VENOUS THROMBOEMBOLISM- VTE-

VENOUS DISEASES INCLUDE THE FOLLOWINGS

1-DEEP VEIN THROMBOSIS-DVT-.

2-SUPERFICIAL THROMBOPHLEBITIS.

3-VARICOSE VEINS

4-CHRONIC VENOUS INSUFFICIENCY.

CARDINAL SYMPTOMES OF VENOUS DISEASES

1-LEG PAIN

2-LEG SWELLING

3-LEG DISCOLOURATION-PIGMENTATION

4-LEG VENOUS ULCERATION

COMMON CLINICAL PRESENTATION

DVT of the leg may be

with or without pulmonary embolism-PE.

DVT- depending on the SITE of venous thrombosis

May be below the knee joint or

above the knee –ILO - FEMORAL- PROXIMAL DVT.

OCCLUSIVE- DVT-

presented classically with

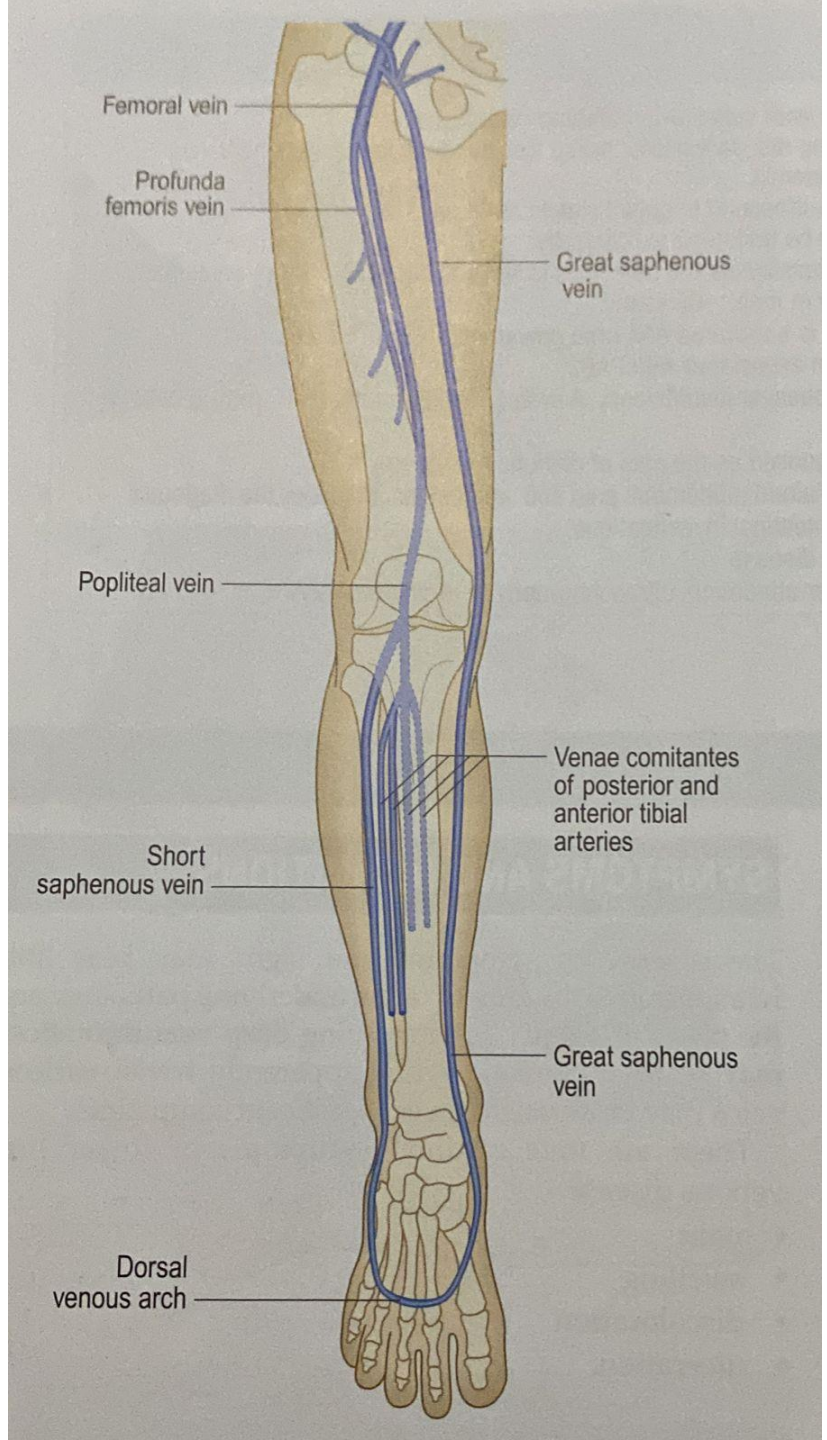
WARM leg and painful SWELLING with

superficial veins DILATATION typically unilateral

NON-OCCLUSIVE -DVT

which carries high RISK due to massive PE-

in this case the leg may be normal on examination


Femoral vein
Profunda femoris vein
Great saphenous vein
Popliteal vein
Venae comitantes of posterior and anterior tibial arteries
Short saphenous vein
Great saphenous vein
Dorsal venous arch

