Lower Gastrointestinal bleed

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Definition

- Bleed distal to ligament of Treitz
- Rare compared to UGI bleed (1 : 5 to 6)
- 95 – 97% colonic, 3 – 5% small bowel
- More common in elderly (colonic diverticula, angiodysplasias increase with age)
- 80 – 90% stop spontaneously, rest need intervention
- Mortality – about 5%, not from bleed but complications – MI, renal failure, stroke etc

How is LGI bleed different?

- Intermittent nature
- More time to investigate
- Less transfusion need
- Less life-threatening
- UGI bleed →definite treatable lesions are found. LGI bleed → several potential sources can be seen, hence one has to be sure before blaming a pathology as the cause

Management of Acute LGI Bleed

- **Assess & ensure haemodynamic stability**

- If unstable, **rule out massive UGI bleed** → NG tube ± UGI scopy

- Haematemesis ± malaena → UGI
- Malaena without haematemesis → small bowel bleed
- Malaena → UGI or small bowel or even a slow right colonic bleed

Once UGI bleed ruled out …

- Time to investigate

Options:

1. Emergency colonoscopy
2. Technetium labelled RBC scan
3. Selective mesenteric angiography (CT or MR angiography)

- Choice depends on local availability, stability, ongoing bleed etc

Emergency Colonoscopy

- Ideal when bleed stopped & when done after purging the bowel
- Multiple potential sources may be present, but stigmata of recent bleed (Visible vessel, adherent clot etc) looked for

Advantages

- Diagnoses growths, colitis, diverticula etc
- Therapy possible in some cases
- Bleed via ileocaecal valve → small bowel bleed

Emergency Colonoscopy

Disadvantages

- Blood in lumen, hypoxic restless patient → mucosal lesions, esp. in right colon may be missed

Isotope scan

Advantages

- Least invasive, most sensitive
- Ongoing bleed of 0.1 – 0.2 ml / min necessary
- Radioactivity in bowel lumen → approximate site of bleed

- Can tell between bleed from small & large bowel, proximal or distal small bowel right or left colon, ideal for Meckel's (Meckel's scan)

Isotope scan

Disadvantages

- Confusing, if delay between imaging & bleed
- May not be available locally – shifting unstable patient not safe
- Not therapeutic, but can guide subsequent angiogram or surgery

Selective Mesenteric Angiography

Advantages

- Ongoing bleed of 0.5 ml / min
- Useful in high risk surgical patients

- Therapy possible – angioembolisation, intraarterial vasopressin can allow time to prepare for surgery

- Catheter left near site of bleed helps identify site at laparotomy

Selective Mesenteric Angiography

Disadvantages

- Contrast nephropathy
- Embolisation → bowel ischaemia → perforation peritonitis 3 to 5 days later → laparotomy in a more sick patient!!
- Vasopressin may cause Myocardial infarction, mesenteric ischaemia, renal ischaemia etc

Role of Surgery in LGI bleed

- Preferably, with some idea of the site of bleed
- Western literature → colonic diverticula, angiodysplasias most common causes

- Colonic bleed more likely from right colon → **right hemicolectomy** (after colonoscopic or angiographic confirmation)
- Heroic blind subtotal colectomy is to be avoided → >25% mortality

This patient ...

- Admitted elsewhere for 3 days – repeated episodes of LGI bleed, malaena followed by haematochezia

- 1st investigation elsewhere – CT abdominal angiogram → No active bleed, no mesenteric ischaemia or growths, shrunken kidneys

- OGD – normal, Flexible sigmoidoscopy upto splenic flexure – fresh blood & clots

Q1. Can't you stop the bleed now, somehow?

- Hb – 2.1 gm%, creat – 4.2 mg / dL, INR – 1.7
- UGI bleed already ruled out
- **Resuscitated overnight** → Hb 7.7 gm%

- Rpt OGD – normal, Colonoscopy suggestive of small bowel bleed, though multiple colonic diverticula also present

- Suggested emergency laparotomy

Q2. Can't it be uraemic bleed?

Did the bleed cause the azotemia or did the uraemia cause the bleed?

- Though CT showed shrunken kidneys, patient was healthy prior to this bleed
- No previous bleeds
- No bleed from any other site

- So, azotaemia secondary to bleed likely

Q3. Can't we localise the bleed?

- Creatinine – 6.0 mg/dl, Conventional angiogram will worsen renal function
- Dialysis for 3 – 4 hrs followed by angio → delay of about 6 hrs before angio
- Angio may be inconclusive, if no ongoing bleed
- 6 -8 hrs later, patient may be unfit for surgery → "**Window of opportunity**" for surgery may have been lost

And then ……..

- Further massive bleed → Emergency laparotomy

Suspicion – Jejunal diverticular bleed – Why?

