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Registration number: 463

A rare case of recanalization of extrahepatic portal vein via trans-splenic access in post-transplant recipient with situs-inversus

Introduction:

- Endovascular approach for occluded/ thombosed extrahepatic portal vein in post transplant patient can be made usually by transhepatic approach.

- Although the transsplenic approach can be used when there is difficuly in cannulating portal vein and it provide a pathway for accessing the portal venous system, while avoiding potential injury to the liver transplant.

- Recanalization of the extrahepatic portal vein via trans-splenic access is a rarely reported procedure in post-transplant patient ***especially in pediatric patient , particularly in patients with complex anatomical variations such as situs inversus***.

Aims and Objectives:

- To re-establish and maintain proper blood flow through the portal vein to liver by balloon plasty and stenting so liver receives sufficient blood supply.

- To prevent complications like thrombosis, ascites and variceal development related to impaired blood flow.

- To enhance Liver graft function by ensuring an normal portal vein pathway.

- Improve Patient Outcomes and quality of life by reducing post-operative morbidity and mortality rates associated with vascular complications as mentioned.

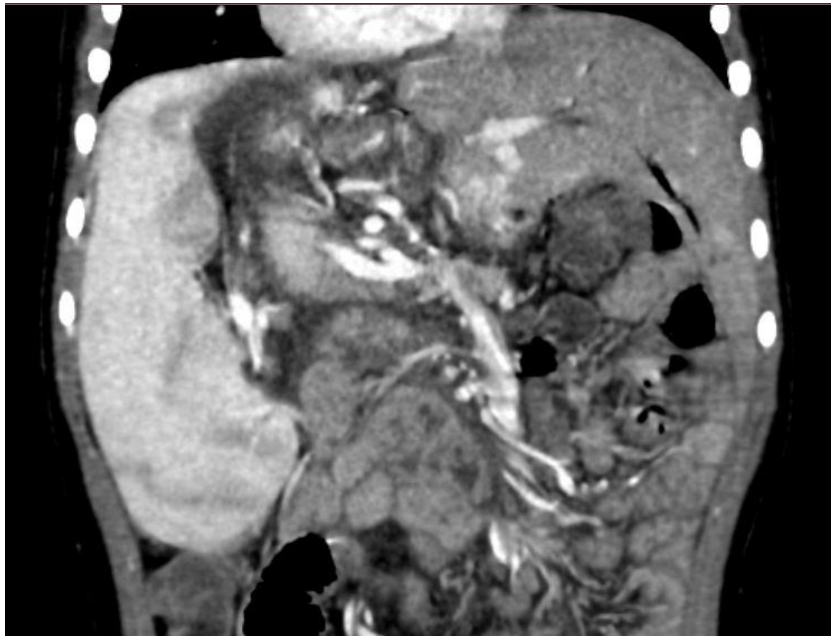
Case :

- 5yr old male with ***situs inversus totalis***
- LDLD for Biliary Atresia in January 2019
- On follow up – No complaint till april 2023
- Presented with complaints of melena and hemetemsis for one week in may 2023

