced liver disease is in adults and predicts survival rate. MELD scores range from 6 to 40, with 6 being the least ill.

The transplant team keeps track of MELD scores. Online MELD calculators are available, but in order to use them, you need to know your most recent lab values for bilirubin, creatinine, and prothrombin time (international normalized ratio or INR).

Transplantation for hepatocellular carcinoma (liver cancer) is more likely to be successful if the procedure is done in the early stages of cancer.

Living Donor Liver Transplantation

Most liver transplants use deceased donors. However, a person may wait months or years before a suitable organ is available. Because the liver has the remarkable ability to regenerate, another option is to transplant part of a liver from a living donor. A living donor doesn’t have to be a blood relative but must have a compatible blood type. About 40 to 60 percent of the donor’s liver is removed. Within eight weeks, the partial livers of both the donor and the recipient are usually completely regenerated.

Living donor transplants are done only when the potential risk to the donor is small and the potential benefit to the recipient is unquestionable. It is difficult to find current data on live liver transplantation, but it appears that there are 250 to 400 liver donor transplants a year. One in 300 donors die and about 30 percent suffer a complication.

The advantages of living donor transplants are:

- Better survival of the graft (transplanted liver)

- Lower graft rejection rates
- Recipients spend less time on liver transplant waiting list

Organ Rejection

After the transplant, the recipient must receive immunotherapy to prevent the body from rejecting the new liver. The transplanted liver (allograft) is foreign to the body, so the immune system may go on the offense. Transplant recipients are given drugs that suppress the immune system and prevent rejection of the new liver. Rejection commonly occurs a week or two following transplants; however, rejection can occur at any time.

The signs of organ rejection after liver transplant often start with elevated liver enzymes. Symptoms of liver rejection include fatigue, loss of appetite, nausea, abdominal tenderness or pain, fever, jaundice, dark-colored urine, or light-colored stools.

Post-transplant Hepatitis Recurrence and Treatment

Liver transplantation is not a cure for hepatitis. The virus is still in the blood, so hepatitis often returns after the surgery, and may be severe. This can lead to rapid failure of the transplanted liver.

To prevent reinfection of hepatitis B, your liver transplant specialist may prescribe high doses of hepatitis B immunoglobulin (HBIG). Nucleoside reverse transcriptase inhibitors (NRTIs) may be given before and/or after the transplant procedure. NRTIs include entecavir, lamivudine, and tenofovir. Interferon and peginterferon should not be prescribed as these increase the risk of organ rejection.

Click here for hepatitis C treatment recommendations for post-liver transplant HCV recurrence from the American Association for the Study of Liver Diseases.

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