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**TTS 2024** **ISTANBUL TURKEY**  
September 22-25  
+ Virtual October 21-23



# Living Donor Liver Transplantation in Biliary Atresia With a Portal Vein Two Millimeters in Diameter

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# INTRODUCTION

Biliary atresia is one of the leading indications for liver transplantation (LT) in children.

Recurrent  
Cholangitis

Portal Vein  
Hypoplasia

**Diameter mismatches**  
between the recipient  
and donor portal vein



**these cause  
technical  
difficulties during  
anastomosis.**

In our case report, we present **a successful anastomosis** between the hypoplastic recipient portal vein and the donor portal vein **without the use of a graft.**

# Our Case

18 mo/F

Biliary atresia/Georgia

8 kilos

PELD 22.2

Preoperative PV  
diameter (CT  
angiopgraphy)

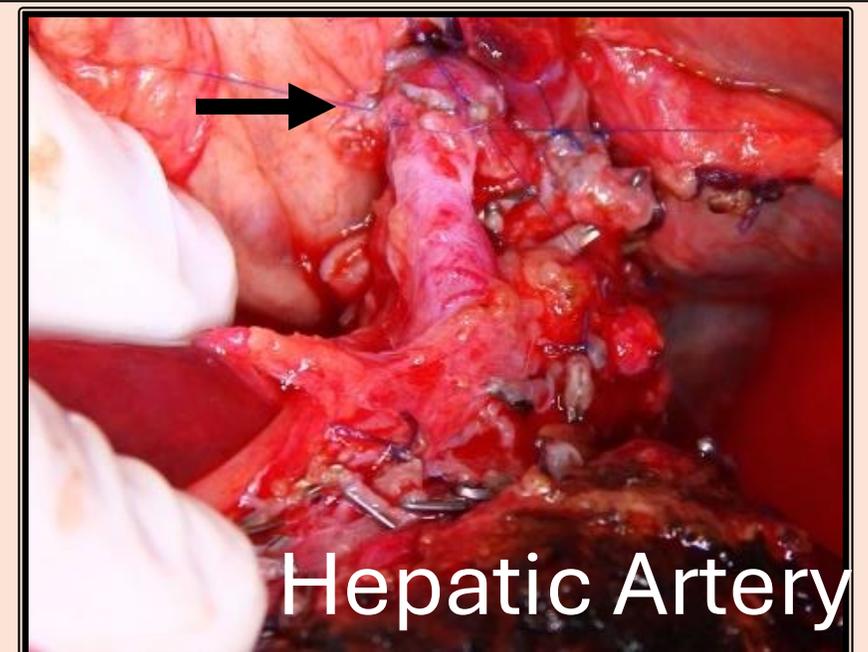
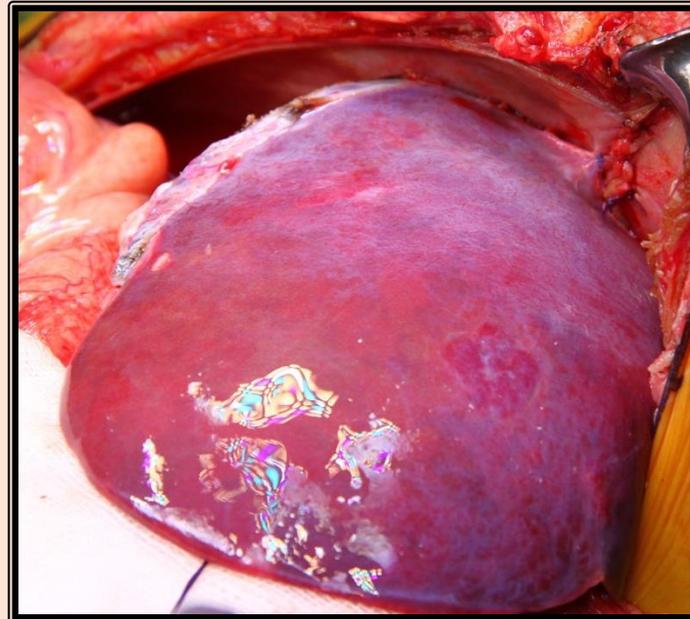
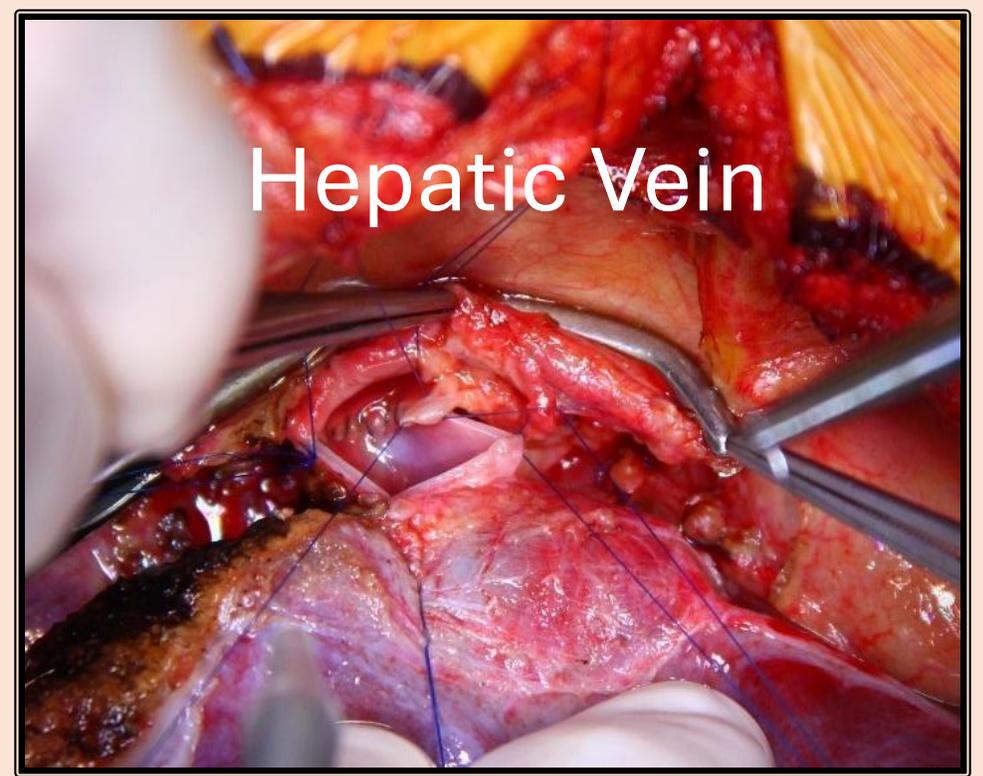
**2 mm**



