Non-variceal Upper Gastrointestinal Haemorrhage

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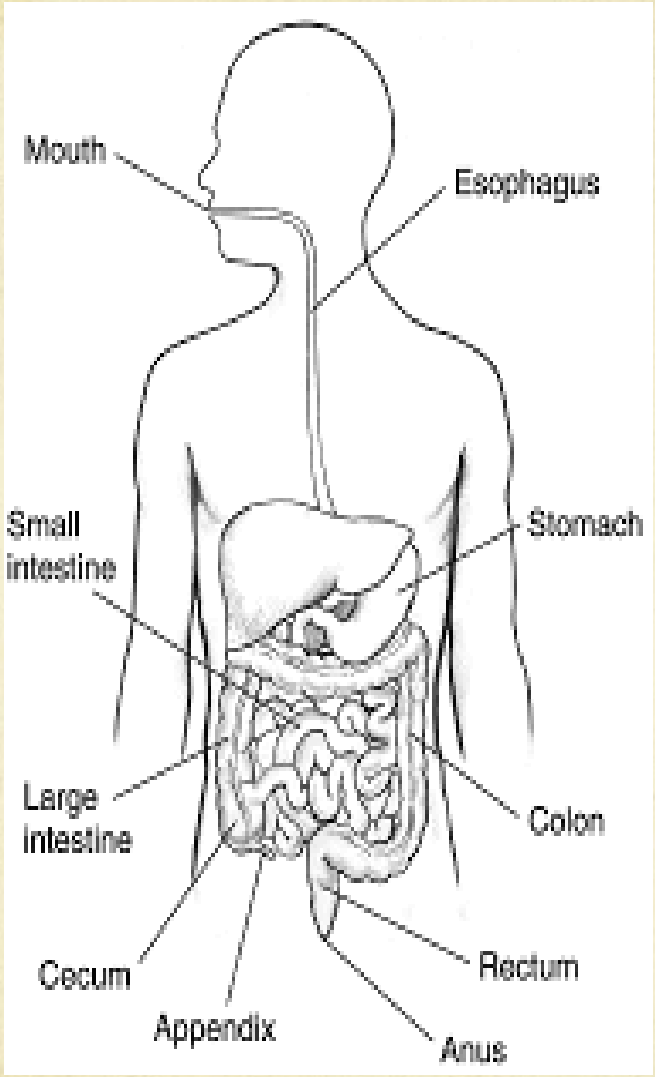
Medical Update Group

Dr Z Heetun

- Trinity College Dublin, Ireland 2006
- MRCPI 2009
- CCST (Gastroenterology) 2015
  - Referral Centers for luminal gastroenterology
  - Accepting Liver Transplant Registrar
- Fellowship in inflammatory bowel disease 2016
- Advisor Gastroenterology, Jeetoo Hospital 2nd Oct 2017


Mouth
Esophagus
Small intestine
Stomach
Large intestine
Colon
Cecum
Appendix
Rectum
Anus

Introduction

- Commonest emergency managed by gastroenterologists
- Incidence of 50 to 150 per 100000
  - Highest in lowest socioeconomic areas
- High mortality
  - 11% ED presentation
  - 33% for hospitalised patients
  - Elderly patients with significant comorbid disease

Introduction

- Mortality is lower in specialised units
  - Not related to technical expertise
  - Adherence to protocols and guidelines

Outline

- Definitions and Causes
- Assessment of a patient with upper GI bleed
  - Should the patient be admitted or referred to hospital?
  - Should he have an endoscopy now?
  - If so, should it be done in the Endoscopy Unit or in theatre?
- Role of Endoscopy in the management of UGIB

Definitions

- Haematemesis is vomiting fresh red blood
- Coffee ground vomiting is vomiting of altered black blood
- Melaena is the passage of black tarry stools
- Haemochezia is the passage of red blood per rectum

Definitions

- Rebleeding is defined as:
  - Fresh haematemesis and/or melaena
  - With the development of shock (HR>100 or BP<100)
  - And/or reduction of Hb greater than 2g/dL over 24 hours

Causes

Diagnosis	Approx (%)
Peptic ulcer	35-50
Gastroduodenal erosions	8-15
Oesophagitis	5-15
Varices	5-10
Mallory Weiss tear	15
Upper gastrointestinal malignancy	1
Vascular malformations	5
Rare	5

Assessment of the patient with UGIB

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- 36 year old male presents with one day history of 3 episodes of haematemesis

Assessment of the patient with UGIB

- 36 year old male presents with one day history of 3 episodes of haematemesis
  - Elaborate on history
  - Vomiting previously?
  - Abdominal pain?
  - Alcohol and drug history?

Assessment of the patient with UGIB

- 36 year old male presents with one day history of 3 episodes of haematemesis
  - Vitals
  - Examination of the patient

Assessment of the patient with UGIB

- 36 year old male presents with one day history of 3 episodes of haematemesis
  - Vitals
  - Examination of the patient
  - **Stigmata of chronic liver disease**

Assessment of bleeding severity

Clinical findings

- Shock
  - HR>100
  - BP<100
- Urinary output
- Mental Status

Laboratory Parameters

- Requirement for blood transfusion
- Hb/Ur

Assessment of bleeding severity

Clinical findings

- Shock
  - HR>100
  - BP<100
- Urinary output
- Mental Status

Laboratory Parameters

- Requirement for blood transfusion
- Hb/Ur

- "Gut-Feeling"

Assessment of bleeding severity

Mild or moderate bleed

- Age <60
- HR/BP stable
- Hb>10g/dL

Assessment of bleeding severity

Mild or moderate bleed

- Age <60
- HR/BP stable
- Hb>10g/dL

Severe bleed

- Age >60
- HR/BP compromised
- Hb<10g/dL
- Significant comorbidity
- Identify patients with significant liver disease

