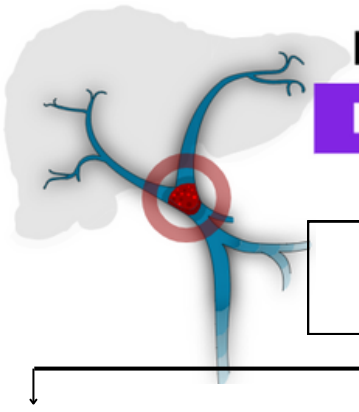
# Portal Vein Thrombosis in the Setting of Cirrhosis



## Portal Vein Thrombosis (PVT)

### In the setting of Cirrhosis

*(prevalence in compensated cirrhosis 1-5%; decompensated cirrhosis 10-25%)*

- **Confirm ultrasound findings with MRI or CT scan**
- **Are there features to suggest tumor thrombus?**

**Bland "non-tumor" thrombus**

- Continue through the algorithm below to see if the patient meets indications for therapy
- Patients who **do not** meet criteria for anticoagulation but have evidence of PVT should be re-evaluated with ultrasound doppler in 3 months and then, q 3-6 monthly

**Tumor thrombus**

- Features suggesting tumor thrombus: imaging demonstrates enhancement, contiguity of the thrombus with the tumor, vascular expansion by tumor, high AFP
- Anticoagulation is NOT required
- Portal vein invasion represents advanced BCLC Stage C disease

**See more info in the Hepatocellular carcinoma section**

**Is anticoagulation needed?**

It is difficult to distinguish between acute and chronic PVT in cirrhosis. More importantly, instead consider the clinical presentation and balance this with the case-specific risk of anticoagulation.

Urgent anticoagulation should be initiated for:

- Symptomatic clot extension into the mesenteric veins
- Clot complicated by bowel ischemia

Indications where anticoagulation should be considered:

- Liver transplant candidate independent of the degree of clot occlusion or extension
- >50% occlusion of the portal vein trunk or both main branches
- <50% occlusion of the portal vein trunk or both main branches but clot has progressed on 1-3 monthly follow-up imaging
- Extension of thrombus into the SMV
- Inherited or acquired thrombophilia (note, in cirrhosis, routine thrombophilia screening is not indicated unless there is a personal/family history of venous thrombosis).

When should a Transjugular Intrahepatic Portosystemic Shunt (TIPS) be considered?

- In patients with PVT and additional indications for TIPS (e.g. refractory ascites, history of variceal bleeding), consult a liver specialist to determine TIPS candidacy

**Use existing variceal surveillance and management guidelines to initiate primary/secondary prophylaxis as required.**

- If anticoagulation is contraindicated, consult a liver specialist to determine TIPS candidacy

**See more info on the variceal prophylaxis page**

**Starting Anticoagulation - Considerations for Type and Duration**

Type of anticoagulation:

Initiate anticoagulation with one of:

- Low molecular weight heparin
- Unfractionated heparin (preferred if there is renal insufficiency)

Maintain anticoagulation with one of:

- Low molecular weight heparin
- Oral Vitamin K antagonists (these may be challenging to monitor if the baseline INR is elevated)
- Direct-acting oral anticoagulants (use with caution in CP-B or GFR<30mL/min and avoid in CP-C)

Duration of anticoagulation:

- Until portal vein recanalization or for 6 months minimum
- Consider longer term anticoagulation in all (even after recanalization), but especially if: SMV involvement, a history of intestinal ischemia or thrombophilic state or the patient is a liver transplant candidate.
- If anticoagulation is stopped, do a follow-up ultrasound in 3 months (and intermittently thereafter) to assess for recurrence. The risk of recurrence can be up to 40%.

**In patients on Anticoagulation, carry out follow-up imaging at 3-6 months with CT or MRI**

If follow-up imaging demonstrates progression of PVT or lack of improvement, consult a liver specialist to determine TIPS candidacy