DIFFERENCIAL DIAGNOSIS

1-Infective cellulitis-

site of infection - marked skin erythema-

well demarcated area – fever

2-Baker s cyst ruptured- SYNOVIAL FLUID

KNEE JOINT SWELLING - RA- OSTEOARHRITIS

3-Superficial venous thrombophlebitis

4-Arterial occlusion-peripheral vascular disease

ischemic LEG- painful- cold and pale atrophic changes- GANGREN- DM--HTN SMOKER.

5-Calf muscle tear- hematoma –

post-trauma- or may spontaneous.

DIAGNOSIS OF DVT

Wells SCORE

1-ACTIVE CANCER-1

2-PARALYSIS- 1

3-BEDRIDDEN for 3 days or more – 1

4-CALF swelling at least > 3cm

as compared with normal leg- 1

5-PITTING OEDEMA UNILATERAL – and

superficial vein dilatation- 1

DVT-low probability <1

DVT-moderate probability 1-2

DVT-high probability >2

RISK FACTORS

Provoked- or non provoked

- 1-Venous stasis- CONGESTIVE -HF- SLEEP APNEA SYN.-obesity
- 2-Immobilization- trauma- CVA- paralysis-
- prolonged bed rest- recent long travel
- 3-Old age – VARICOSE VEIN- dehydration
- 4-Vasculitis- YOUNG PT. -SLE- lupus anticoagulant-
- ANTI-PHOSPHOLIPIDS- SYNDROME- BEHCET S DISEASE
- 5-Nephrotic syndrome
- 6-Inflammatory bowel disease- IBD.
- 7-Pregnancy-
- 8-Contraceptive pills

9-Thrombophilia-

positive family history of DVT-

protein-C- and S- factor V- deficiency-

10- Hyper- Homo-cystinaemia

11-Polycythemia rubra- vera-

hyper-viscosity syn. HYPERCOAGULABLE STATE

12-Malignancy

13-ORTHOPEDIC- HIP-FRACTURE-

procedure or surgery- hip –knee-replacement

14-POST-OPERATIVE- RECENT SURGERY

INVESTIGATIONS

COMPRESSION DOPPLEX-U/S -ECHOCARDIOGRAPHY

MRV

INVESTIGATE THE UNDERLYING RISK FACTORS

COMPLICATIONS OF DVT

A- LOCAL COMPLICATIONS- POST-THROMBOTIC SYN.

