

Venous Disorders

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Lecturer

Anatomical Pathology Discipline



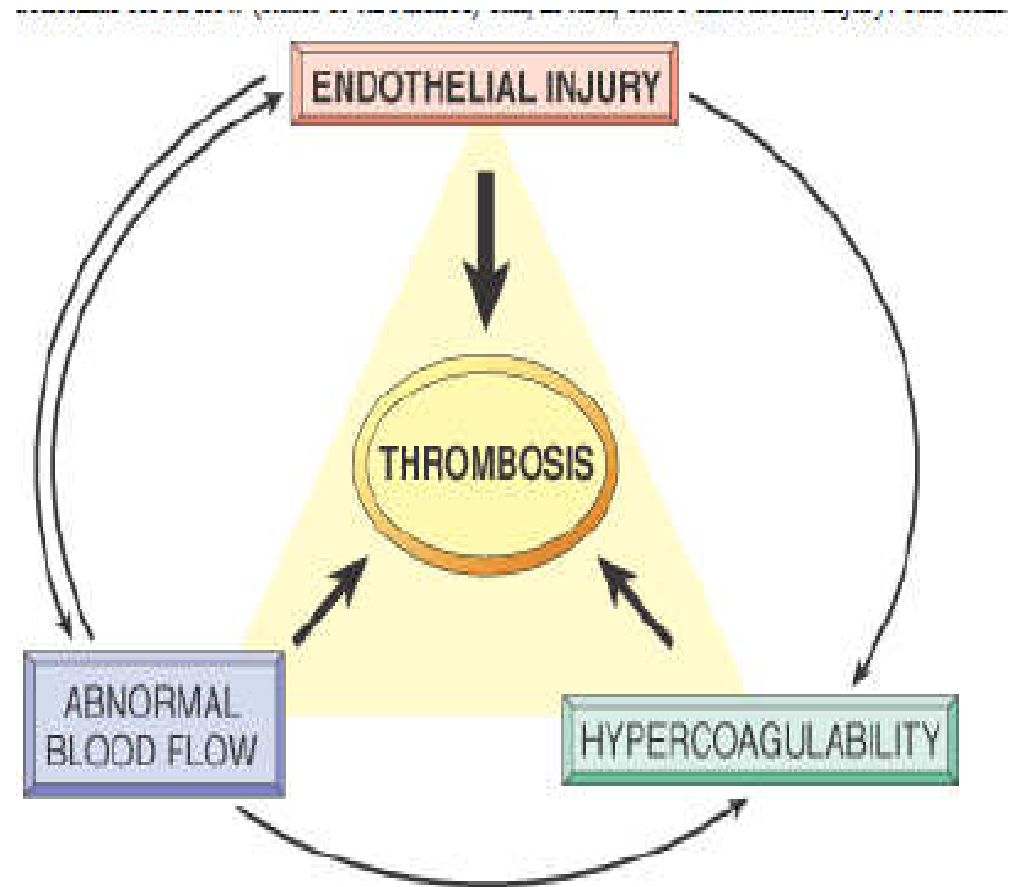
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Disease Spectrum

