Liver transplant for biliary atresia

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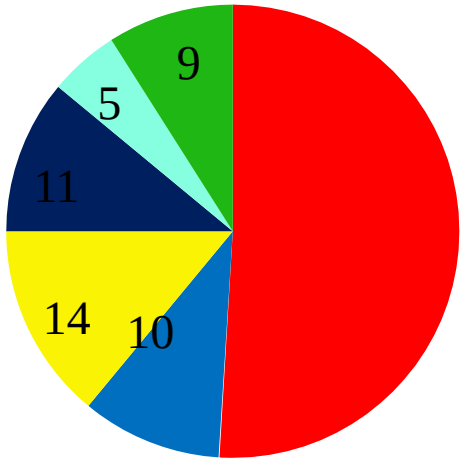
Liver transplant for biliary atresia

The first human liver transplant was performed on a pediatric patient suffering from biliary atresia in 1963!

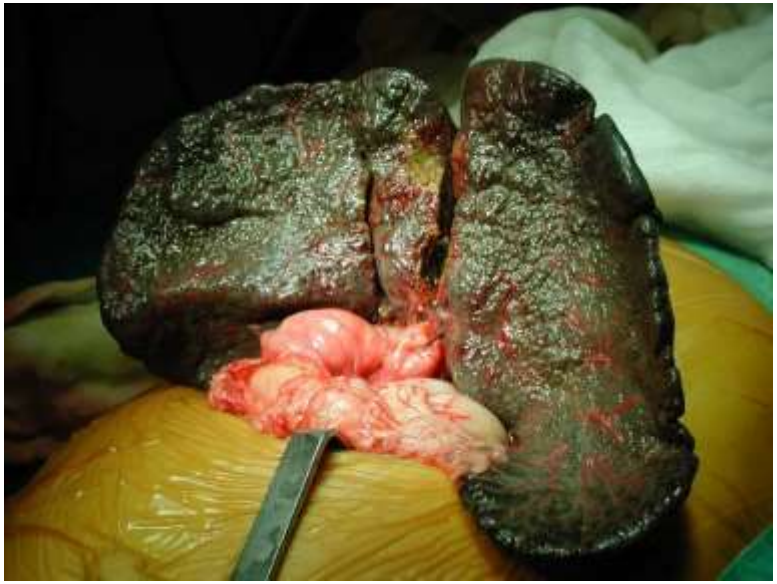
Liver transplant for biliary atresia



Biliary atresia is the most common disease requiring a liver transplant in pediatric patients: 50% of indications for transplantation both in Italy and abroad.

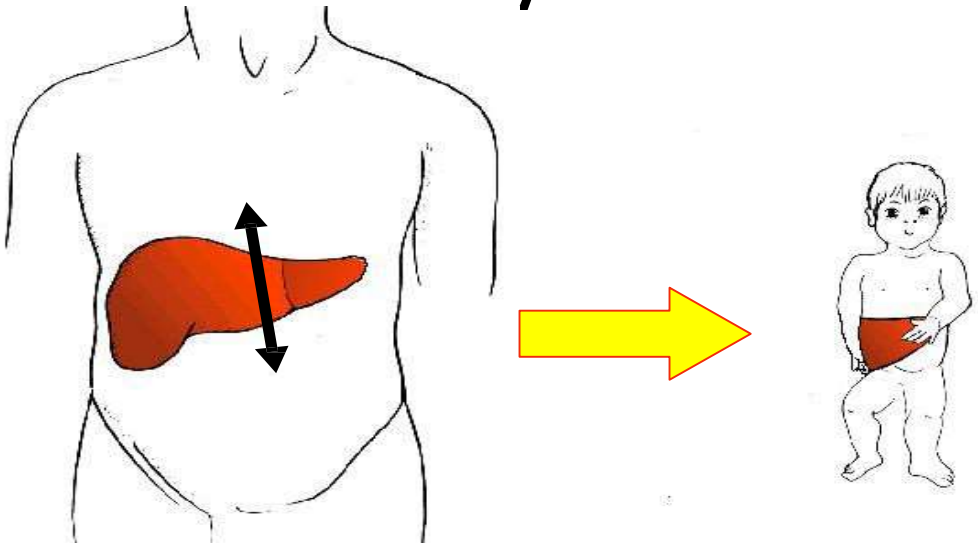
Biliary atresia
Fulminant hepatitis
Metabolic disease
Cholestasis
Other
Tumors

Liver transplant for biliary atresia



The majority of pediatric patients who are affected with biliary atresia and are transplant candidates have a rapid cirrhotic evolution and liver failure, which represents the main indication for transplantation.