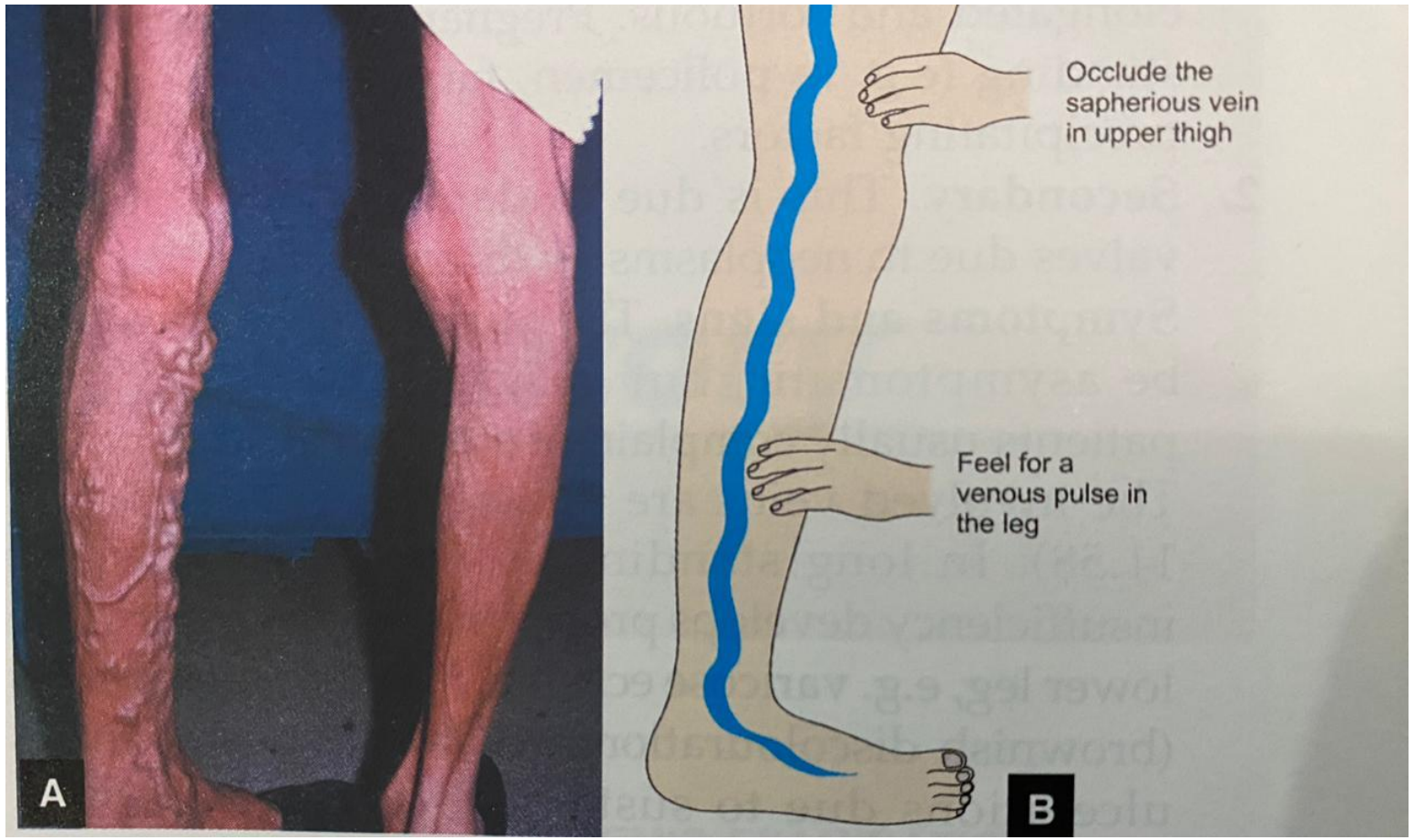
1-CHRONIC VENOUS LEG ULCER

2-POST-DVT-CHRONIC UNILATERAL LEG OEDEMA

3-CHRONIC VENOUS INSUFFICIENCY- LEG

PIGMENTATION- HEMOSIDERIN DEPOSITION

Post-thrombotic syndrome complicates 30% of cases of lower limb DVT. Severe cases are complicated by ulceration


A
Occlude the
sapherious vein
in upper thigh
Feel for a
venous pulse in
the leg
B

B= **PULMONARY EMBOLISM-PE-**

Serious and fatal complication of DVT-

high index of suspicious

COMMONLY – PE-presented after

NON - occlusive- DVT-

Proximal ilo -femoral –DVT-

emboli may dislodge and embolize

into pulmonary artery system .

Effected lung segment will be ventilated but not perfused resulting in alveolar collapse ventilation-perfusion mismatch

HYPOXIA-VASOCONSTRICTION

Clinical presentations of -PE-

varies depending on NUMBER - SIZE- SITE-

of pulmonary emboli

ACUTE MASSIVE-PE- MEDICAL EMERGANCY

Occlusion of MAIN pulmonary artery by

BIG EMBOLI dislodged from DVT.

Patient will be presented with

sever crushing central chest pain –

sever- SOB – HYPOXIA-

Hemodynamic unstability SEVER- hypotension-

low cardiac output- SHOCKED-and COLLAPSED.

ACUTE RV-HF-failure –high JVP-tachycardia-

ACUTE SMALL /MEDIUM-PE

Occlusion of peripheral segmental pulmonary artery by emboli - dislodged from DVT