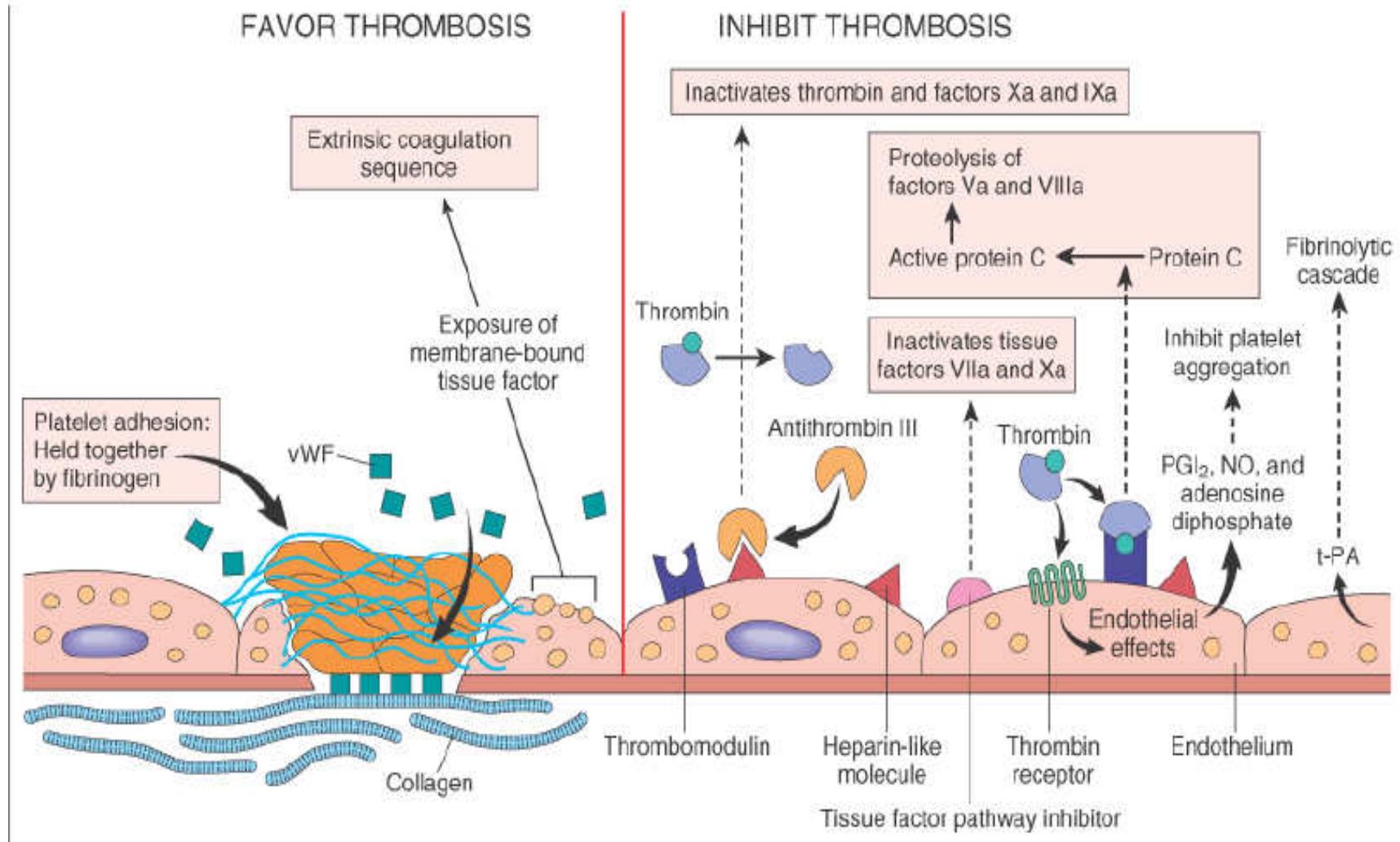
- Venous thrombosis
- Varicose veins

Venous Thrombosis

- Three primary factors predispose to thrombus formation: Virchow's triad:
(i) Endothelial injury,
(ii) stasis or turbulence of blood flow & (iii) blood hypercoagulability.
- Endothelial injury is most important.
- Factors can act independently or in combination