Assessment of bleeding severity

Assessment of bleeding severity

- Blachford Score
  - Male
  - Urea
  - BP
  - Hb
  - HR, Melaena, Syncope, Liver Disease, Heart failure
- Score <6 or ≥6
- Discharge with early OPD Gastroscopy

Assessment of bleeding severity

- Blachford Score
  - Male
  - Urea
  - BP
  - Hb
  - HR, Melaena, Syncope, Liver Disease, Heart failure
- Score <6 or ≥6

- Rockall Score
  - Age
  - Comorbidity
  - Renal/Liver/Malignant diseases
  - Shock
  - Diagnosis at endoscopy
  - Stigmata of Recent Haemorrhage
- <3 – good prognosis
- ≥8 – High mortality

Assessment of bleeding severity

- 36 y.o. male
  - One day history of 3 episodes of haematemesis
  - HR 120/min
  - BP 90/40
  - Alert and orientated
  - No stigmata of liver disease

Staff facilities, planning and records

Ideally

- Bleeding Unit
- Patient admitted under the combined care of gastroenterology and surgery
- Nurses well familiar to dealing with UGIBs
- Sicker patients admitted to HDU/ICU
- 24 hour availability of blood transfusion service including a supply of O neg blood

Staff facilities, planning and records

Protocols

- Agreed protocols should be distributed to all wards

Records

- Details of admission and subsequent events must be recorded
  - ?Admission booklet for UGIB patients

Intravenous access and fluid replacement

Intravenous access and fluid replacement

- 2 large bore IV access in antecubital fossae
- <20% of blood loss
  - Expand with crystalloid
- >20% blood loss
  - Expand with crystalloid and blood
- Aims:
- To restore systolic BP
- Urinary Output

Intravenous access and fluid replacement

Blood loss/mls	<750	750-1500	1500-2000	>2000
Blood loss (%bv)	<15%	15-30%	30-40%	>40%
Pulse rate	<100	>100	>120	>140
Blood Pressure	Normal	Decreased	Decreased	Decreased
Respiratory Rate	14-20	20-30	>35	>35
Urine output	>30	20-30	<20	<10
Mental Status	Alert	Alert	Confused	Confused and lethargic
Fluid Replacement	Crystalloid	Crystalloid	Crystalloid and blood	Crystalloid and blood

Blood Replacement

- Packed Cells to keep Hb>8
- Platelets to keep >50
- FFP if coagulopathic

- 5 PCs
- 5 FFP and 1 Platelet

Drug Therapy

Drug Therapy

Acid Suppressing Drugs

- Clot formation
- 80 mg IV omeprazole bolus followed by infusion at 8mg/hr for 72 hours
- BD IV probably as effective as infusion
- ?oral omeprazole for the less sick

Drug Therapy

Somatostatin

- Reduce acid secretion and reduces splanchnic blood flow

Antifibrinolytic drugs

- Transexamic acid

Assessment of bleeding severity

- 36 y.o. male
  - Admitted to male ward
  - Hb 8.0
  - 2 IV cannulas have been placed
  - Started on Fluids and IV omeprazole

Assessment of bleeding severity

- Does this patient need an endoscopy NOW?
- If so, is it safe to perform an endoscopy in the endoscopy unit or should it be done in theatre?
  - Delay
- Can he wait till the morning?

Assessment of bleeding severity

Endoscopy NOW

- Continuous haematemesis
- Haemodynamically unstable patient
- Altered mental status
- Intubated
- Emergency endoscopy done in theatre

Staff facilities, planning and records

- Emergency endoscopy
  - Endoscopist skilled in therapeutic measures
  - Nursing staff well trained
  - Rota of endoscopists

- Majority can be endoscoped on an early elective list

Endoscopy

Endoscopy

Minor or moderate bleeding

- Endoscopy on the next list

Severe bleeding

- Intubated
- And performed in theatre

Essential:

- Experienced endoscopist
- Nursing staff well familiar with endoscopic equipment

Endoscopy

- Define the cause of bleeding
- To administer endoscopic therapy

Endoscopic Therapy

- Clean ulcer base
- Red or black spots within ulcer
- Very low risk of rebleeding and should be managed conservatively

Endoscopic Therapy

- Clean ulcer base
- Red or black spots within ulcer
- Very low risk of rebleeding and should be managed conservatively
- Spurting or oozing haemorrhage from ulcer
- Non-bleeding visible vessel
- Adherent clot
- Should receive endoscopic therapy

Endoscopic Therapy

- ALWAYS TWO MODALITIES

Endoscopic Therapy

Endoscopic Therapy

Injection

- 1:10 000 adrenaline
- 4 quadrants
- 4 to 16 mls
- Fibrin glue/thrombin
- Sclerosants

Endoscopic Therapy

Injection

- 1:10 000 adrenaline
- 4 quadrants
- 4 to 16 mls
- Fibrin glue/thrombin
- Sclerosants