Pt. Usually STABLE-

Presented with pluretic chest pain- SOB- pulmonary infarction- hemoptysis-

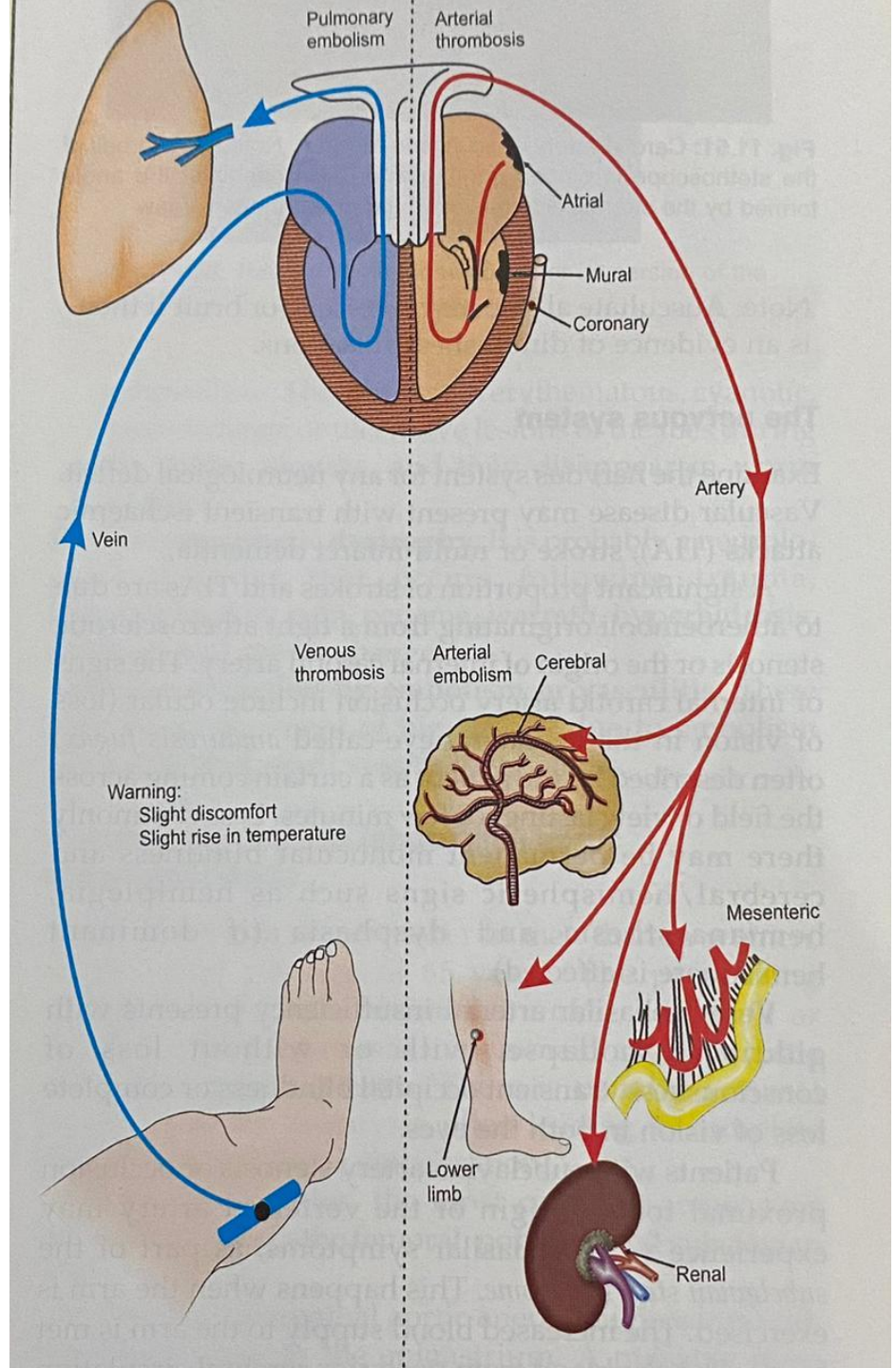
sinus tachycardia-hypoxia.

CHRONIC-RECURRENT -PE-

Chronic recurrent occlusions of pulmonary microvasculature- by small emboli from DVT

PT. will be presented – PUL. HTN-RV-HF-

HIGH –JVP- EXERTIONAL dyspnea- ANASRCA.


Pulmonary embolism
Arterial thrombosis
Atrial
Mural
Coronary
Artery
Vein
Venous thrombosis
Arterial embolism
Cerebral
Warning:
Slight discomfort
Slight rise in temperature
Mesenteric
Lower limb
Renal

