



ACUTE G.I. HAEMORRHAGE The Sequel

JOSEPH DEBONO





Summary - Non Variceal Hge

- Stable patient- History, repeated exam, upper GI endo within 24hrs
- Unstable patient- Hypotensive resuscitation and therapeutic endoscopy.
- Consider combination therapy.
- Surgery after unsuccessful endoscopic therapy or first rebleed.
- Medical treatment – using PPIs- for bleeding ulcers will decrease rebleeding but no definite improvement in mortality (unlike varices)



Learning Objectives

- Manage variceal haemorrhage
- Concept of Prophylactic therapy

- Discuss common causes and management of severe lower GI hge (haematochezia)

UPPER GI HAEMORRHAGE

VARICEAL







Acute Variceal haemorrhage

- Severe Medical condition treated by surgeons
- Multidisciplinary approach ideal
- 30% of pts with varices have other bleeding lesion



Acute variceal haemorrhage

- 5% of UGIH in UK
- 10% in Australia,
- 15-20% in USA
- 30- 40% mortality in the first bleeding episode
- because of associated liver disease
- Incidence increasing



Acute variceal haemorrhage

Commonest Causes

- Cirrhosis 80- 90%
 - mainly alcohol 60-70%
 - Cryptogenic 25%
 - viral hepatitis
 - Congenital hepatic fibrosis
 - CAH
 - PBC
- Portal or splenic vein thrombosis
- Schistosomiasis



Variceal bleeding

- Factors contributing to portal hypertension (Portal venous P) >10 mmHg
 - mechanical
 - endothelin-1- vasoconstrictor produced by sinusoidal cells in cirrhosis
 - decrease NO (vasodilator) and nitrite production in cirrhosis
- Collaterals with the azygous(systemic) venous channels
 - Peri-oesophageal veins
 - Periumbilical- caput medusa
 - Rectal veins- haemorrhoidal bleeding
- Lower 5 cm of oesophagus run in lamina propria



Clinical features -VH

- h/o varices
- Splenomegaly most significant clinical finding
- Ascitis, gynaecomastia, spider naevi, liver palms, caput
- Protein meal from blood in bowel worsens encephalopathy



Medical therapy

- Resuscitation
- Avoid crystalloids- give colloids
- Watch for Hypoglycaemia- 5% glucose
- FFP'S and platelets, blood, Vit K
- Antibiotic prophylaxis
- Oral lactulose and neomycin
- Vasopressin/ desmopressin
- Somatostatin/ octreotide



Medical therapy

- Antibiotic prophylaxis with quinolone or 3rd generation cephalosporin
 - 20% infection rate
 - Improves survival by 9% (meta-analysis)
- Oral lactulose 10 ml qid – laxative and adsorbs proteins
- Neomycin 1gm qid- bacterial content in gut
- Beta blockers used in prophylaxis can compromise response to hypovolaemia



Medical therapy

■ Vasopressin

- Decreases portal pressure
- Coronary vasoconstriction is major problem
- Given with nitrates and via PERIPHERAL line
- 0.2-0.4 U/min IV for 12 hrs then taper dose over 24-48hrs

■ Desmopressin

- Only drug shown to reduce mortality in variceal bleeding
- splanchnic vasoconstriction, reducing portal, variceal pressures
- Preserves renal function
- 2mg IV every 4-6 hours max 48 hrs
- 70% success and less severe SE compared to vasopressin



Medical therapy

■ Somatostatin

- mesenteric vasoconstrictor but no coronary effect
- 250 µg bolus followed by 250- 500 µg/hr for 2-5 days

■ Octreotide

- Greater potency and longer half-life
- 50µg bolus followed by 25- 50 µg/hr for 5 days
- as effective as sclerotherapy - Sung 1993



Non medical therapy

- Endoscopic sclerotherapy
- Endoscopic banding
- Balloon tamponade
- Circular stapling
- Portosystemic shunt- TIPPS



Endoscopic therapy

- More effective than tamponade in a randomised controlled trial 1985
- Immediate injection followed by vasoactive therapy
- Tamponade followed by semi-elective therapy in very unstable patients, or failure
- Banding as effective with less complications, useful for fundal varices - needs skill