Application of heat

- Heater probe
- APC

Mechanical Clips

Endoclot

Endoscopic Therapy

Mallory Weiss Tear

- Almost stop bleeding spontaneously

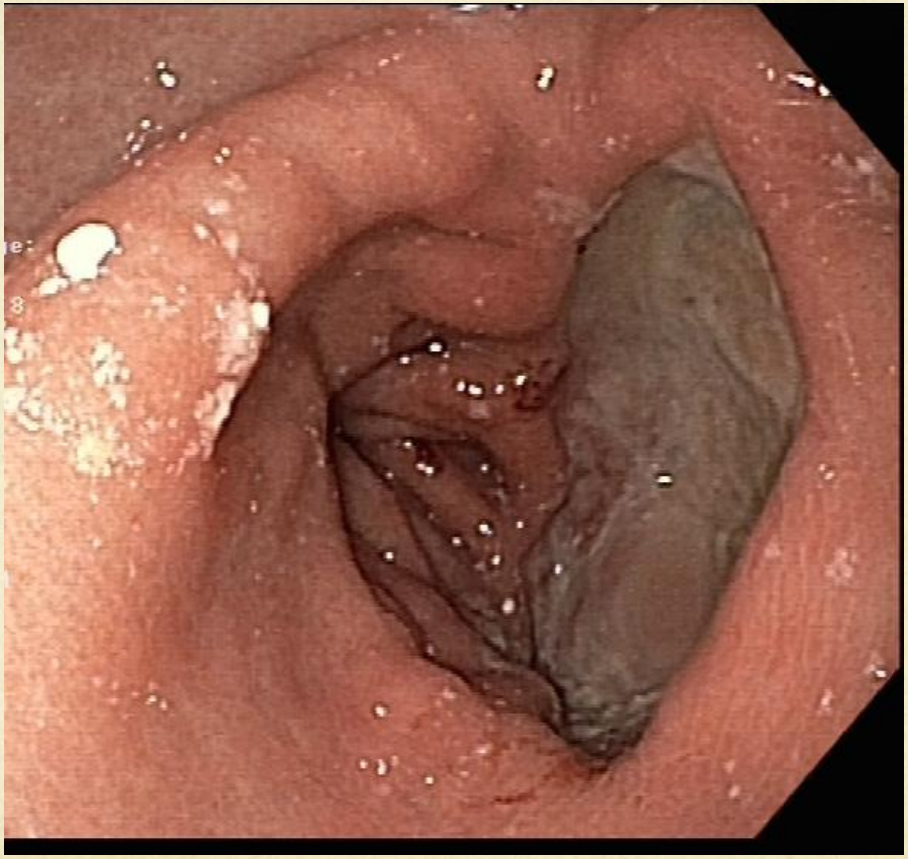
Vascular Malformations

- APC

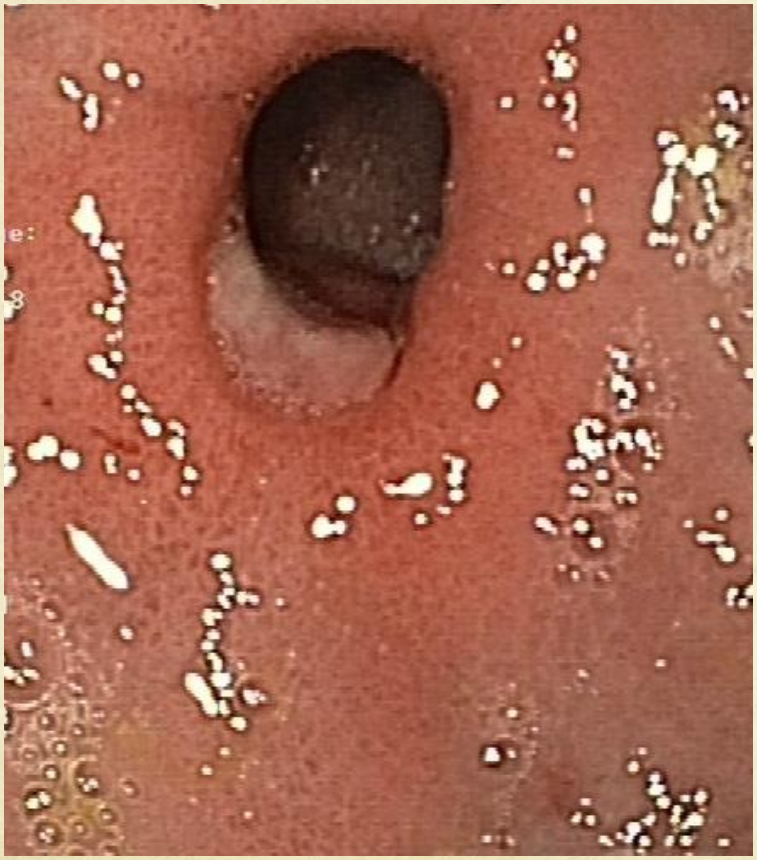
Dieulafoy lesion

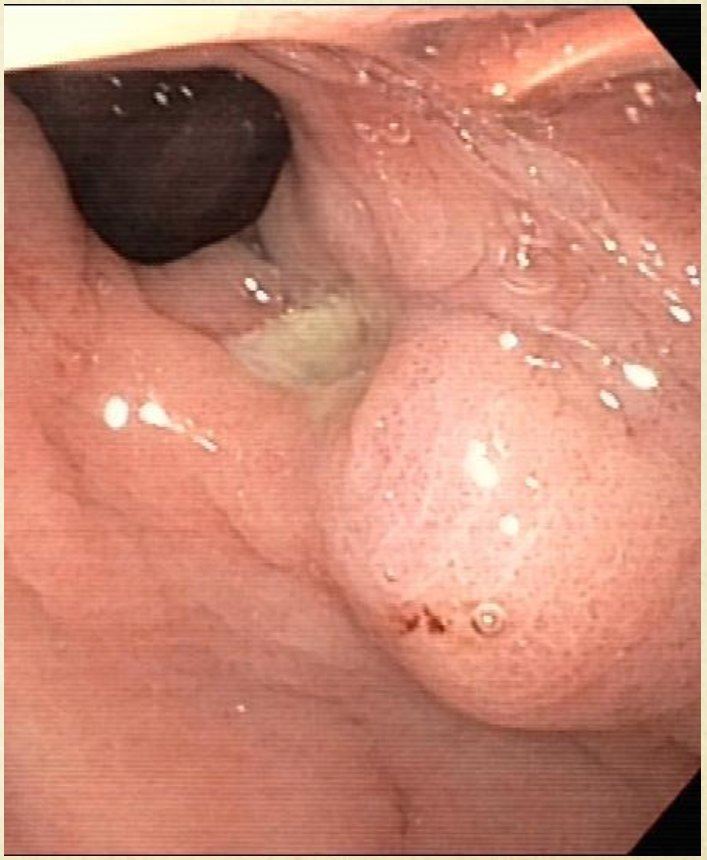
- Difficult to diagnose and treat
- Probably best served by combination of injection and thermal methods