Investigations

Chest X-ray :-

linear atelectasis,

blunting of costo - phrenic angle-

plural effusion

raised hemi- diaphragm ,

wedge shaped pulmonary infarct,

abrupt cut-off of a pulmonary artery or

translucency of an under-perfused

distal lung zone

ECG :- usually normal

sinus tachycardia, atrial fibrillation ,

right ventricular strain

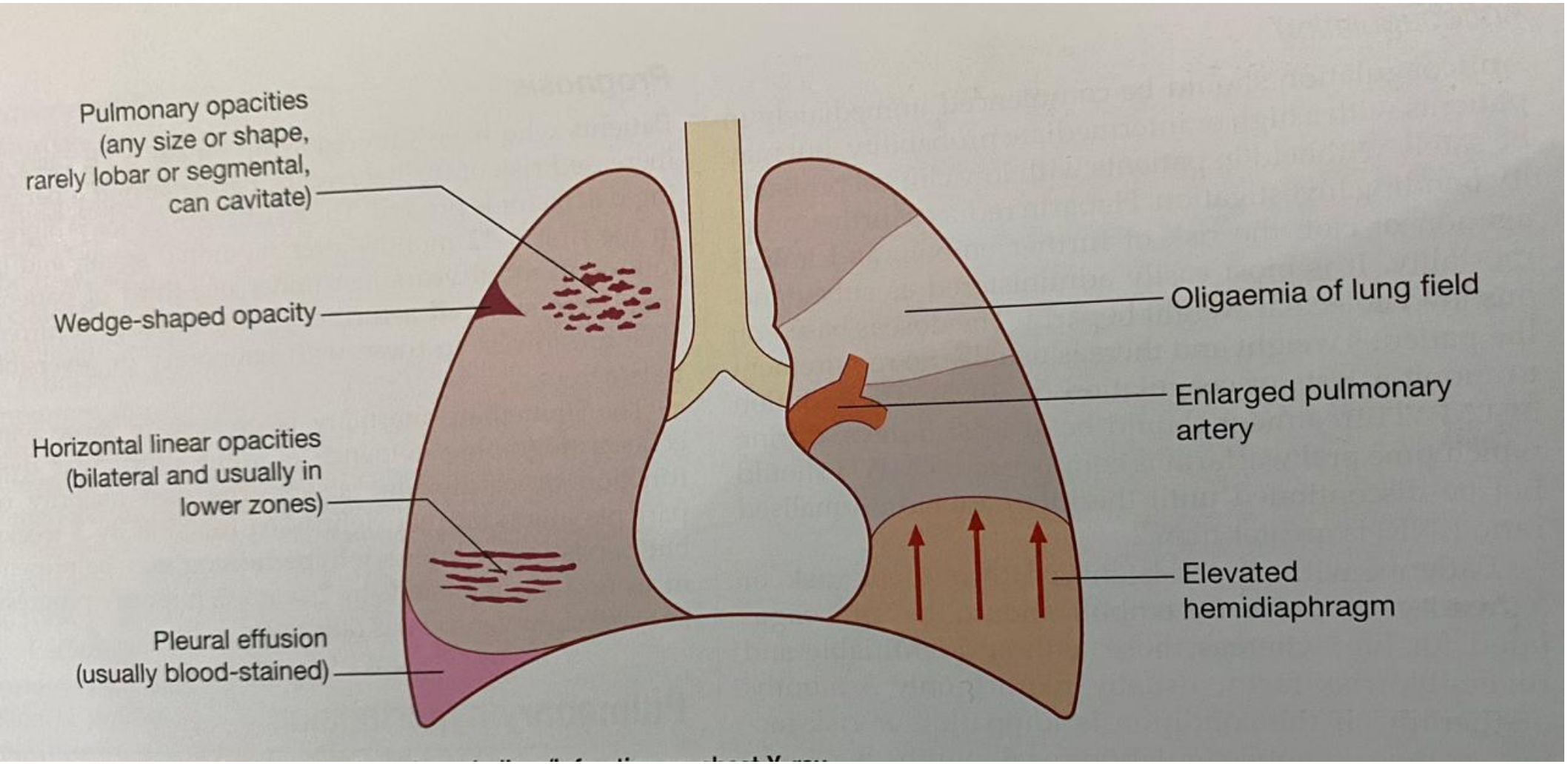
(S1,Q3,T3) pattern is rare

Blood tests :-

WBC- leucocytosis,

elevated ESR,CRP-

increased LDH level- D-DIMER positive


Pulmonary opacities (any size or shape, rarely lobar or segmental, can cavitate)
Wedge-shaped opacity
Horizontal linear opacities (bilateral and usually in lower zones)
Pleural effusion (usually blood-stained)
Oligaemia of lung field
Enlarged pulmonary artery
Elevated hemidiaphragm

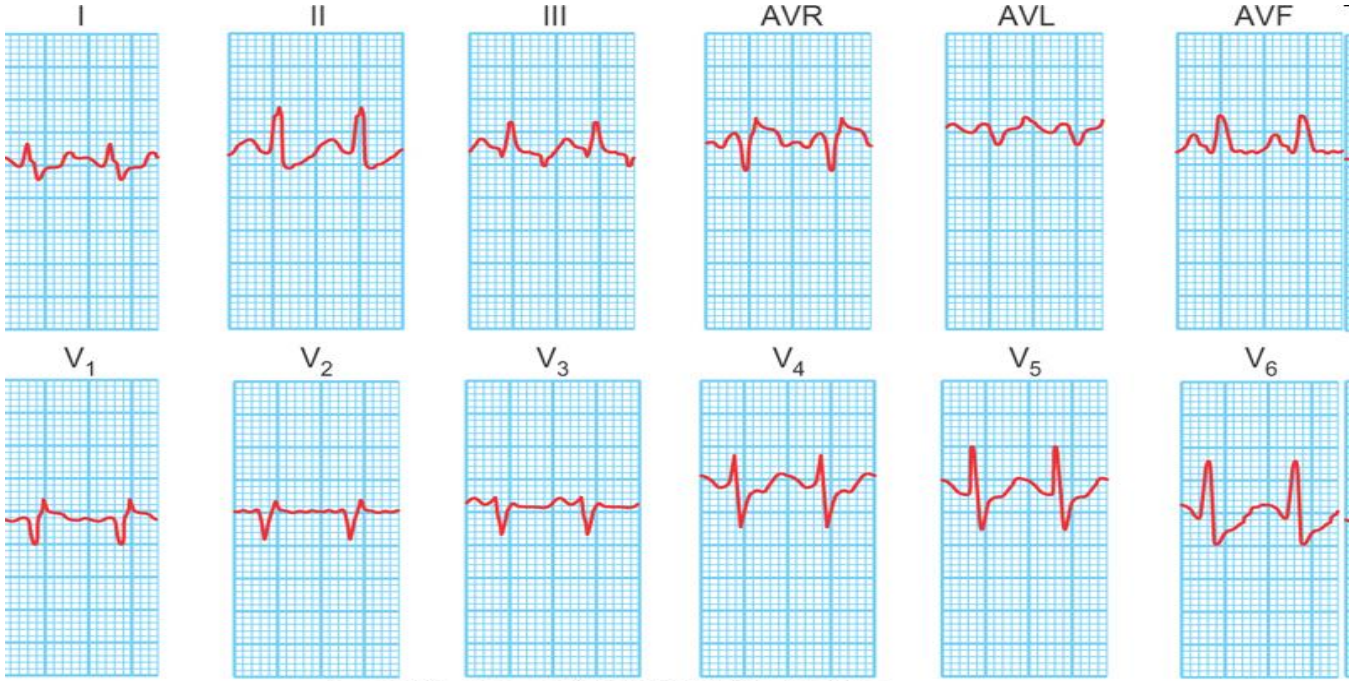
Investigation cont.

