**My daughter is on the liver transplant waiting list: Can I become her donor?**

For this kind of procedure you should contact a transplant center that provides transplant services for both pediatric patients and living-related procedures.

By Jean de Ville de Goyet

*I am the mother of an 8-month old girl who was diagnosed with biliary atresia. She already underwent liver surgery, but her conditions are worsening. The medical team told us that the only chance to cure her is a liver transplant, and therefore we enrolled her on the waiting list. The waiting time is usually a few months, but there is no certainty. I heard that I could become a living donor and give her part of my liver, but I do not know how. What is the procedure to follow and what are the risks?*

Jean de Ville de Goyet, Director of the Department for the Treatment and Study of Pediatric Abdominal Diseases and Abdominal Transplantation at IRCSS-ISMETT (Palermo, Italy), answers the question.

Biliary atresia is a rare disease and the first indication for liver transplantation in pediatric patients. It causes the obstruction of the biliary tract at an early age and can quickly evolve into terminal liver failure. Before resorting to transplant, a first surgical attempt can be made. Unfortunately, when the disease is diagnosed too late or the surgery does not have a positive outcome, liver transplantation becomes the only available option. Deceased donor transplants are still the preferred option in Italy, but when the pediatric patient’s conditions worsen the only other available option is a living-related transplant.

**Where do I go? What do I need?**

About 250 pediatric liver transplants are performed in Europe every year, and approximatively 15 in Italy alone. Modern transplant techniques are becoming increasingly safe, both for the donor and the recipient, to the extent that the elective surgery (i.e., planned surgery) success rate is 100%. Usually the graft is procured from one of the child's parents. For this kind of procedures you should contact a transplant center that provides transplant services for both pediatric patients and living-related procedures. ISMETT (Palermo) is one of these, and also the first center to establish a permanent living-related pediatric transplant program. Once the child is enrolled on the waiting list, the parent wishing to donate part of the organ undergoes several clinical-diagnostic tests to assess his/her compatibility and the portion to be procured. Lifestyle is the first factor to be assessed, together with some other general wellness parameters. For example, anyone who smokes 10 cigarettes or more a day cannot become a donor, since a major surgery could put him/her at risk, nor can any obese person donate. It is nevertheless possible in both cases to restore a good lifestyle by starting a strict diet or stopping smoking at least one month before the surgery.

**Characteristics of the surgery**

The risk of complications for this kind of surgery is 30%, though most of these complications are minor and resolve autonomously. In rare cases, complications are so serious that an additional surgery or a medical procedure is necessary. Living donation candidates are informed about the mortality risk related to this major surgery, just like any other, which is estimated to be 0.5% for liver left lobe donation. When procuring a liver portion for a pediatric transplant recipient, the chosen lobe is usually the left one, which though the smaller one, is enough for a 6-25 Kg child. Pediatric patients with a lower weight can also be transplanted; in this case the procured portion is even smaller. The liver can be surgically divided into two parts because each of the two lobes (right and left) has its own arterial and venous vascularization. Two medical teams perform the surgeries (procurement and transplant) almost simultaneously. The procurement surgery lasts about 4 hours and 30 minutes, whereas the transplant about 5-7 hours. After the surgery, the donor can usually be discharged after 7 days of hospitalization, and the recipient after 3 weeks. There are multiple advantages for the pediatric recipient, among which the possibility of receiving an organ before the worsening of health conditions, which could lead to higher risks during and after the transplant. Living-related transplants can also be scheduled to the benefit of pediatric patients with special needs (e.g., antibiotic treatment, nutritional support, or need for hospital care) and who can profit from an optimal transplant preparation during the weeks or days preceding the surgery.