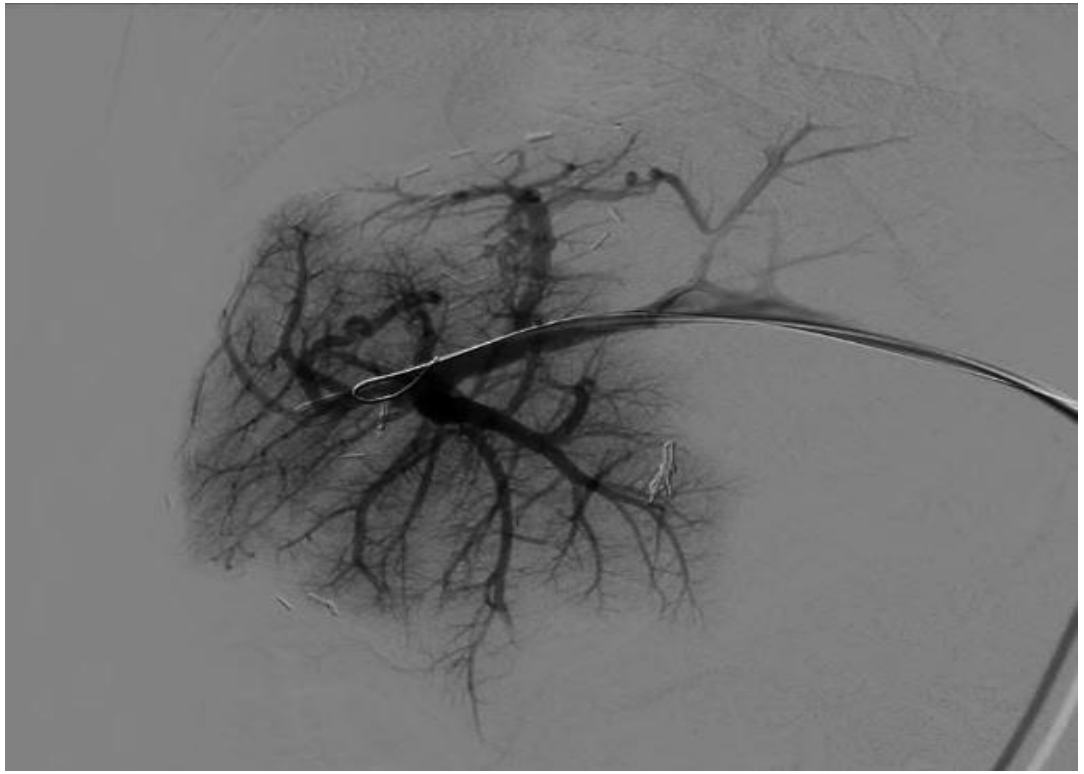
- **Investigation** :
- **Hb** : 8.9 mg/dl
- **Stool for occult blood** : Positive
- **Endoscopy** : Portal hypertension- grade II esophageal varices, Ectopic duodenal varices, bleeding duodenal varix, Hemoclip applied.
- **CECT abdomen** :