Gastric Ulcer

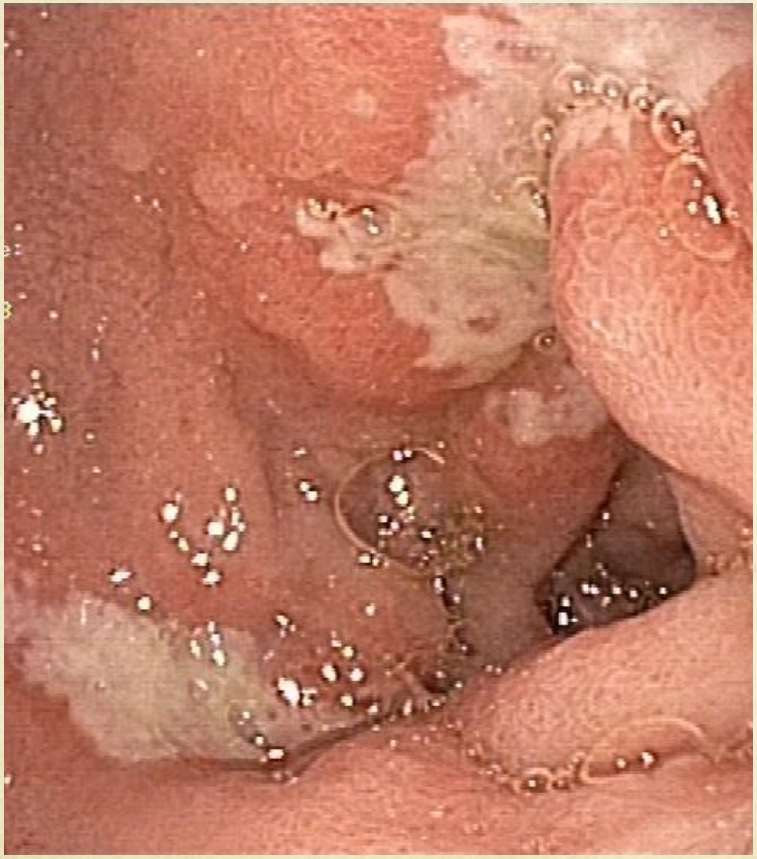


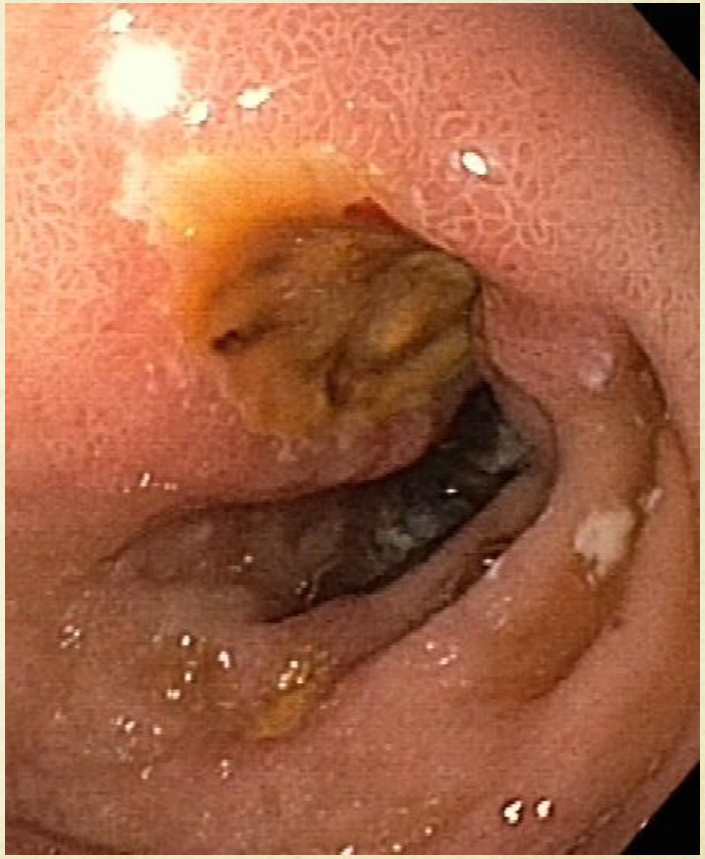
Pyloric ulcer



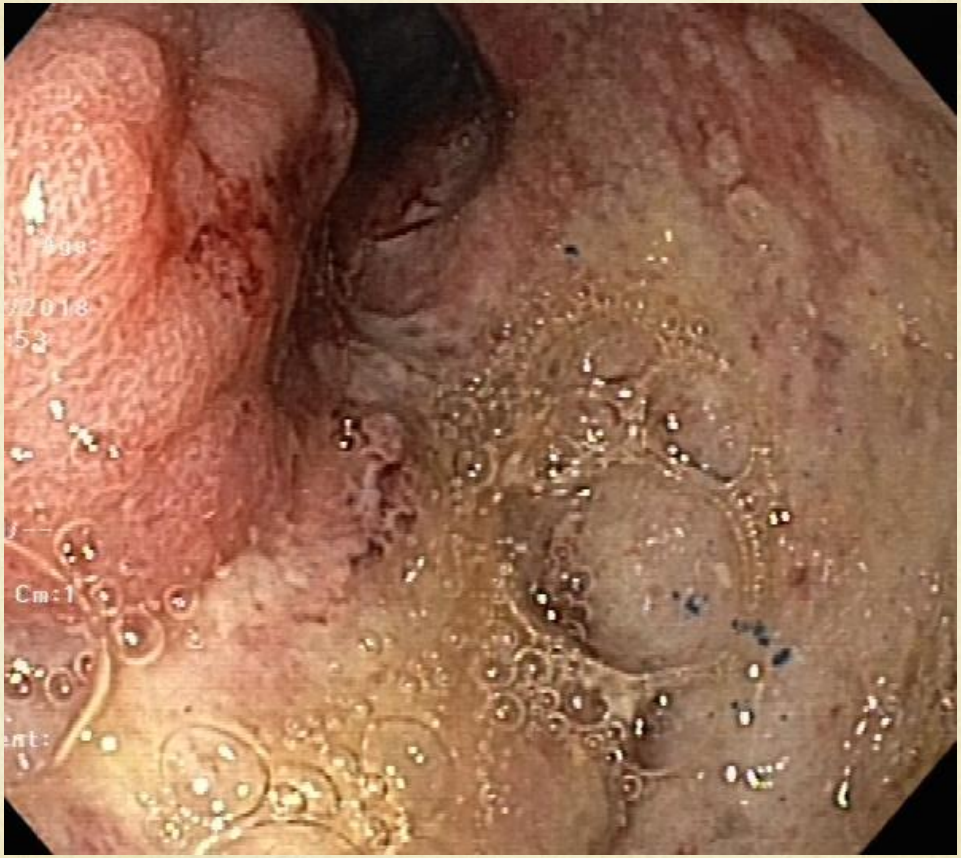