Injection therapy

- 2-channel fibreoptic endoscope
 - Suction- irrigation still available during injection
 - Large scope for tamponade
 - Can choose channel for correct placement of needle
- 1-2 ml proximal to bleeding point and at 2cm intervals proximally in all columns- max 15 ml



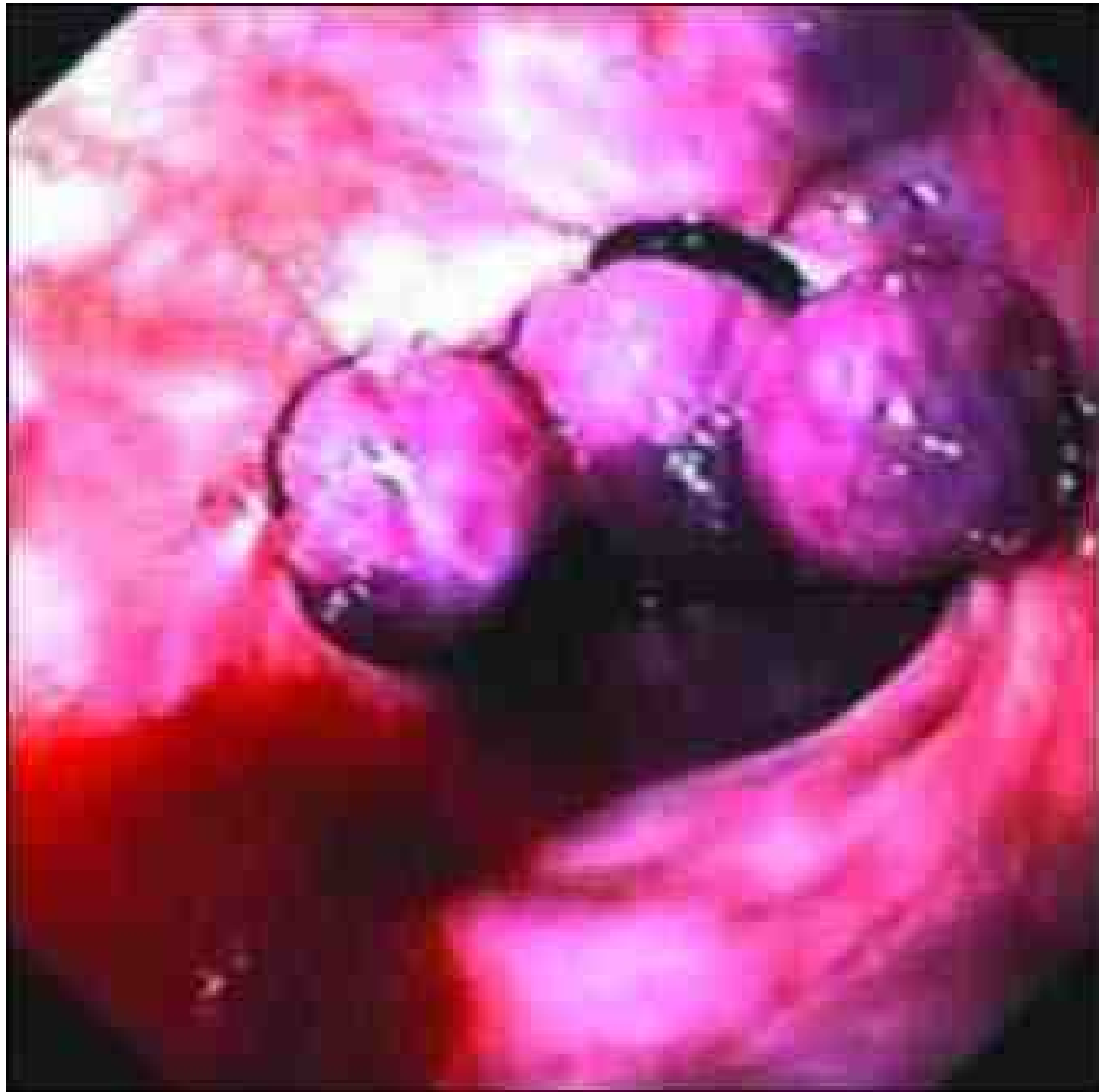
Endoscopic sclerotherapy

- Successful in up to 90% of patients.
- Control should be obtained with 1-2 sessions.
- Serious complications have been reported in 15-20% of patients, with an associated mortality rate of 2%.
- Mucosal ulceration, bleeding, esophageal perforation, mediastinitis, and pulmonary complications.
- Long-term complications- esophageal stricture formation



Banding

- Multi-fire rubber-band ligation.
- Rebleeding occurs less frequently than with sclerotherapy (26% vs 45%).
- Decreased endoscopic field of view
- Better for fundal varices.
- Similar rates of initial hemostasis to injection.
- Local complications are less common.