Chronic thrombosis of PV
Splenomagely
Multiple collaterals

Situs inversus

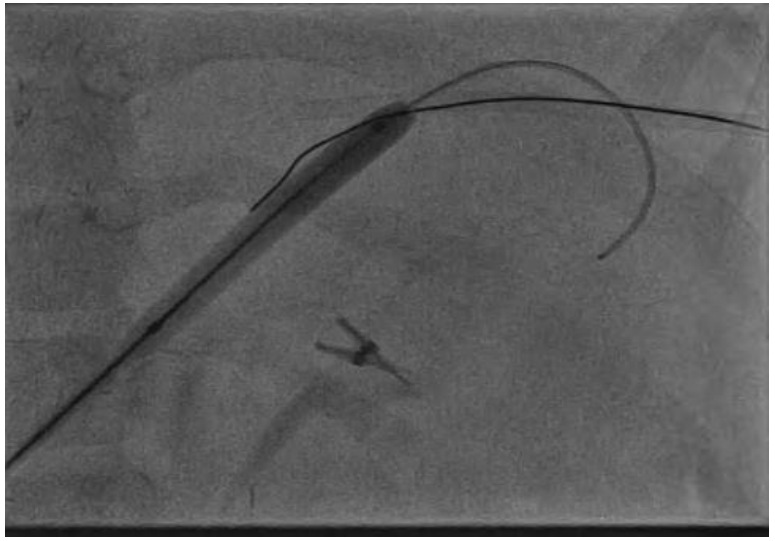


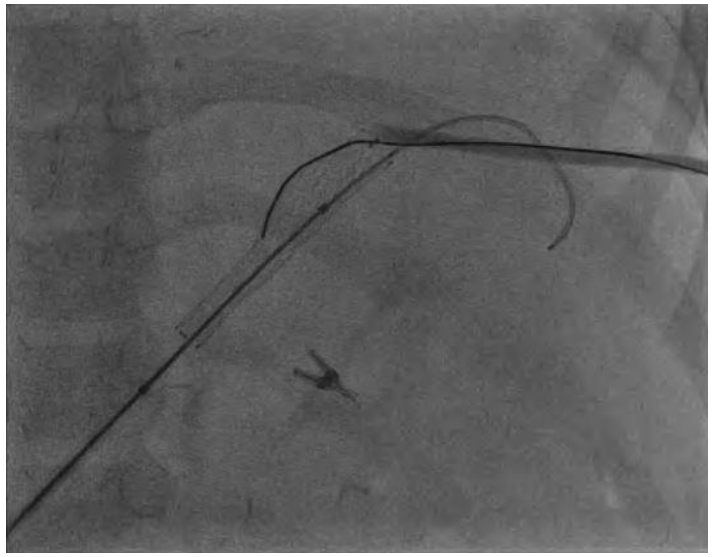
Based on imaging and endoscopy finding, plan was made to portal vein plasty and stent placement by IR team.
Trans hepatic portal vein puncture --- > **Not able to cross into extrahepatic portal vein**.

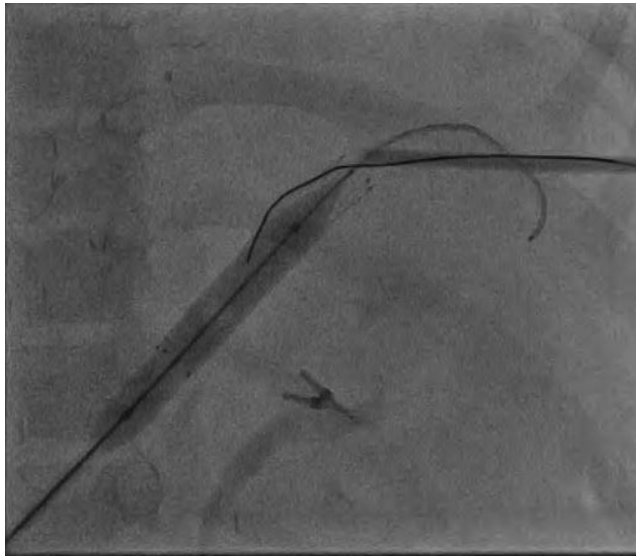


Other option :
Trans jugular route (Difficult due to altered anatomy in transplant pt as well as situs inverusus)
Trans spleen route.
Trans mesenteric route.

Finally after d/w liver Sx team, plan was made to go ahead by transsplenic route.