Liver transplant for biliary atresia

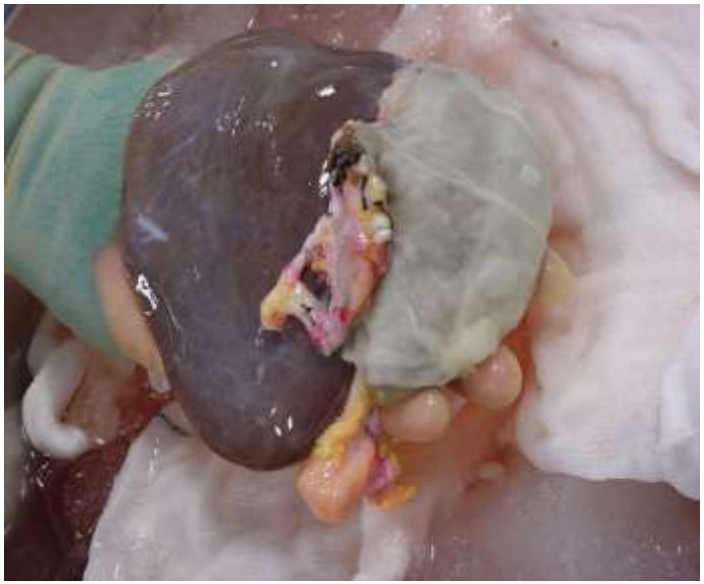


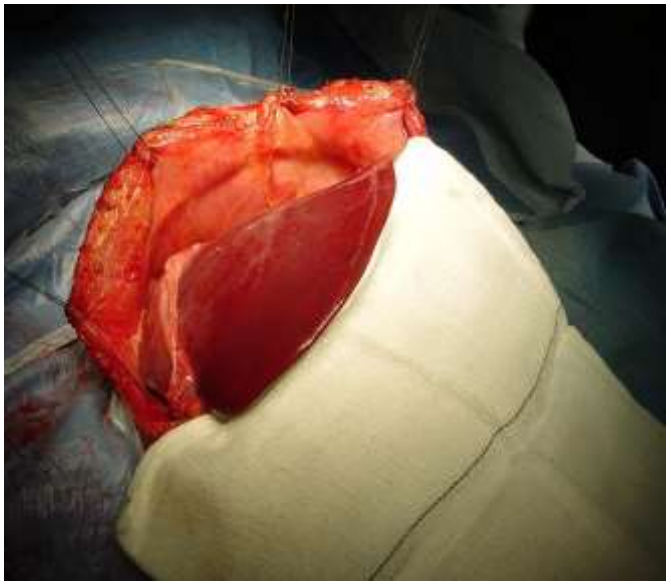
The majority of pediatric patients affected with biliary atresia and who are transplant candidates are newborns and weight less than 10 Kg.
The majority of transplant recipients have received a liver portion procured from an older donor (split-liver transplant or living-related transplant).

Liver transplant for biliary atresia

The left portion (so-called left lobe) of the adult donor can be used for a transplant of a patient weighing 25 Kg or less.

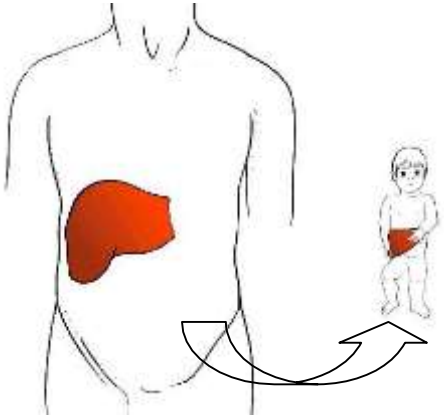
This technique can be adapted to the weight of the recipient, should he/she be an older pediatric patient.