Balloon tamponade

- Temporary option in 5- 10% of patients
- 4 channel Sengstaken- Blakemore tube
- Gastric balloon 350 mls of water with contrast
- Traction
- If bleeding persists, inflate oesophageal balloon to 20-40 mmHg
- Traction released within 24 hrs





Oesophageal circular stapling

- Upper midline abdo incision
- Phreno-oesophageal lig divided
- Clear lower 5 cms preserving vagii and ligating all vascular channels
- Strong tie around lower oesophagus
- 31 mm circular stapler through gastrotomy



Portosystemic shunting

- Transjugular intrahepatic portosystemic stent shunt
- Direct portocaval shunt
- Selective Warren shunt
- Encephalopathy problem
- Shunt dysfunction after 6- 12 months



Transjugular intrahepatic portosystemic stent shunt TIPSS

- Salvage procedure
- 20% encephalopathy
- 50% one year patency
- Bridge to subsequent liver transplant



Prophylaxis

- Medical

- Beta-blockers

- Nitrates

- Ablation

- Banding

- Sclerotherapy contraindicated



MEDICAL THERAPY

- **NON-SELECTIVE Beta-blockers Propranolol**
60mg nocte
 - Beta-1 blockade decreases portal flow by decreasing the heart rate and cardiac output
 - blockade of beta-2 receptors results in unopposed alpha-adrenergic-mediated vasoconstriction.
- Significant decrease risk of initial bleeding by up to 45%
- Therapeutic dose determined by
 - HVGP
 - 25% decrease in resting heart rate or
 - 55BPM or
 - side-effects
- Treatment is indefinite