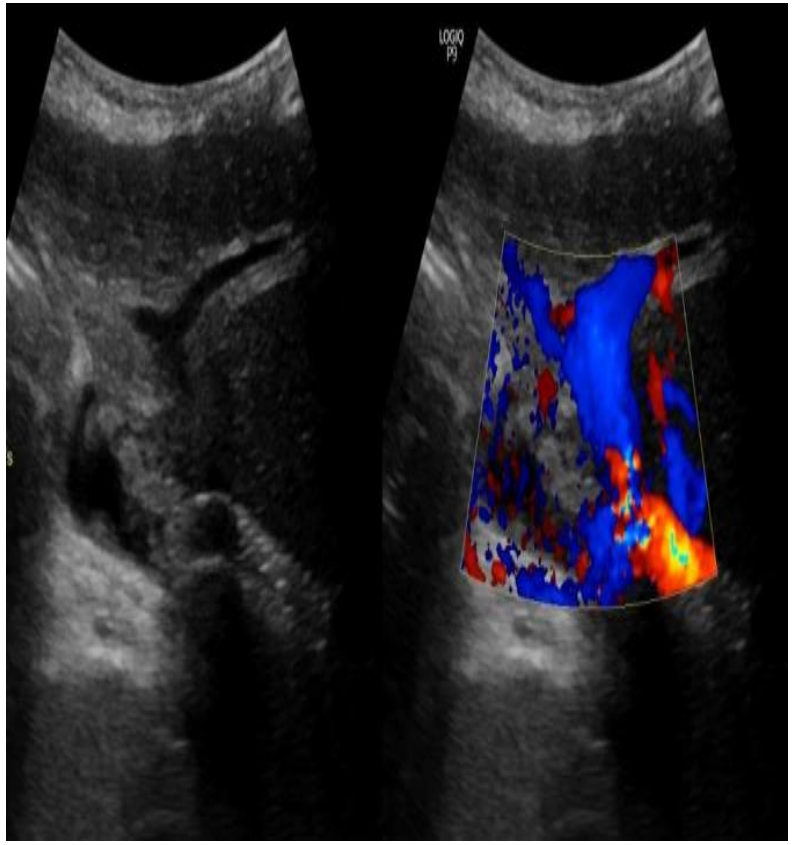


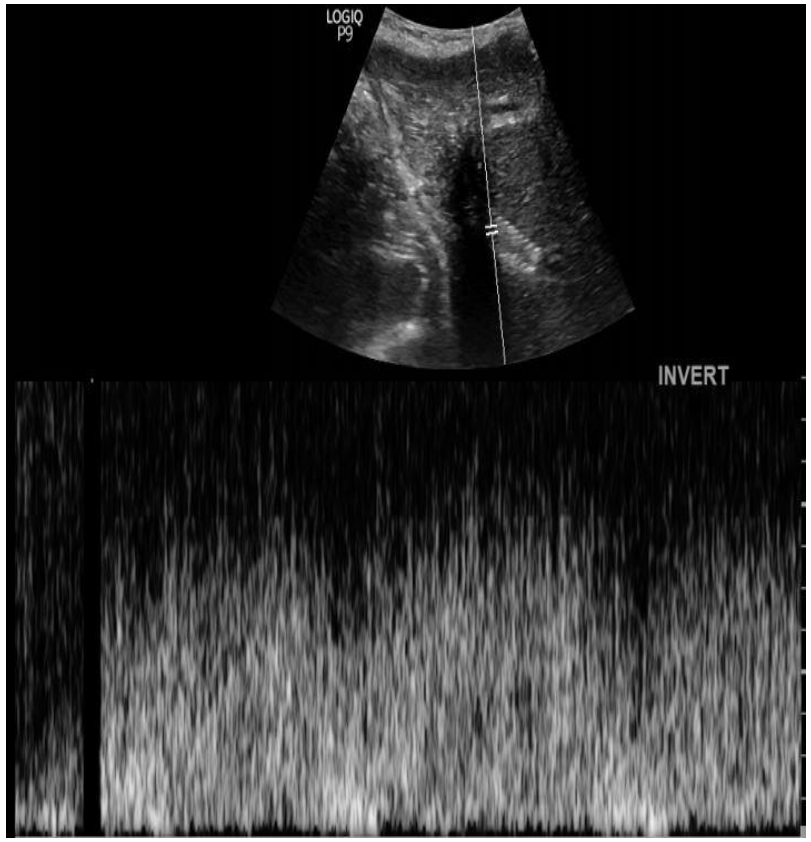




Result:

Succesfull recanalization of portal vein achived via transsplenic route with significant reduction in pressure gradient.





Conclusion:

•Transsplenic access for portal vein intervention is an alternative option for portal vein recanalization with very low complication rates, primarily from perisplenic

•This report highlights the value of the transsplenic approach for posttransplant portal intervention.

•The procedure was technically challenging and required careful precision and coordination.

• Techniques learned and applied from other aspects of interventional radiology contributed to the overall success of the approach.

• In patients with occluded portal vein , the spleen is often enlarged, which can facilitate safe ultrasound-guided micropuncture access.

•Percutaneous transsplenic access in patients with splenomegaly has been demonstrated to be feasible and relatively safe in postliver transplantation recipients.

References:

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