D1 ulcers

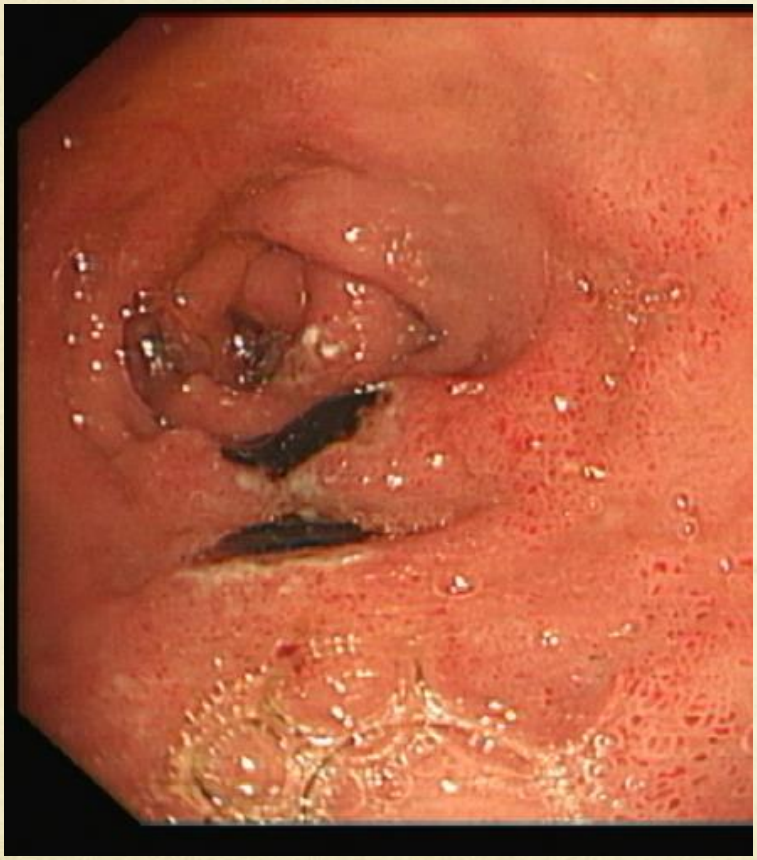


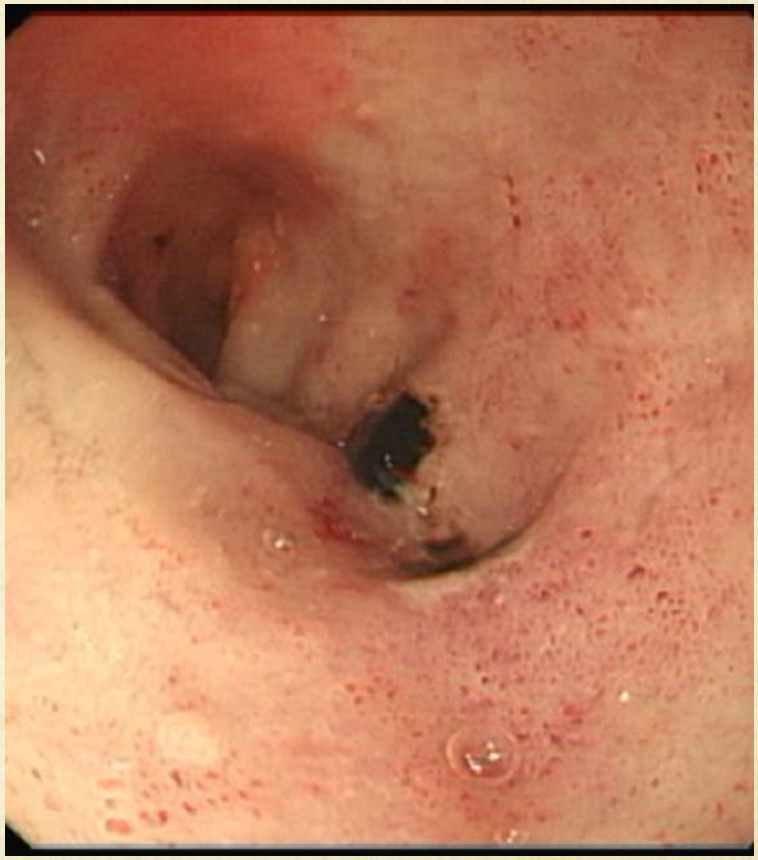


Malignancy



D1 Ulcers





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