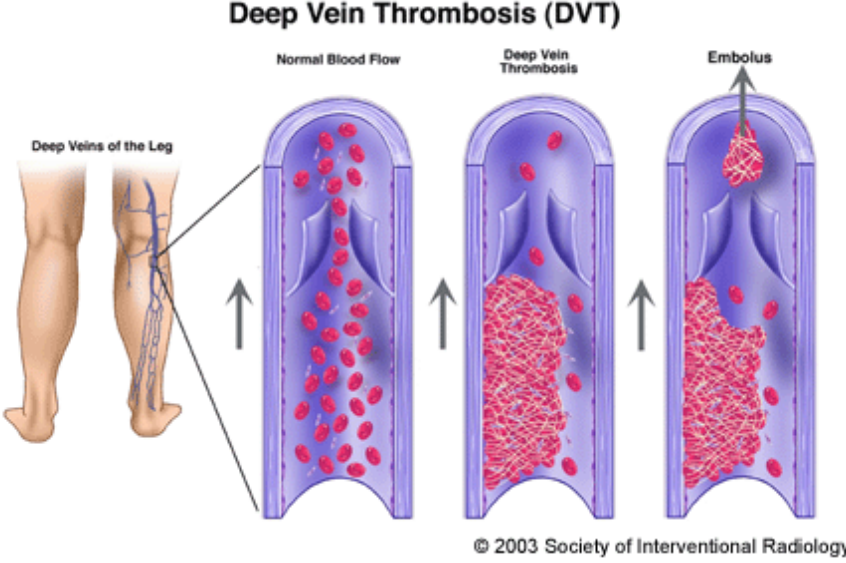
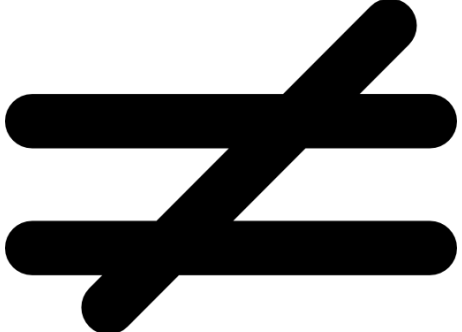
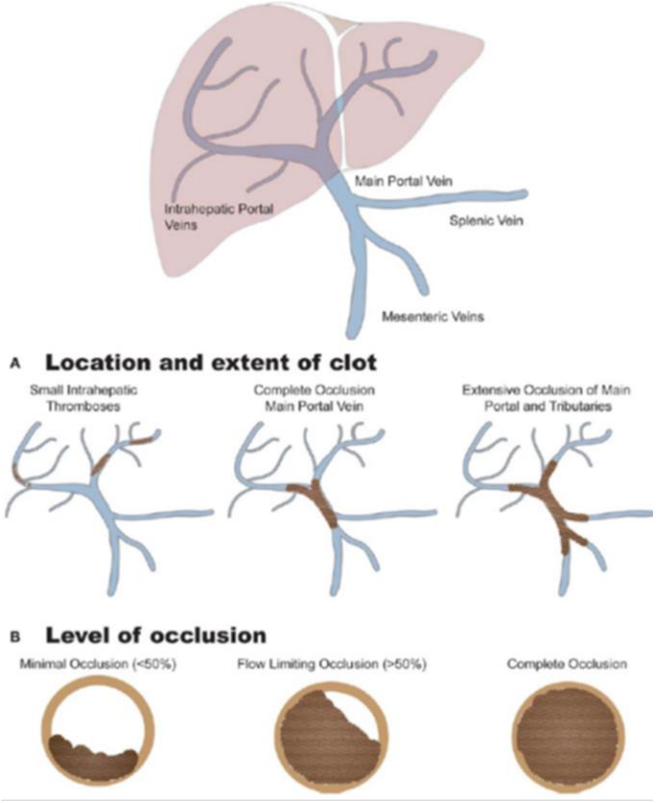