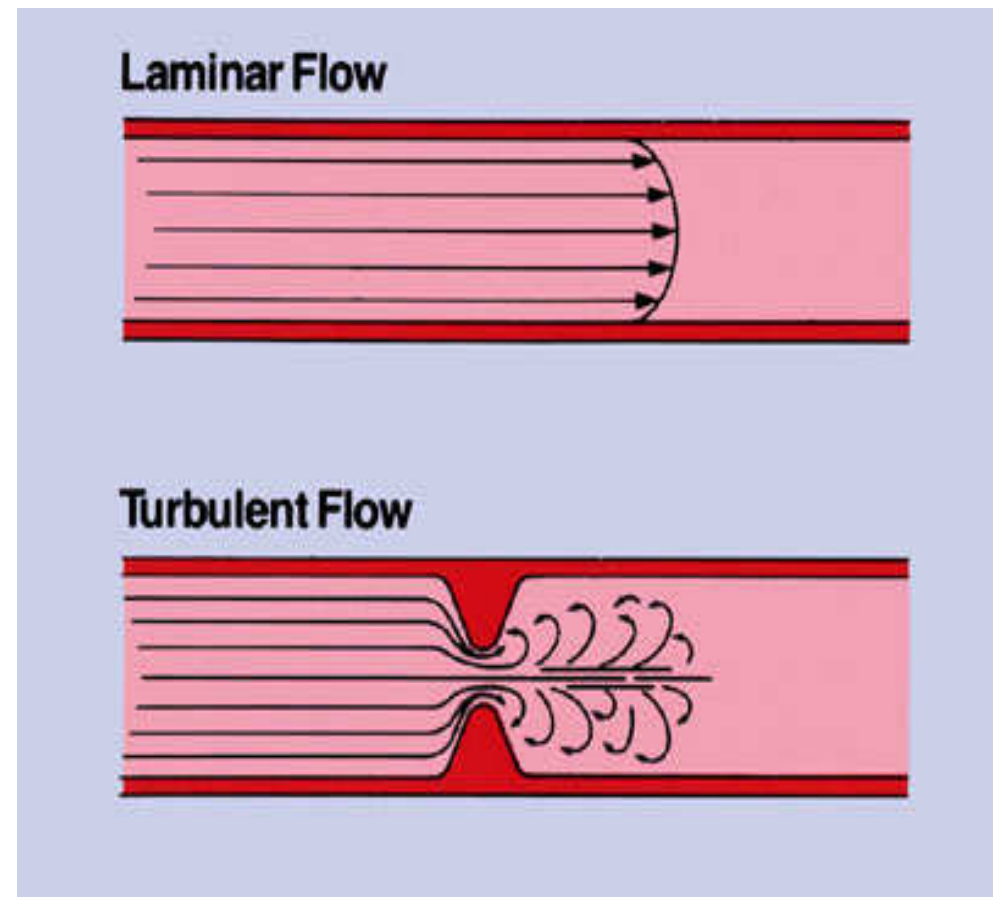


Role of Endothelium



Venous Thrombosis

- Alterations in blood flow
- Normal blood flow is laminar: - cellular elements flow centrally separated from endothelium by slower moving clear zone of plasma.
- Stasis & turbulence disrupt laminar flow and bring plts into contact with endothelium predisposing to thrombus formation



Venous Thrombosis

3 other effect of stasis & turbulence.

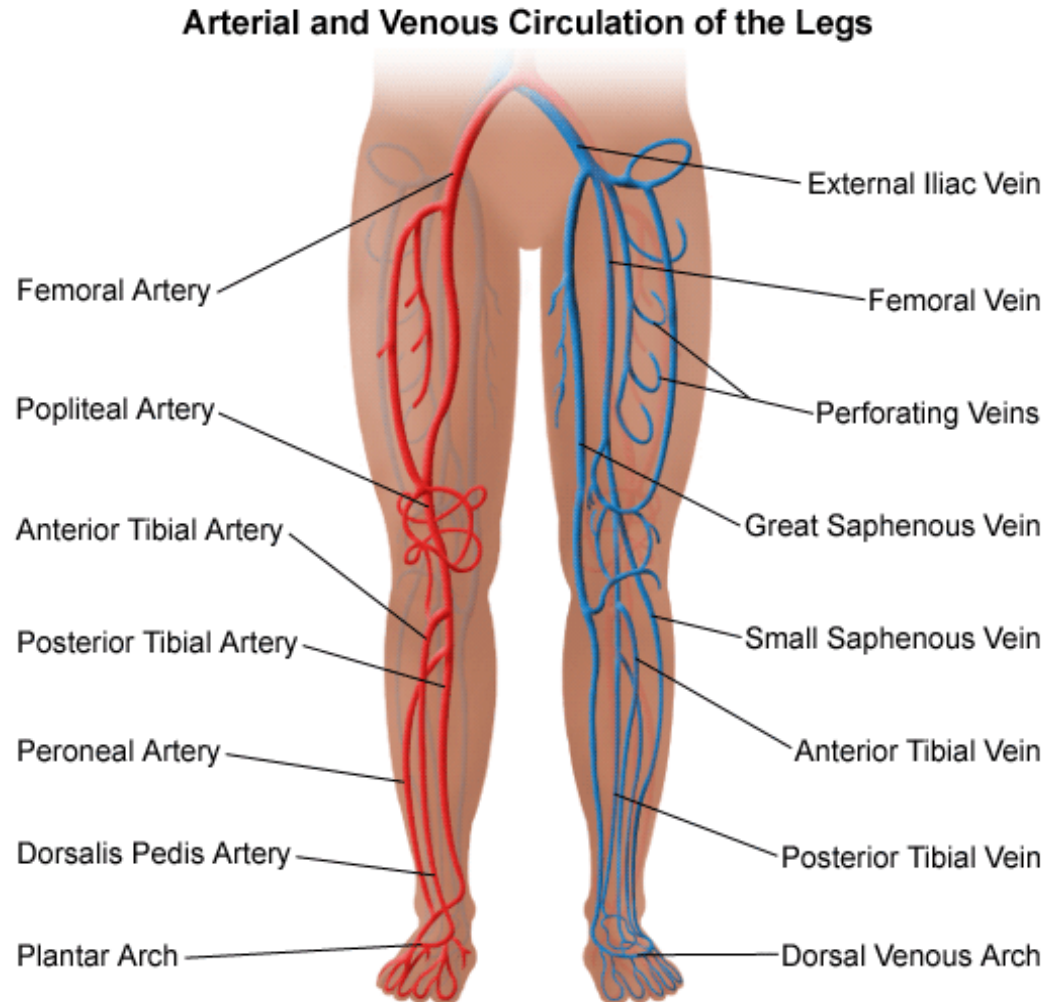
- Prevention of dilution of activated clotting factors by fresh flowing blood.
- Retardation of inflow of clotting factor inhibitors (& permit build up of thrombi).
- Promote endothelial cell activation predisposing to thrombus formation.