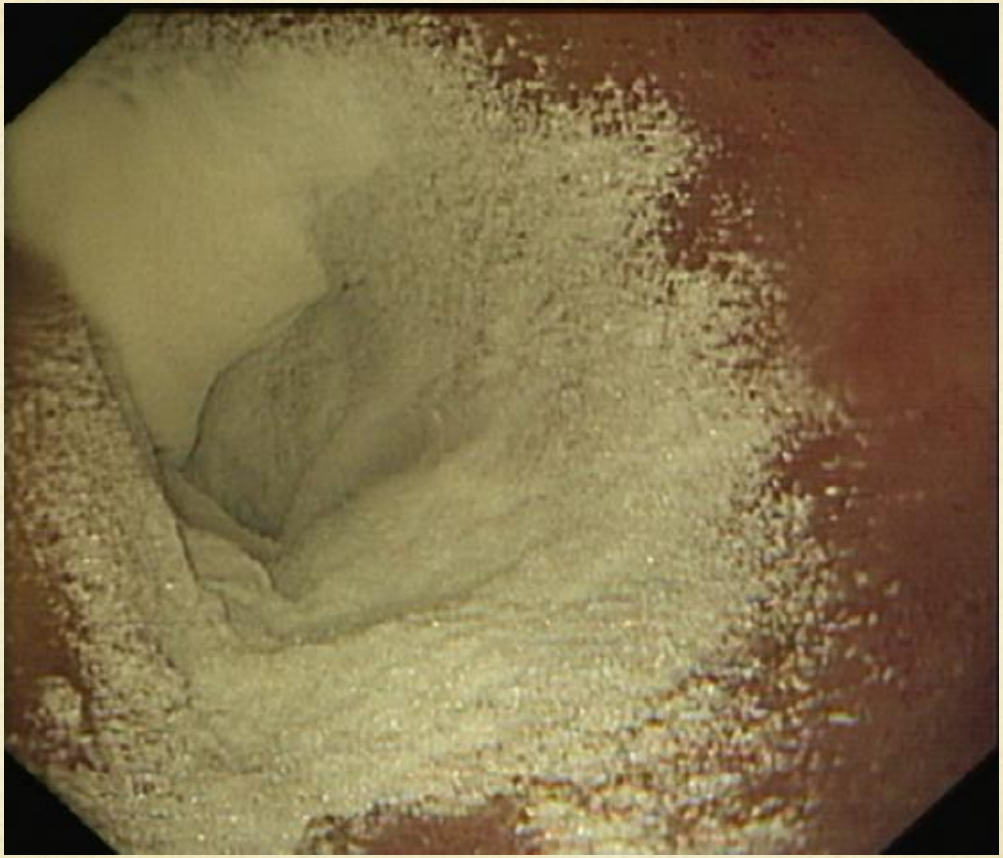

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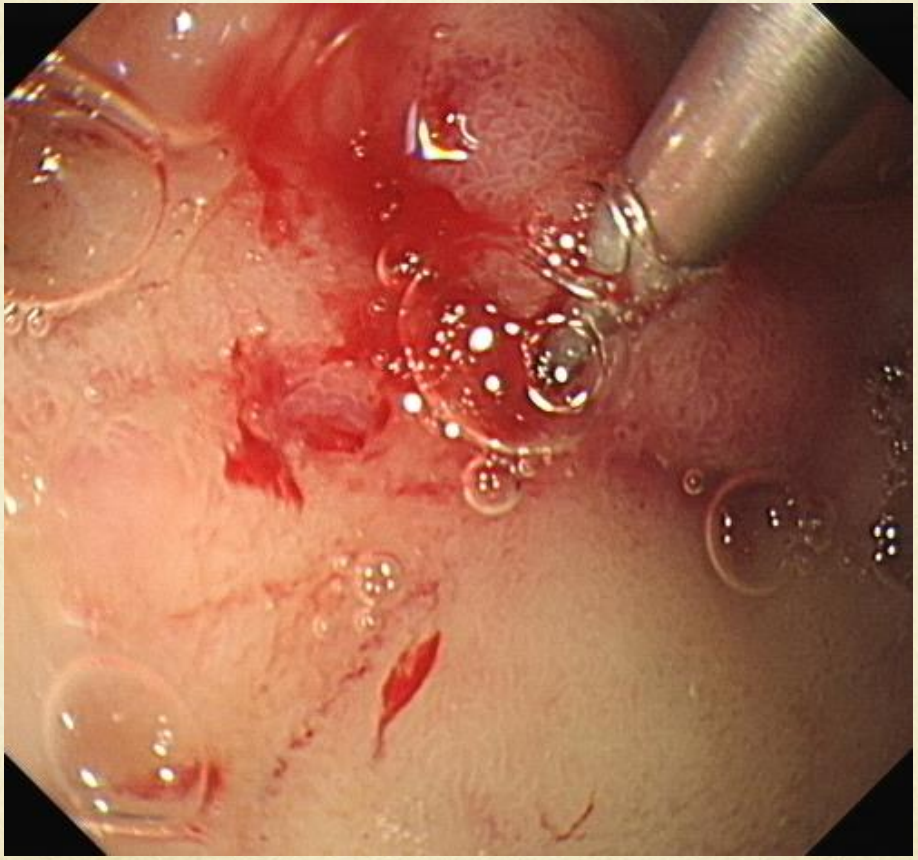

