Liver transplant

Arterial flow problems can be seen and corrected. Every graft should be evaluated with Transit Time Flow Measurement, as insufficient perfusion may harm the transplanted liver and even result in a rejection of the organ.

Excessive portal flows can be identified and inflow modulation can be performed.

By using flow measurements patients who still have significant open portosystemic shunts after reperfusion of the graft may be identified.

Simultaneous Transit Time Flow Measurements and Pressure measurements during living donor liver transplants, allow for evaluation of perfusion of the separate liver lobes in order to select appropriate harvesting procedure, and for later comparison following transplant.

We believe the combination of pretransplantation CT scan and intraoperative flow measurement provides a comprehensive way to recognize, characterize, and manage hemodynamically relevant portosystemic shunts in patients with cirrhosis undergoing liver transplantation.” (Aucejo et al. Triple-Phase Computed Tomography and Intraoperative Flow Measurements Improve the Management of Portosystemic Shunts During Liver Transplantation. Liver Transplantation 2008;14:96-99)

“Peroperative hemodynamic detailed study with precise flow measurements is essential to determine whether an additional HPCS is needed on top of the existing spontaneous systemic variceal shunts. Peroperative monitoring is essential to calibrate the shunt and avoid graft hypoperfusion.” (Troisi et al. Effects of Hemi-Portocaval Shunts For Inflow Modulation on the Outcome of Small-for-Size Grafts in Living Donor Liver Transplantation. American Journal of Transplantation 2005;5:1397–1404)

“From our experience with intraoperative measurement of absolute flow in the graft vessels, we believe that the causes of technically imperfect perfusion of the graft can be identified and instantly corrected so that primary graft dysfunction or graft infarction can be avoided.” (Rasmussen et al. Intraoperative measurement of graft blood flow – a necessity in liver transplantation. Transpl Int 1997;10:74-77)

Liver transplant
With the exception of the brain, the liver is one of the most complex organs in the body. It
has over 500 functions, most of which are essential for sustaining life. The liver is a very tough and resilient organ, and it can endure a high level of damage that would destroy other organs. It is also capable of regenerating itself. Despite its resilience, if the liver is extensively damaged as a result of illness, infection or (as is becoming increasingly common) alcohol and substance misuse, it will become scarred. Scarring of the liver is known as cirrhosis. Once cirrhosis reaches a certain level, the liver gradually loses all its functions. This is known as end-stage liver disease. A liver transplant is the only cure for end-stage liver disease.

A liver transplant is an operation where a diseased or damaged liver is removed from the body and replaced with a healthy one. There are three types of liver transplants:

1. Cadaver-organ donation
   - A cadaver-organ donation involves a liver being removed from a person who has recently died, and used for transplant.

2. Living donor liver transplant
   - During a living donor transplant, a section of liver is removed from a donor who is still living, and it is used for transplant.
   - Because the liver can regenerate itself, both the transplanted section and the remaining section of the donor’s liver are able to re-grow into a normal size liver.

3. Split donation
   - A split donation is when a liver is removed from a person who has recently died and then split into two pieces: one large and one smaller piece.
   - The larger piece of liver is transplanted into an adult, and the smaller piece is transplanted into a child. As with living donations, both pieces of liver will grow into a normal size.