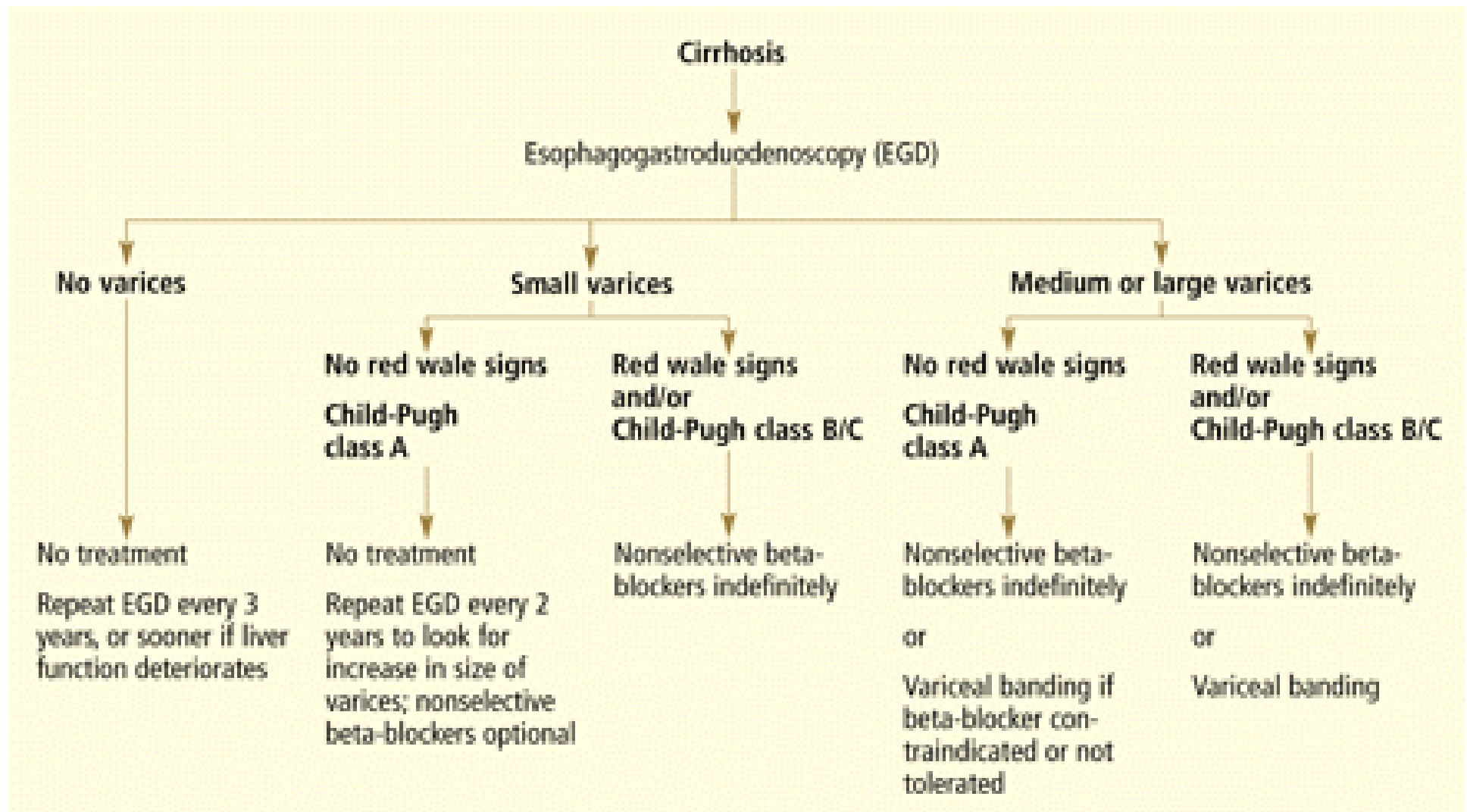
HEPATIC VEIN PRESSURE GRADIENT

- Correlates well with portal pressure
- Measured by catheterizing the hepatic vein via transfemoral or trans-jugular route.
- a “wedged” hepatic venous pressure is obtained
- The HVPG is equal to the wedged hepatic venous pressure (which reflects portal venous pressure) minus the free hepatic venous pressure (which reflects intra-abdominal pressure).
- The normal HVPG is 5 mm Hg or less
- Studies have shown that varices may develop but do not bleed if the HVPG < 12 mm Hg



VARICEAL LIGATION

- ↓risk of bleeding due to ↓ size of varices
- meta-analysis- 2001- 601 pts -5 trials. Compared with propranolol, ligation ↓ risk of first-time bleeding- no effect on the death rate.
- RCMC trials 152, 172 cirrhotic patients – no diff in bleeding incidence nor death rate
 - patients reported more side effects with propranolol making ligation a more attractive option.
- meta-analysis 8 RCTs - 596 patients - ligation significantly reduced the rates of first GI hge. In subgroup analysis, ligation had a significant advantage compared with beta-blockers.
- RCT - The rate of variceal recurrence was lower with combination therapy
- **? Oesophageal variceal ligation increase gastric varices and haemorrhagic gastropathy**







Questions



Conclusion

- Treat hepatic failure as well
- Early Endoscopy to exclude other cause of bleeding (30%)
- Immediate injection/ banding in combination with vasoactive therapy is treatment of choice
- Tamponade followed by semi-elective therapy in very unstable patients, or failure of immediate therapy

SEVERE RECTAL HAEMORRHAGE





Severe rectal haemorrhage

- Extremely rare 20 in 100,000 population
- Considerable variety of DD
- Majority stop spontaneously
- Mostly elderly patients: 85% over 60
- High rate of CV collapse: 20% (Bramley 1996)



Severe rectal haemorrhage

- 20% of “rectal” haemorrhage is upper GI
- 5% small bowel
- Difficult in identifying bleeding point in continuing bleeding
- Difficult to distinguish between bleeding and incidental lesions esp in div. dis.
- Small number of overall cases need intervention (10% - little experience)



Differential diagnosis

- Diverticulosis 24%
- Tumours/ polyps incl post. snaring 10%
- Infective colitis/enteritis incl PMC 10%
- Internal haemorrhoids 9%
- Inflammatory bowel disease 7%
- Angiodysplasia 7%
- Ischaemic colitis 4%
- Radiation damage
- Solitary rectal ulcer
- Rectal varices
- Aortointestinal fistula
- Anticoagulation/ Aspirin/ NSAIDS/ Ginko
- **Unknown** 25%