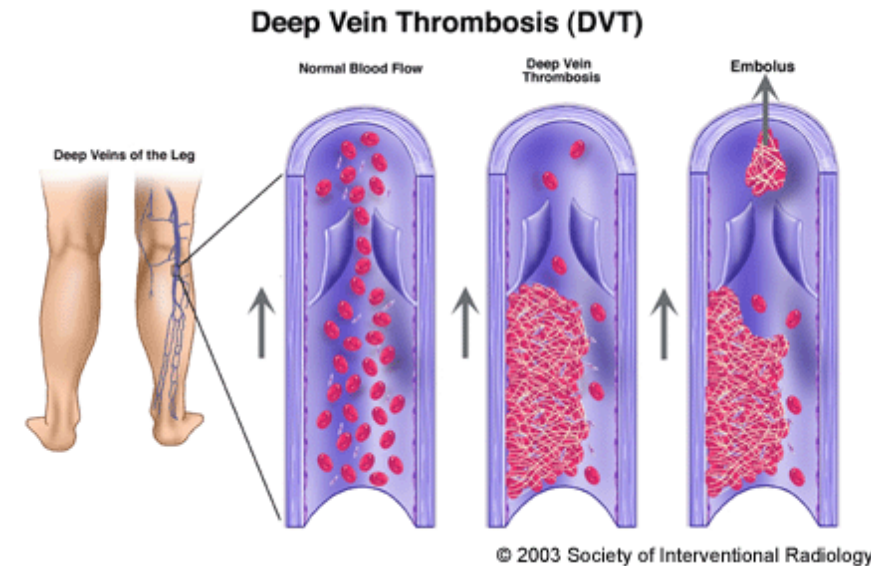
PVT is a very different disease than DVT



The portal vein



- Does not drain blood to the heart, but to the liver
- Does not have venous valves, which are important in the development of deep vein thrombosis



Portal vein thrombosis vs deep vein thrombosis



- Hypercoagulability is a well-established risk factor for development of DVT
- Acquired & hereditary hypercoagulable states
 - Blood type
 - FVleiden, prothrombin G20210A, AT deficiency.....
 - High levels of coagulation factors
 - Hypofibrinolysis
 -

Portal vein thrombosis vs deep vein thrombosis



- The role of hypercoagulability in the development of PVT is unclear
- Contradictory data on FVleiden and prothrombin G20210A
- Blood type is not a risk factor for PVT development

Liver Int. 2020;40(6):1415-1426

Hypercoagulability and PVT development



Our results do not support that acquired hypercoagulability alterations observed in patients with cirrhosis, inherited disorders of coagulation, or inflammatory status were predictive of PVT development.

J Hepatol. 2021;75(6):1367-1376

Local hypercoagulability?














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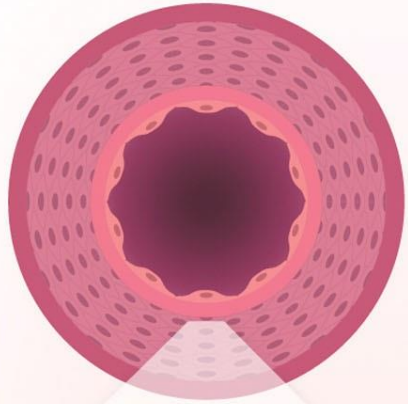
ORIGINAL ARTICLE

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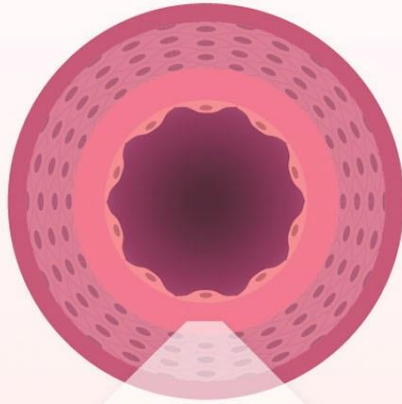
The portal vein in patients with cirrhosis is not an excessively inflammatory or hypercoagulable vascular bed, a prospective cohort study

Ellen G. Driever¹  | Marta Magaz^{2,3}  | Jelle Adelmeijer¹  | Fanny Turon^{2,3}  |
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Virginia Hernandez-Gea^{2,3}  | Annabel Blasi⁴  | Juan-Carlos Garcia-Pagan^{2,3}  | Ton Lisman¹ 