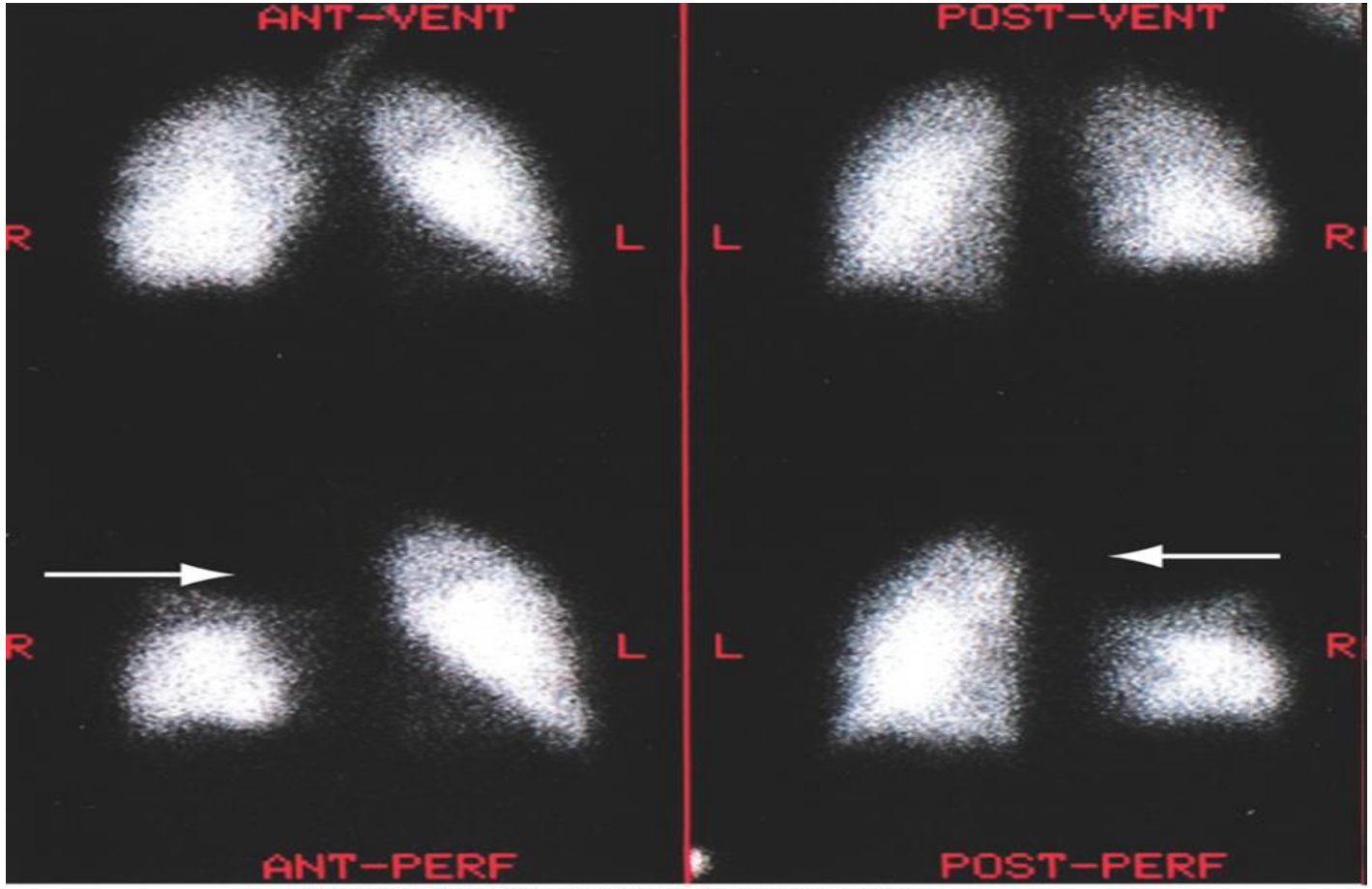
Radionuclide
ventilation/ perfusion scanning