Management

- ABC
- Rectal exam / sigmoidoscopy
- Close observation >90% stop spontaneously
- Stable patients- colonoscopy within same admission
- May need gastroscopy



Persistent or recurrent bleeding

- Flex sigmoidoscopy to assess distal bleeding after enemas.
- Retroflexion in rectum.
- Full colonoscopy might be difficult
 - Blood absorbs light
 - Issue of bowel preparation



If site not identified on upper AND lower GI endoscopy

- Selective Mesenteric angiography
- 0.5-1ml/min blood loss needed
- About 50% contribute to diagnosis



If site not identified on upper AND lower GI endoscopy

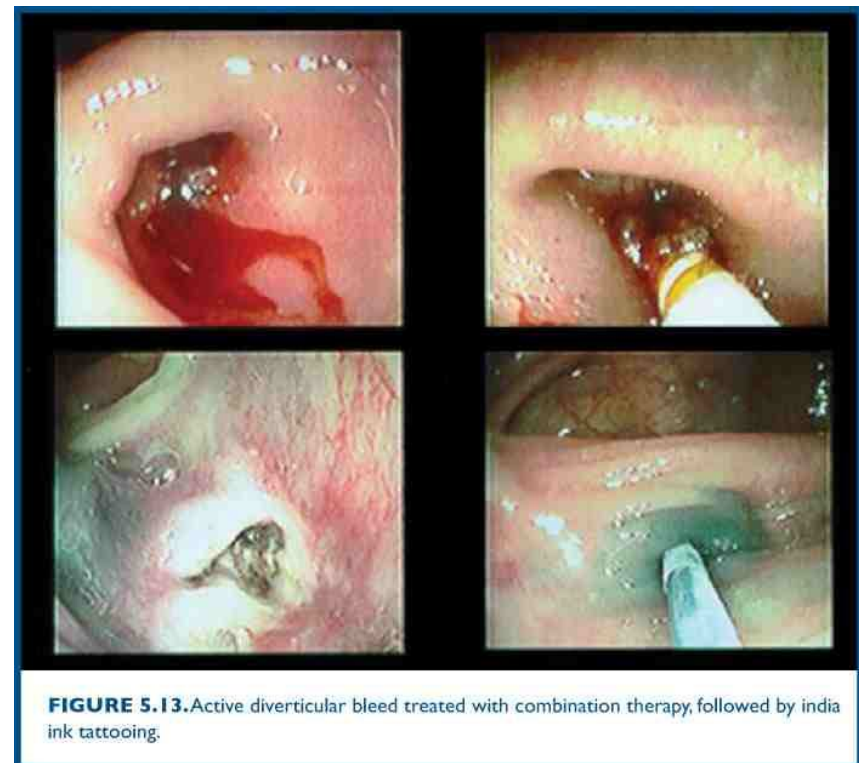
Red cell scan.

- Less blood loss needed. 0.1ml per min
- Sulfur colloid rapidly cleared from circulation; may extravasate into the lumen
- Technetium labelled autologous RBC stays in vascular space for 24hrs
- Scanned at 30min, 60 min, 4 hours, 12 and 24 hrs.
- Safer, more sensitive, less expensive than angio
- Not suitable for very unstable pt.

Therapeutic endoscopy

■ DIVERTICULOSIS

- 1 in 10000 adrenaline
- Diathermy 10-14watts for 1 second pulse
- Ink labelling after to facilitate localisation if surgery or re-endoscopy needed
 - Jensen NEJM 2000