- Malaena followed by haematochezia
- Intermittent but massive bleeds (arterial rather than submucosal angiodysplasias)
- Colonoscopy – small bowel source likely
- CT angio – No bowel growths

Other possibilities …

1. **Meckel's Diverticulum** – more in young (< 30 yrs)

2. **Colonic diverticula** – more common in left colon, but right colonic diverticula bleeds profusely

Q4. What if the source of bleed is not found at laparotomy?

The Surgical plan

- Look for blood in proximal small bowel lumen & jejunal diverticula → **jejunal resection anastomosis**
- Meckel's → **ileal resection anastomosis**
- Otherwise, **right hemicolectomy** – open specimen on table – find diverticula with stigmata of recent bleed → **ileotransverse anastomosis**
- Or **ileostomy & transverse colostomy** - " live to fight another day"

The result

- Jejunal resection anastomosis done
- Photo evidence

- No further PR bleed, Hb stable above 11 gm%
- No anastomotic or wound complications
- Clips removed on 11th POD

- Discharged against medical advice, as patient & family wished to go home & probably elsewhere for haemodialysis

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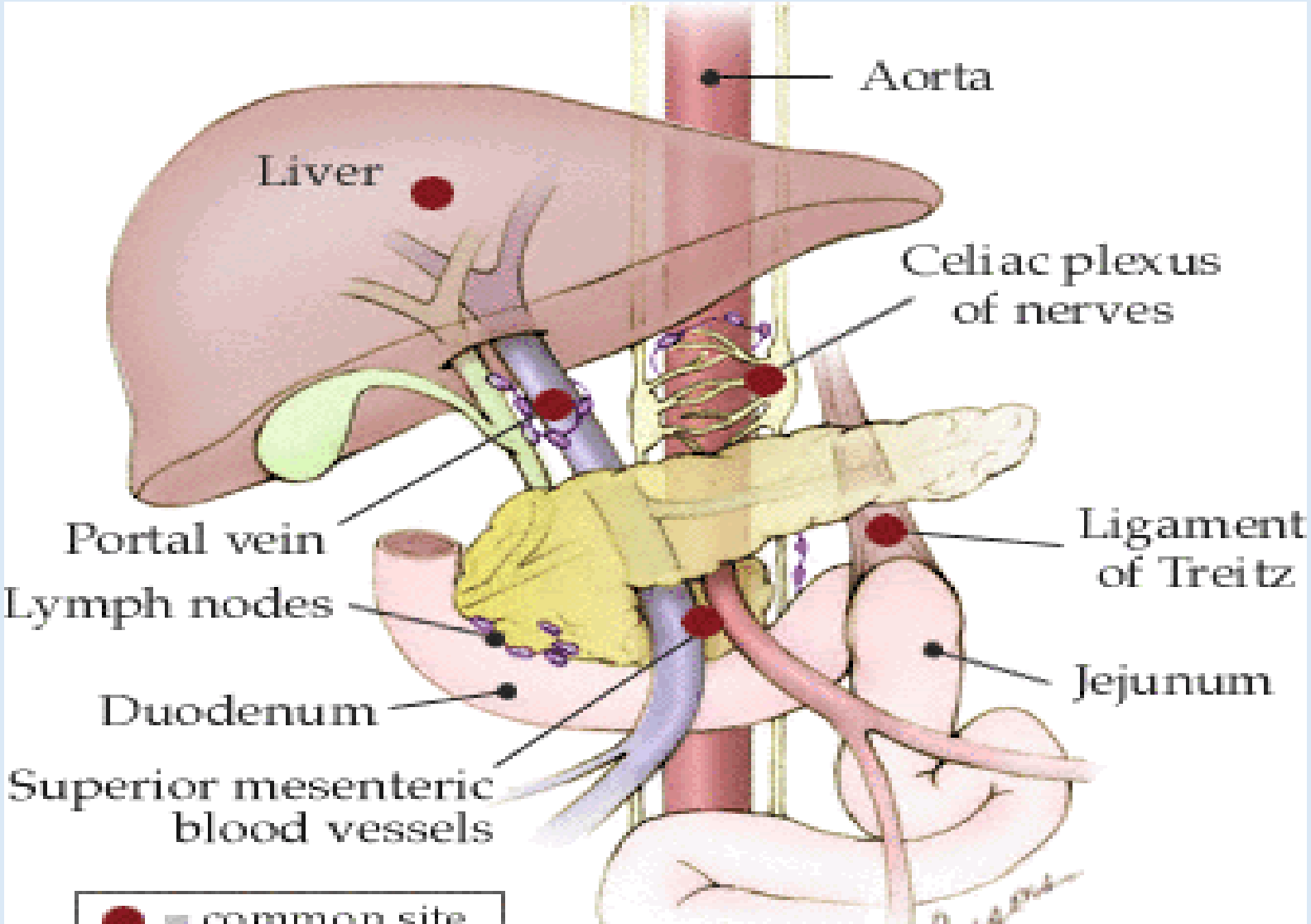
Aorta
Liver
Celiac plexus of nerves
Portal vein
Ligament of Treitz
Lymph nodes
Jejunum
Duodenum
Superior mesenteric blood vessels