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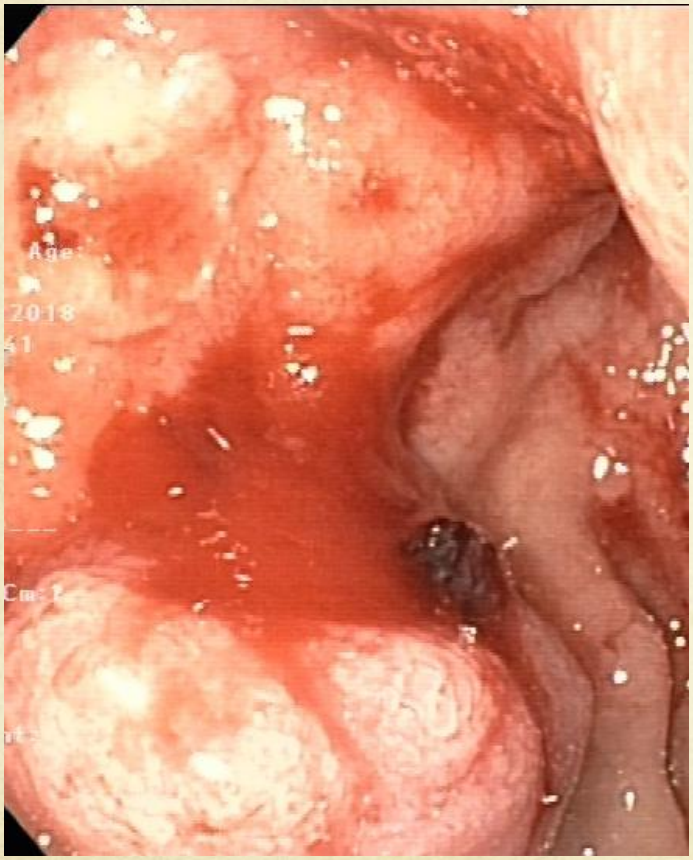