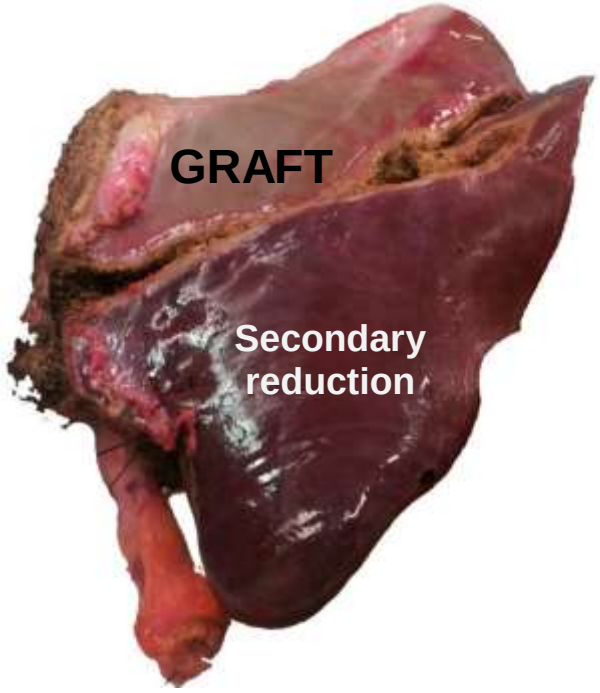


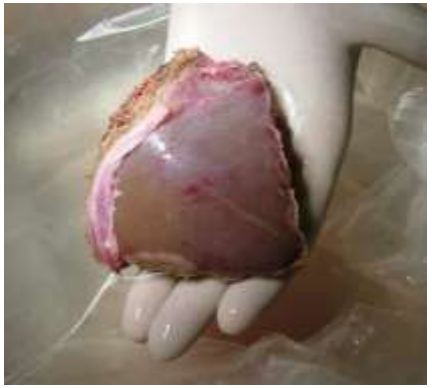


Liver transplant for biliary atresia

Younger pediatric patients weighting less than 5 Kg may need a <u>further reduction</u> of the left lobe, thus reducing the graft size to the minimum (<u>reduced left lobe or monosegmental transplantation</u>)



