

Deep Vein Thrombosis :-

①

65 year obese lady Laparotomy for perforated appendix H.O. noticed of her left leg calf Tenderness area.

②

Total abd. Hysterectomy for carcinoma painful swelling of her calf area. e- Tender

③ -

left Radical hemicolectomy swelling of leg Tens. swelled Tenderness Rt calf

Diagnosis

Sign / symptom

Rx

Complication

Sequel of complication

Prevention

Define

Blood clot forms in a vein located deep inside your body - Deep vein blood clots form in thigh, lower leg

Etiology:

Virchow Triad

① Hypercoagulability

↑ coagulation
↓ anticoagulant (Protein S, C, Thrombin III, Factor V)
malignancy

② Vessel Injury

Pregnancy, Trauma
Surgery, IV catheters

③ Stasis

Pregnancy, obesity
Rt H-Failure, Paralysis

C/F

- ① swelling ② pain ③ erythema
- ④ dilate superficial vein ⑤ Low Fever ⑥ calf Tender
- ⑦ DVT in collateral → blue leg → Phlegmasia caerulea
- ⑧ DVT in muscular → white leg → " alba dolens
- ⑨ Venous Gangrene

D/D

- ✓ Rupture Baker Cyst's
 - ✓ Rupture of planter tendon
 - ✓ Calf muscle hematoma
 - ✓ cellulitis
 - ✓ aneurysms
 - ✓ arterial Ischemia
- AI
 AN
 CAMH
 Celli
 RBC
 RPT

Investigation:

① Homan Test

Dorsiflexion of foot pain in calf

② Moses Test

squeezing the muscle of calf

cause pain

③ duplex USG / Doppler - Gold stand

④ Colour duplex Ultrasonography

⑤ venography

⑥ CBC

→ A platelets. PT ↑ aPTT ↑

⑦ ESR

⑧ C-RP

⑨ ↓ Protein C, S

Factor V, Leiden
INR

MRI
CT venography

antithrombin ↓

Management:

Medical:-

① Unfractional heparin

② LMW heparin

③ Thrombolysis → Urokinase
Streptokinase

④ anticoagulation therapy

Conservative :-

stop smoke
↓ weight

① Limb elevated

② compression of Limb

③ analgesic → Avoid from pain

Vit K by green leafy veg

Surgery :-

① surgical Thrombectomy

Introduced Thrombolysis

- ② Venous stenting
Thrombi compress by stenting
allow venous lumen open
- ③ IVC filter → avoid from pul-embolization

Squel:

- ① Pulmonary embolism
- ② varicose vein
- ③ venous insufficiency

- Q: LMW heparin best
- ① Good bioavailability, ③ No bleeding, ⑤ less osteop
 - ② ↓ Thrombocytopenia ④, safely administer

Prophylaxis:-

before surgery not use contraceptive pills
stop smoking, ↓ weight
after operative → early mobilization

method of prophylaxis:

Compression stocking

early mobilization

LMWH: heparin

Varicos Vein

45 year aching discomfort in Lft. lower limb
along with Tortuous dilated vein

55 year lady Varicos Vein ulceration on medial
malleolus of her left ankle

45 old guard Tortuous dilated vein pain and
discomfort - Relieved by Lying down

Diagnose

Cause of ulcer + Rx

Management

Investigation

Define:-

dilated, tortuous ^{and palpable} subcutaneous ^{superficial} veins
> 3mm diameter

aetiology

✓ Primary
↑ Venous Pressure due to valve damage

Secondary
↑ V-P due to obstruction of blood flow
obesity, Pregnancy
Long standing

Classification



Clinical:-

Etiology

- | | |
|-------------------------|---------------|
| C0 - No visible | Ec congenital |
| C1 Reticular 1-3mm | Ep Primary |
| C2 Varicose Vein (>3mm) | Es Secondary |
| C3 Edema | En no vein |
| C4 skin change (eczema) | |
| C5 " (healed ulcer) | |
| C6 " (active ulcer) | |

FACE

Anatomical:-

Pathological

- | | |
|-----------------------|------------------|
| As - superficial vein | Pr Reflux |
| Ad - deep vein | Po - obstructive |
| Ap Perforated vein | Po+s combined |
| An No vein | Pn no vein |

Signs:-

- ① Aching (dull heaviness, ankle oedema fullness) of leg
- ② Relieved by elevation
- ③ Itching
- ④ Throbbing
- ⑤ Swell of ankle muscle cramp

⑥ Reticular and threaded veins

⑦ atrophic blanche → white skin around dilated capillaries

History:

① Trauma ③ Pregnancy ⑤ F-History

② DVT ④ obesity

Examin:

① Trendelenberg ✓ Test :-

To assess the hip dysfunction
weakness of Gluteus maximus
muscle

② Tourniquet Test :-

Take BP record

100/70

$$\frac{100 + 70}{2} = 85 \text{ mmHg}$$

again inflate at 85 and wait 2 min
out Petechiae

③ Perthes Test :-

Empty vein and tourniquet
around thigh.

ask pt stand up and down

Filling of vein → Painful

Investigation:-

① Dopple Ultrasound

② Duplex ultrasound Imaging

③ Venography

catheter insert, contrast material

is injected Take X ray

Air plethysmography

avoid prolonged standing
Limb elevated

Management

- asymptomatic :- ① avoid obesity
- ② Do exercise
- ③ No heavy lifting
- Graduated Compression stocking
- Endovenous Therapy :-
 - ① ultra sound guided foam sclerotherapy
needle insert
foam agent (NaTetradecyl sulphate) infuse
vein contract / shrink
and use bandage

② EVLA

Laser fiber insert
Laser beam on
vein closed

③ Radiofrequency ablation :-

bipolar catheter → Generate thermal energy
Generate Temp 80-120°C
Radiofrequency wave is sent

→ surgery :-

- ① sphenofemoral Junction ligation and GSV stripping
- ② sphenopopliteal Junction ligation
- ③ perforator ligation
- ④ Phelebectomy
- ⑤ Endovenous Glue → Cyanoacrylate
- ⑥ subfascial ligation of Cocket and Dodd *Cyano*

Complications:-

- ① Edema ② Pain ③ ulcer ④ bleeding
- ⑤ deposition of hemosiderin in skin to extravasation Rec
- ⑥ Eczema ⑦ Lipodermatosclerosis

Ulceration

Causes of ulceration:-

arterial ischemia

venous hypertension

deep vein damage

varicose vein

Neoplastic ulcers

enlarge lymph node

vasculitis ulcer

Traumatic ulcer

Management :-

Conservative :-

① Compression Therapy -

orthopaedic wool

cotton crepe

Elastic bandage -

cohesive bandage -

② Leg elevation -

③ Dressing
cleaning and debridement

Medical

① antibiotics

③ aspirin

② Daflon

④ Flavanoid

Signature: _____

Lab:

Surgery :-

- ① superficial vein ablation /
- ② sclerotherapy /
- ③ bypass /
- ④ skin grafting /
punch grafting

Signature: _____

MAR

Q.No. 7 ✓

Limb - Ischemia :-

Chronic - Ischemia features :-

Intermittent claudication

Burning or aching pain

Cold skin / Feet

↑ occurrence of infection

Non-healing Ulcers

Pain during rest

Ischemic Ulceration

Gangrene.

Investigations :-

General

CBC

ESR

CRP

Blood glucose

Coagulation studies

PT

APTT

INP

Lipid profile.

Main

Non-invasive

↓

Duplex ultrasound

CT-angiogram

MR-Angiogram

Digital subtraction
Angiogram

Treatment :-

★ Risk-Factor Modification :-

Smoking Cessation

Rigorous BSL Control

Lipid Lowering Therapy

BP reduction.

★ Claudication exercise.

★ Medical

Anti-platelet Therapy

(Aspirin / Clopidogrel)

Phosphodiesterase inhibitor

(Cilostazol)

Foot care.

★ Surgical :-

PCI :- Angioplasty
stenting

Bypass surgery

Amputation.

01

Indication of amputation:

Systemic Toxicity

Dead limb - Gangrene

Deadly limb →

Deadless limb

wet gangrene

Spreading cellulitis

↓
severe Rest pain

Multiple or
large AV fistula.

Bone or soft tissue

Tumor.

Types:

Major: Below knee

Above knee

Common:

Ray

Chopart

transverse

Come:

✓ Physiotherapy

✓ Protein ↑

Exercise

Analgesia

Elevation cone

Rigid dressing

Dermatolatin

7

Q. No. 6

Gangrene :-

Localized death and decomposition of body tissue, resulting from obstructed circulation or bacterial infection

Varieties

- ① Wet gangrene
- ② Gas gangrene
- ③ Dry gangrene.

Principle :

gt San Emergency deal in ICU

Broad spectrum IV antibiotics

↓

- Penicillin

- Clindamycin

- Cephalosporin

*
Debridement of necrotic tissue

If not controlled amputation

can be an option.