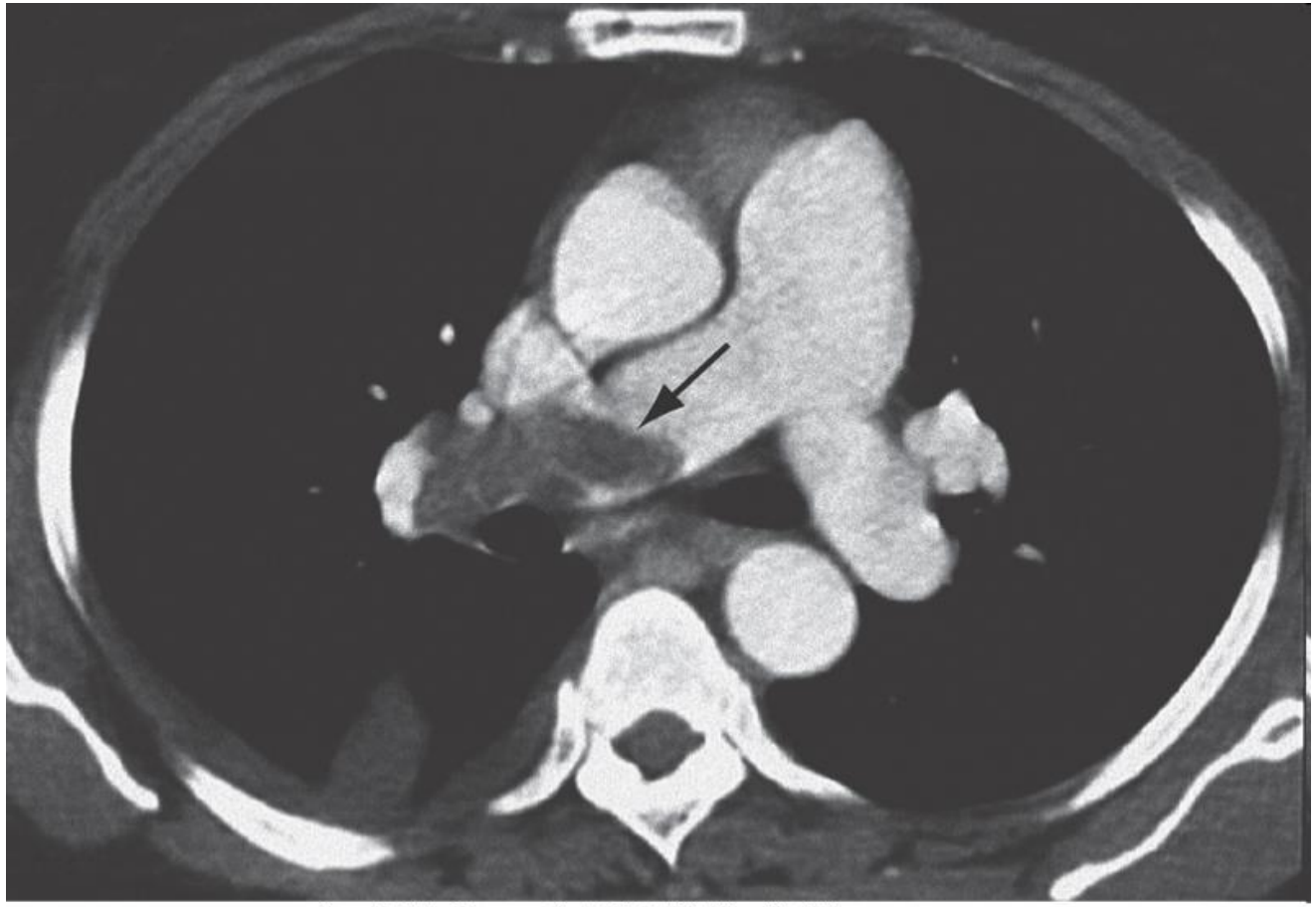
Ultrasound scanning – DOPPLEX-
pelvic vein or lower limb
Ilo -femoral – popliteal veins

HIGH RESOLUTION- CT ANGIO- scan-
DIAGNOSTIC

MRV- imaging







Treatment

Acute management :-

ADMIT-ICU- MOINTERING

- High flow O2 therapy

- Bed rest

- Analgesia- OPIATE

- I .V. fluids- PLASMA EXPANDER

- Inotropics

Dissolution of the thrombus :-
TREATMENT

Fibrinolytic therapy like
streptokinase (250 000 u.)
by i.v. infusion over 30 minutes ,
fallowed by streptokinase 100 000 units
i.v- hourly for up to 12-72 hours).