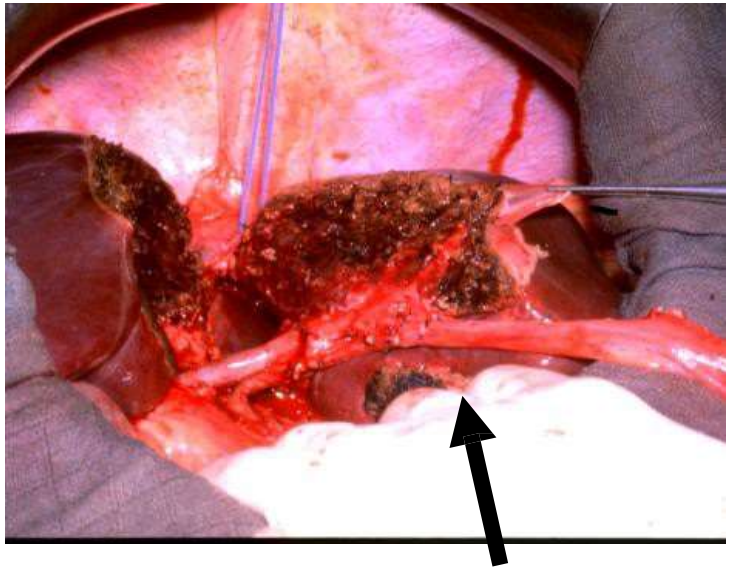




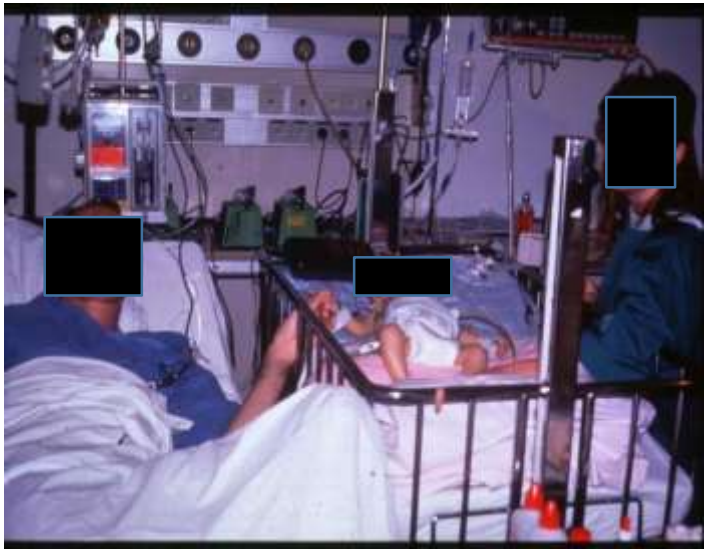
90 gr GRAFT

Liver transplant for biliary atresia

The split-liver technique can also be used when procuring a graft from a living donor (usually one of the parents), thus having numerous benefits in terms of logistics, timing, and outcomes.