Therapeutic endoscopy

■ ANGIODYSPLASIA

- Heater probe
- Multipolar diathermy

Problems with

- Delayed bleeding
- perforation

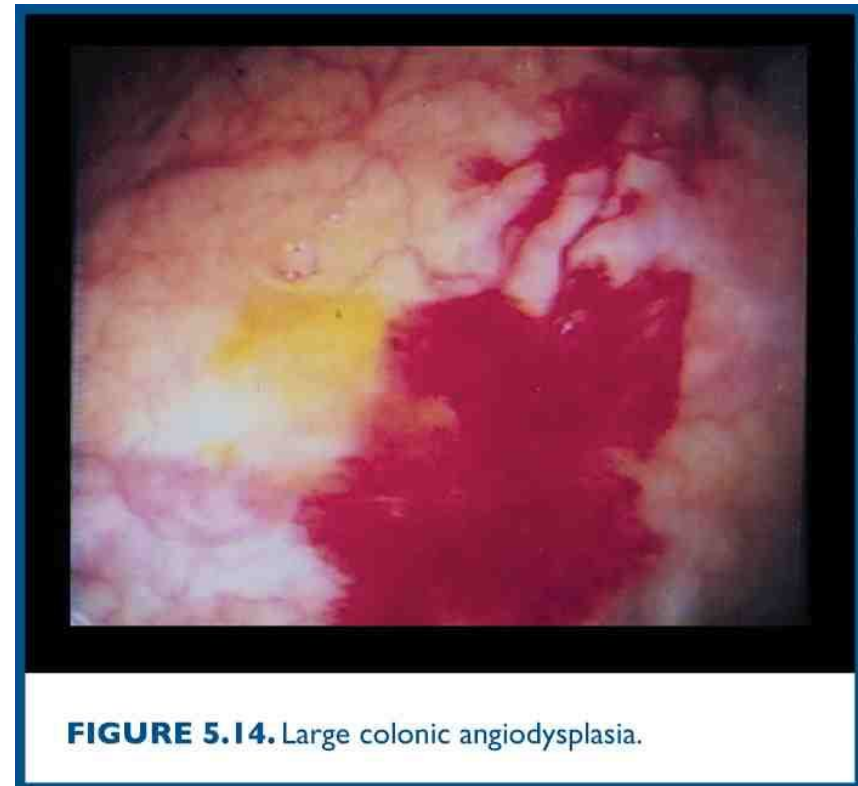


FIGURE 5.14. Large colonic angiodysplasia.

Therapeutic endoscopy

- ULCERS- RECTAL/
POLYP STALKS



FIGURE 5.16. Rectal ulcer with nonbleeding visible vessel treated with hemoclip placement.

Therapeutic endoscopy

- HAEMORRHOIDS
 - Band ligation

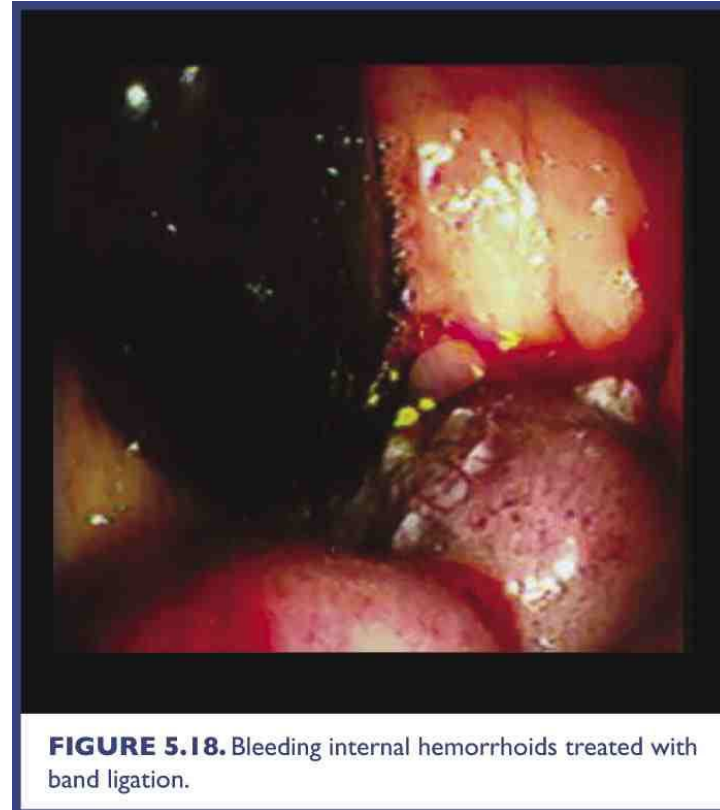


FIGURE 5.18. Bleeding internal hemorrhoids treated with band ligation.



Surgery

- Lloyd-Davies
- Upper GI endoscopy
- Laparotomy
- If no obvious cause of bleeding
 - colonic washout with 4 l saline
 - on table colonoscopy
 - If negative- enteroscopy

LIMIT SURGICAL RESECTION



Questions



Conclusion

- Usually stops spontaneously
- Difficult to identify bleeding site
- Endoscopic therapy is feasible, though difficult
- Surgery should be as limited as possible.



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