ALTIPLASE-

Surgery :-
Pulmonary embolectomy is only
indicated in massive pulmonary embolism
TREATE THE UNDERLING AETIOLOGY

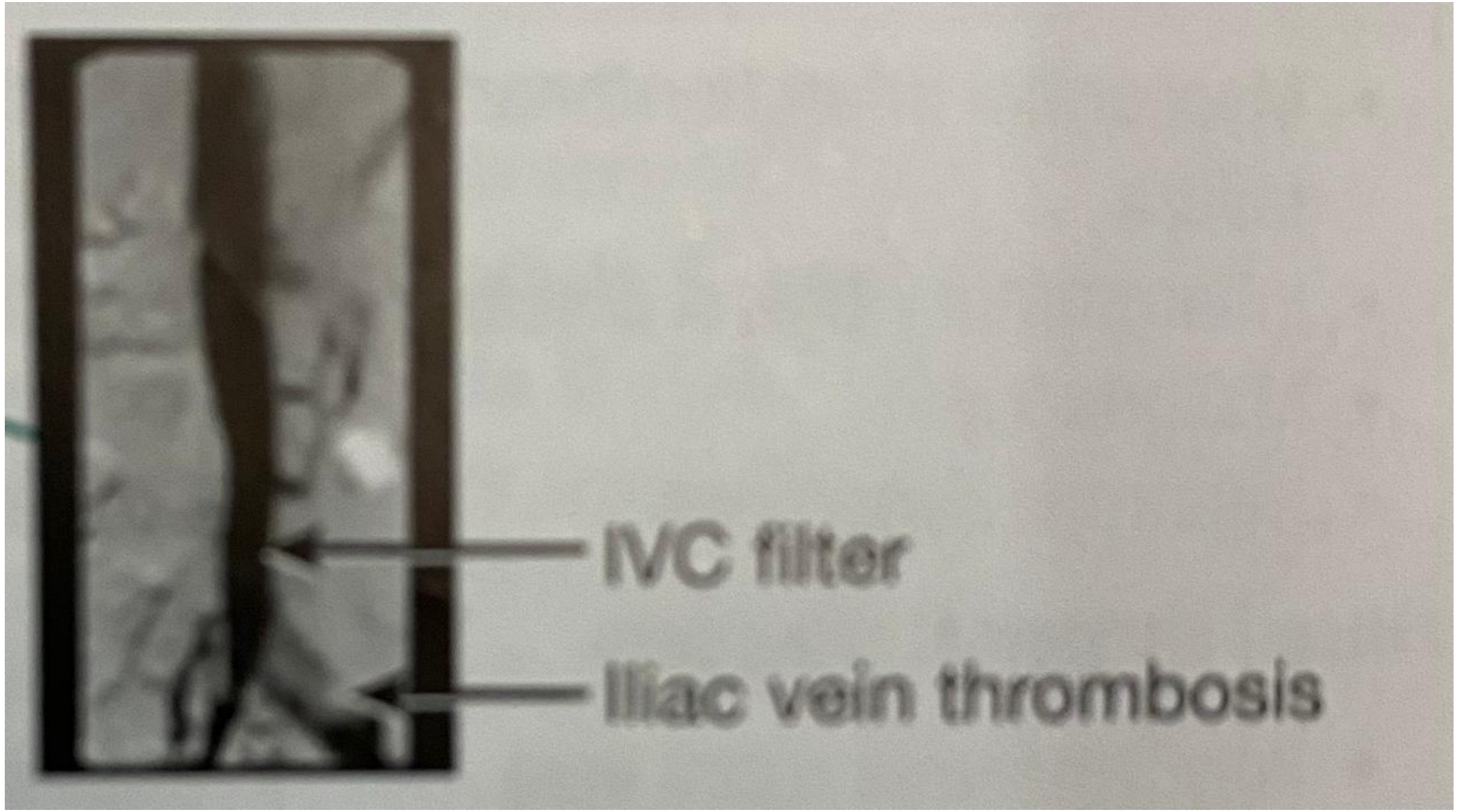
Prevention of further emboli :-

- LMWH or conventional heparin

-Oral anticoagulants-
- WARFARIN-

-NEW ORAL ANTICOAGULANT
DABIGATRAN – APIXBAN- REVORXIBAN

Inferior vena cava filter –
FOR recurrent PE-
anticoagulation is contra-indicated


IVC filter
Iliac vein thrombosis