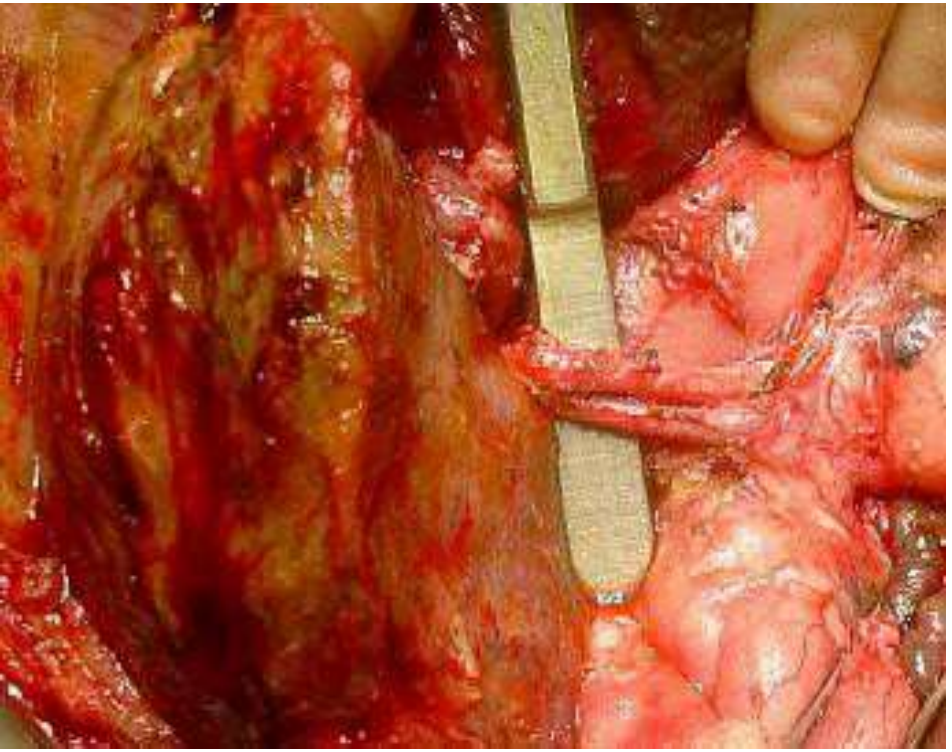


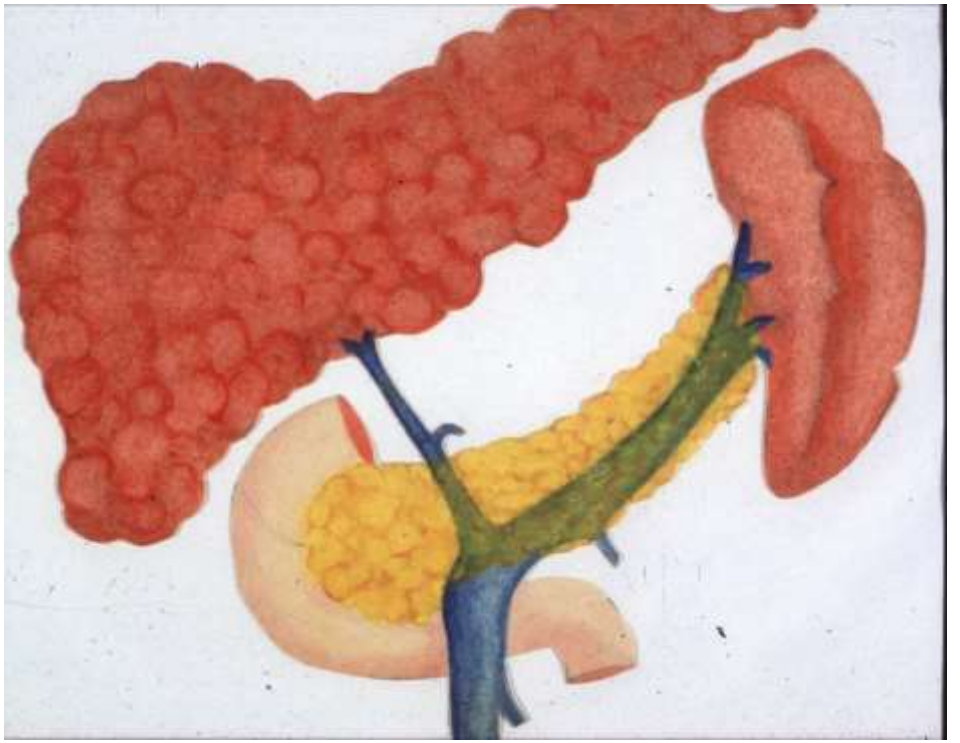
GRAFT
Left lobe



Liver transplant for biliary atresia

Hypoplasia (reduced caliber) of the portal vein is quite frequent in pediatric patients affected with biliary atresia, and represents a technical challenge in the transplant. After the transplant, hypoplasia can cause a reduced venous flow or a thrombosis of the vein, therefore preventing the functional recovery of the new liver.