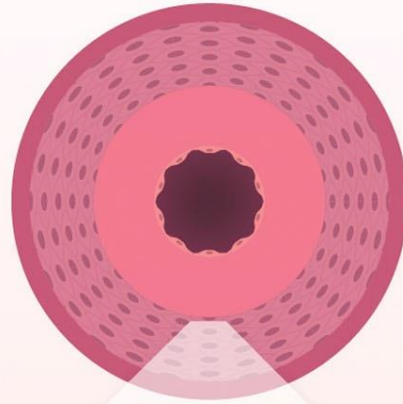
Healthy portal vein



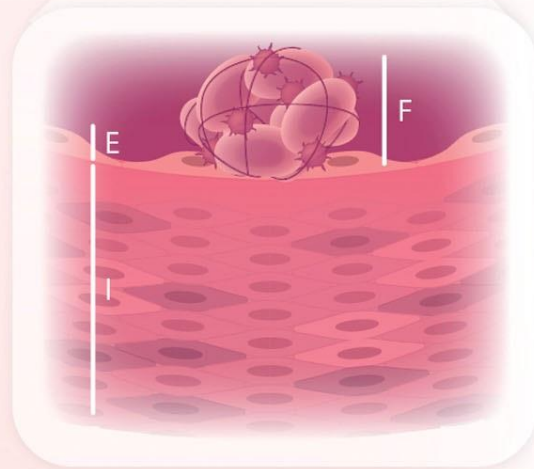
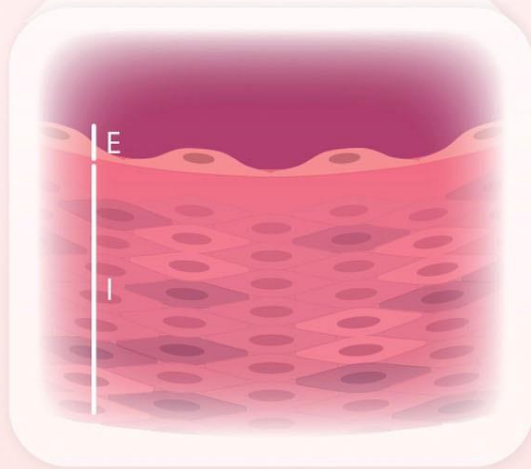
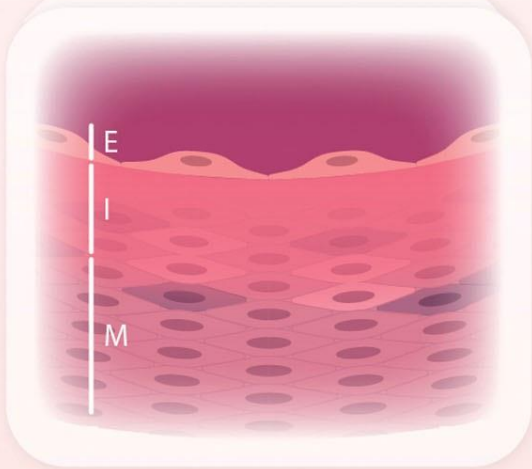
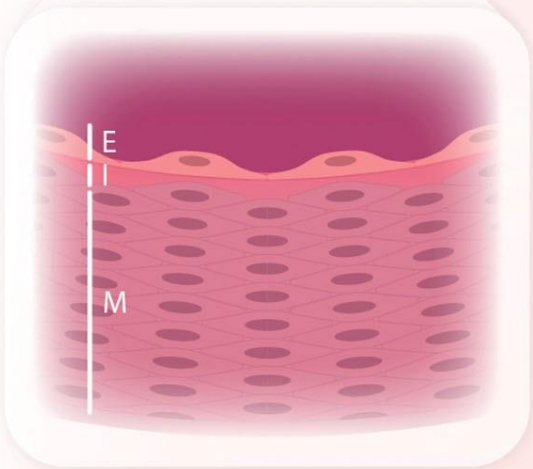
Cirrhosis, no PVT







Cirrhosis PVT



Cirrhosis PVT with fibrin-rich segment



 Endothelial cell
 Smooth muscle cell
E: Endothelium

 Activated smooth muscle cell
 Myofibroblast
I: Intima
M: Media

 Activated platelet
 Red blood cell
F: Fibrin clot

A role for coagulation?



- Yes:
 - Anticoagulants likely prevent PVT
 - Anticoagulants have some effect in treating PVT
- But:
 - No evidence that clot formation is central to PVT development
 - Thrombin has been shown to promote intimal hyperplasia in other settings

In summary



- PVT is primarily a vascular, not a thrombotic disease
- Coagulation contributes, but has a secondary role
- There is room for anticoagulant therapy, but this not justify categorizing PVT as a 'thrombotic' disease
- Cirrhotic, non-malignant portal vein obstruction