Hypercoagulable States

Primary (Genetic)	Secondary (Acquired) – High Risk	Secondary (Acquired) – Low Risk
Protein C or S deficiency	Prolonged bed rest	Atrial fibrillation
Antithrombin III deficiency	Myocardial infarct	Cardiomyopathy
Homocysteinemia	Tissue damage (Surgery, fracture, burns)	Nephrotic syndrome
Mutations in factor V	Cancer	Oral contraceptive use
Allelic variations in prothrombin levels	DIC	Smoking
Fibrinolysis defects	Prosthetic cardiac valves	Sickle cell anaemia

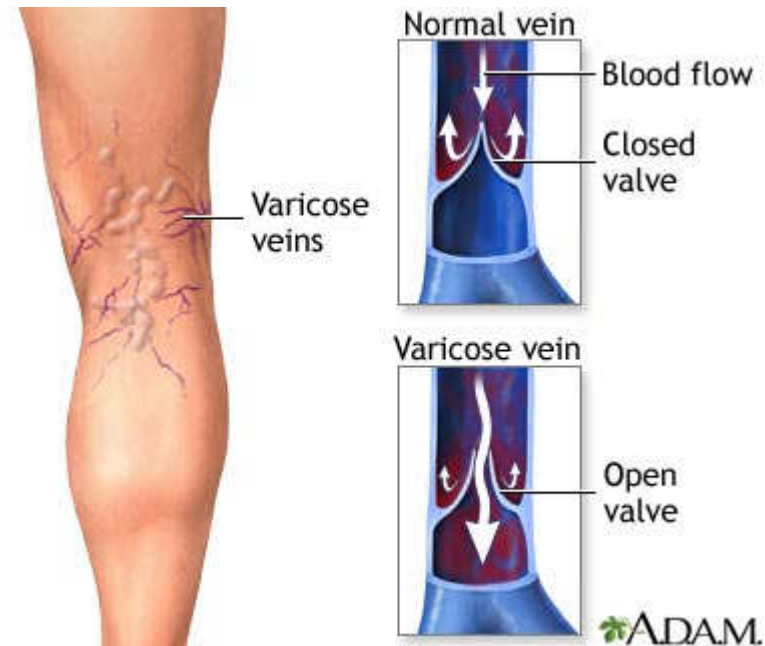
Common Sites for Venous Thrombosis

- Superficial or deep veins
- Superficial: saphenous venous system.
- Deep: popliteal, femoral, & iliac veins.



Varicose Veins

- Definition: abnormal dilation of veins. Often tortuous.
- Superficial veins most affected.
- Risk factors: prolong standing or long automobile or plane rides, obesity, pregnancy, old age,



Complication

Thrombosis

- Emboli to brain
- Obstruction of veins & arteries
- Propagation of thrombi

OR final fate maybe:

- Dissolution by fibrinolytic system
- Organisation & recanalisation of thrombi

Varicose Vein

- Thrombosis
- Emboli from deep vein thrombosis. Rare in superficial vein thrombosis.
- Pain & edema
- Stasis dermatitis & varicose ulceration

Diagnosis

- Clinically signs & symptoms
- Ultra-sound scan

End

Main Reference: Robins Pathological
Basis of Diseases,

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