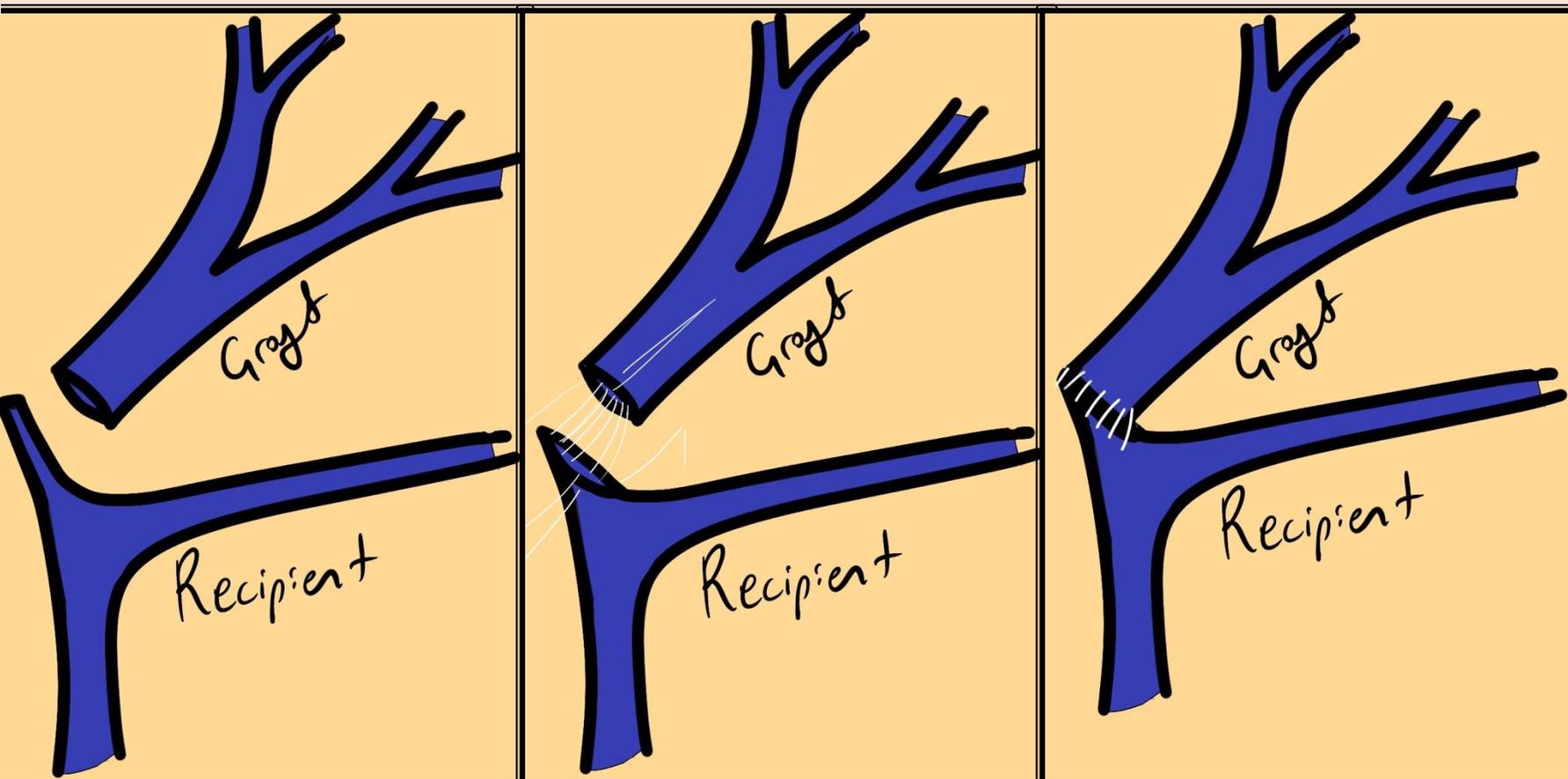
Left lateral lobe living donor liver transplantation/father.

