

PORTAL HYPERTENSION

Def: Elevated pressure in the portal system > 10-12mmHg

Aetiology:

1. **Pre-hepatic: portal vein obstruction** eg porta hepatis nodes, tumours, PV thrombosis,
2. **Hepatic** (a)Pre-sinusoid
(b)Sinusoidal: Hep B, HepC, PBC, PSC, chronic active hepatitis, haemochromatosis, Wilson's, cytotoxics
(c)Post-sinusoidal: cirrhosis, non-cirrhotics
3. **Post-hepatic: increased resistance to outflow** eg B-C, IVC webs and thrombosis, Pul HTN, RHF, TReg, AVF

Pathogenesis

- (i)Portosystemic anastomoses when **HVPG 10-12mmHg**; absent of valves permits **hepatofugal flow**
GOJ, gastric, caput medusae, rectum, retroperitoneum, left renal vein, diaphragm (veins draining bare area)
- (ii)Ascites:
- (iii)Encephalopathy:

Clinical Features

- Ascites
Encephalopathy
Variceal bleeding: only when HVPG>12mmHg
Hypersplenism

Investigations

1. Identify cause
2. USS liver: portal flow, spleen, varices, liver parenchyma

Management

Indications: (i)complications (ii)risk/occurrence of variceal bleeding

Aims: (i)HVPG< 12 may lead to resolution of varices (ii)20% reduction protective

1. **Non-selective B-Blockade**
2. **TIPSS** (transjugular intrahepatic portosystemic shunt): varices/refractory ascites/PH gastropathy/hepatorenal syn/Budd-Chiari **not enceph!**
3. **Surgical shunt**: non-cirrhotics failing medical therapy → distal splenorenal/portocaval depending on PV patency
4. **Liver transplant**: underlying liver disease esp cirrhotics (TIPSS first)

VARICES

Def:

Natural history: (i) Develop at **10-12mmHg** (ii) bleed **>12mmHg**

1. OESOPAGHEAL: (i) 0=absent (ii) 1=collapse on insufflation (iii) 2=between 1+2 (iii) 3=occlude lumen

2. GASTRIC: (a) extending across GOJ= (i) GOV1 >5cm (ii) GOV2 into fundus

(b) isolated= (i) IGV1 isolated in fundus (ii) IGV2 isolated, not in fundus

PRIMARY PROPHYLAXIS

(i) Screen all cirrhotics at diagnosis/decompensation

(ii) Measure HVPG baseline before treatment

OESOPHAGEAL

Aim of therapy: (i) HVPG < 12mmHg (ii) 20% reduction from baseline

Surveillance: (i) G0 2-3yrly (ii) G1 12mthly+ don't treat (iii) G2/3 treat as below

1. NSBB (first line): titrate to max tolerance/HR 50-55 (PROPRANOLOL; CARVEDILOL also a1 blocker; NADOLOL)

Propranolol reduces risk of bleeding from 25% to 15% in GII/III; no evidence for G1

2. VARICEAL BAND LIGATION (VBL): if BB not tolerated/contraindicated; only GII/III

GASTRIC

GOV2: NSBB if high risk (don't inject)

VARICEAL HAEMORRHAGE

Predictors: (i) severity of liver dysfunction/rapidity of decompensation (ii) grade of varices (iii) intravariceal pressure

1. RESUSCITATION:

Protect airway

Transfuse to Hb 7-8; plts if <50/terlipressin_{constrict splanchnics to reduce portal inflow}/somatostatin **continue 5d post/until bleeding stops**

Antibiotics (norfloxacin/ciprofloxacin)

2. OGD: (i) unstable: immediately (ii) stable: within 24hrs

(a) **Oesophageals:** VBLx2 (i) control → 2^o prevention (ii) uncontrolled → Sengstaken-Blakemore then TIPSS or Surgery

(b) **Gastric:** GOV1=as for oesophageal; GOV1/IGV1/IGV2= **cyanoacrylate**

3. REBLEED

Risk factors: (i) active bleed (ii) HVPG >20mmHg (iii) hypoalbuminaemia (iv) renal failure (v) gastric varices

Manifest in first 5 days; 50% rebleed by 10 days

Management: Oesophageal = OGD + VBL/TIPSS/Surgery || Gastric= balloon then TIPSS

SECONDARY PREVENTION

OESOPHAGEAL (rebleed 30-50% @2yrs)

NSBB + VBL combo; 2-4wkly until eradicated;

OGD: 3mths then 6mthly

Recurrent: TIPS/shunt_(ChildA/B if TIPSS not feasible)/transplant

GASTRIC

GOV1: VBL

GOV2: cyanoacrylate +/- thrombin → TIPSS if rebleed