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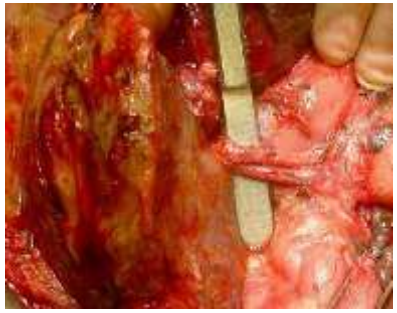
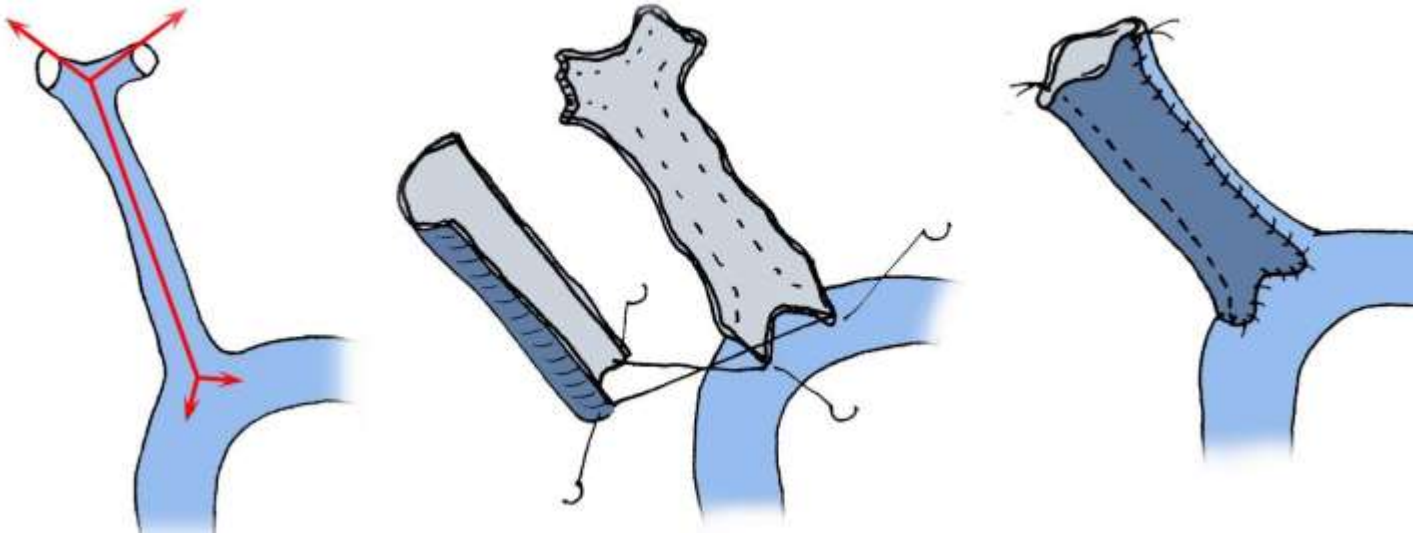
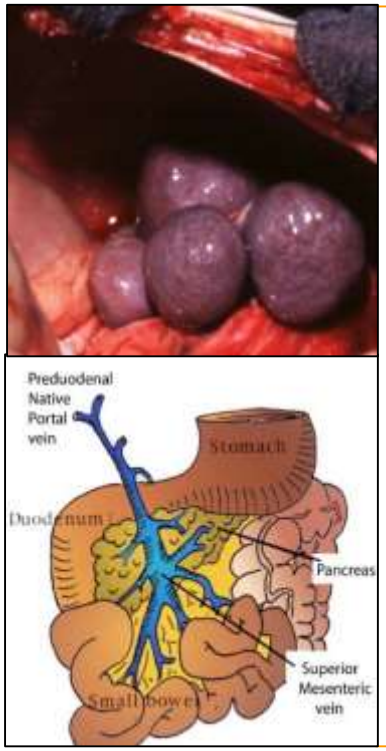


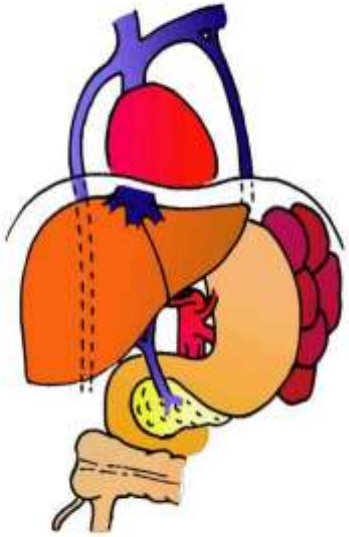
Hypoplasia (reduced caliber) of the portal vein represents a technical difficulty in the liver transplant. Thanks to adapted reconstruction techniques, especially the longitudinal enlargement of the vein, an adequate flow can be restored and thus prevent a venous thrombosis..



Liver transplant for biliary atresia

15% of pediatric patients affected with biliary atresia show evidence of malformation, in particular polysplenia. Syndromic patients suffer from both biliary atresia and polysplenia (multiple spleens), and possibly from other venous malformations, such as the preduodenal portal vein, another technical challenge requiring specific solutions and experienced surgeons.





Polysplenia
Absent caval vein
Preduodenal portal vein
Aberrant arteries
Malrotation
Transverse Liver
Situs inversus
Cardiopathy
Abernethy syndrome

Trapianto di Fegato
Liver transplant
in pediatric patients

Successfully transplanted pediatric patients need a life-long follow up, but their appetite and growth is quickly restored and they have a normal quality of life. Older pediatric patients return to school and to university, if they wish to. They play sports like other children, get married and have children.

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