In the recipient operation, hepatic vein and hepatic artery anastomosis were performed using microvascular techniques.

Biliary reconstruction /Roux-en-Y hepaticojejunostomy.



The portal vein was carefully dissected until the confluence and collateral vessels were ligated. The graft portal vein was anastomosed to the junction of the recipient's superior mesenteric vein and splenic vein with 6-0 polypropylene non-absorbable monofilaments.



# RESULTS

Doppler ultrasonography performed routinely on postoperative day 2 demonstrated stenosis in the portal vein with sufficient flow.

This stenosis was successfully treated with a course of percutaneous transhepatic PV dilatation with a 10-mm balloon and stent placement. (black arrow)



Stenosis



Stent Placement

# RESULTS

In addition, because the patient had splenomegaly, steel syndrome was detected in hepatic artery flow. Coil embolization of the splenic artery was performed and sufficient flow in the hepatic artery was achieved.



**After splenic embolization, hepatic artery flow returned to normal (red arrow).**

## RESULTS

On postoperative day 5,

- AST decreased from 1221 U/L to 82 U/L
- ALT decreased from 1179 U/L to 242 U/L.
- Total bilirubin decreased from 10.9 mg/dl to 2.2 mg/dl
- Direct bilirubin value decreased from 6.53 mg/dl to 1.35 mg/dl.

## CONCLUSION

In experienced centers, successful results can be achieved without the use of grafts by performing anastomosis in areas with appropriate diameters, such as the superior mesenteric vein-spleen vein junction, with careful dissections using microsurgical techniques.