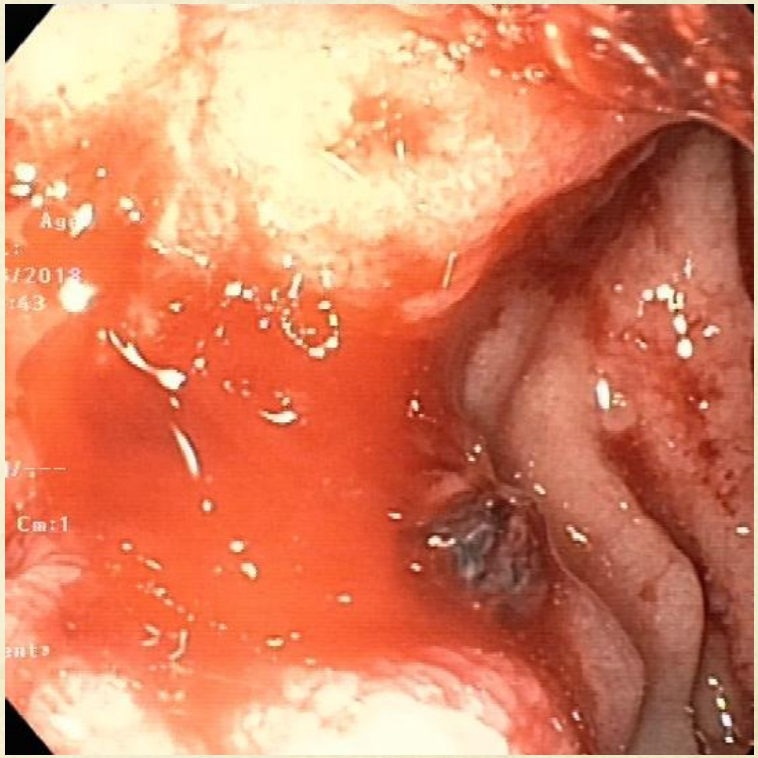

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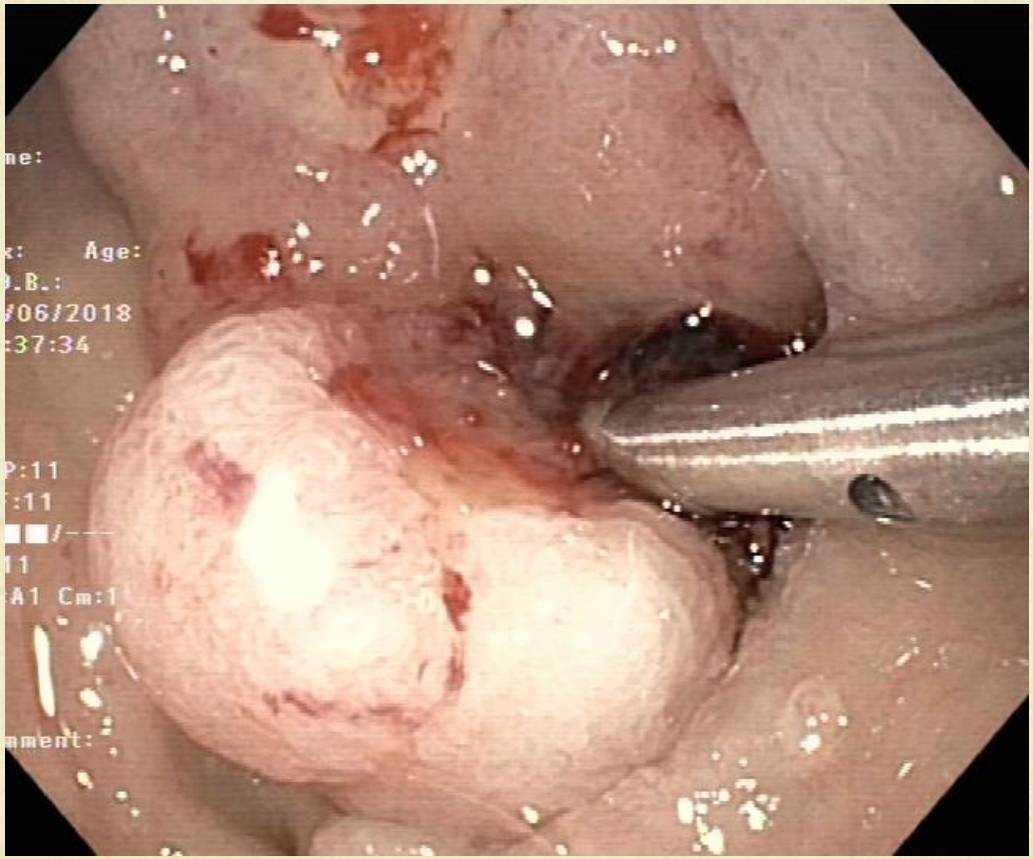
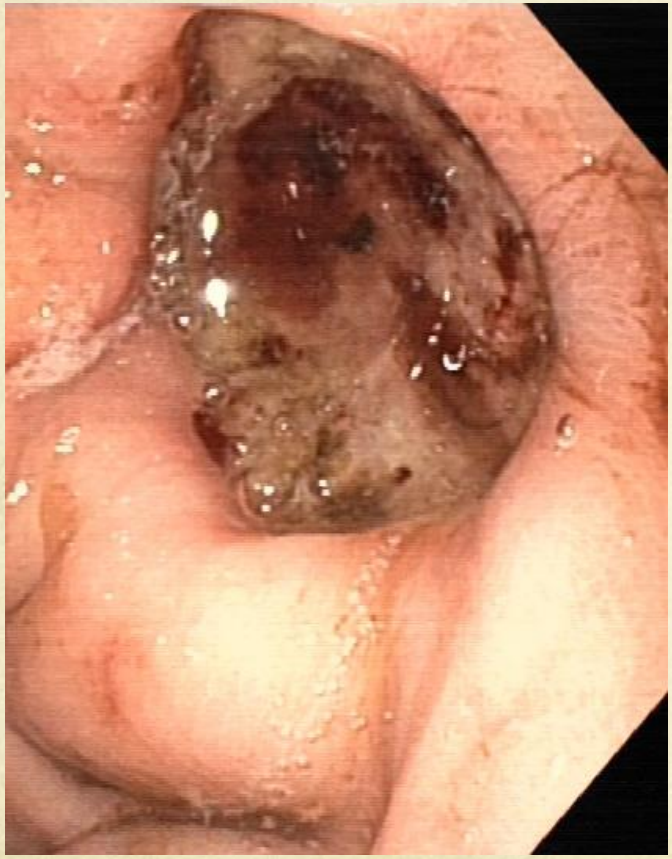
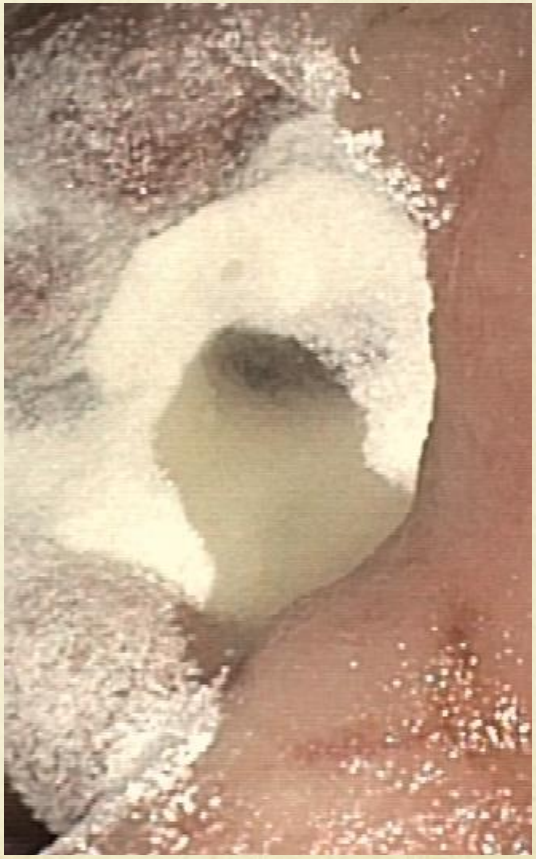
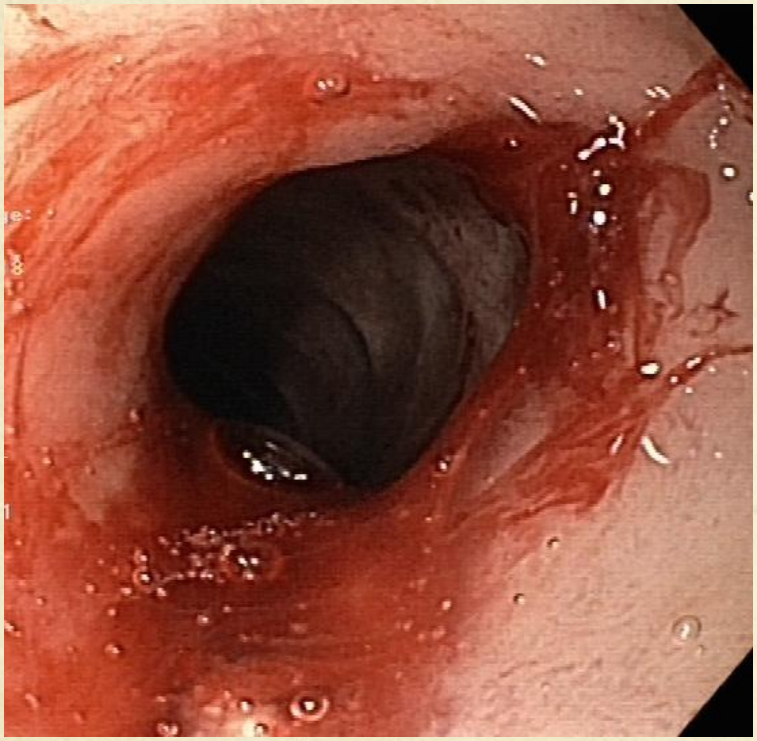


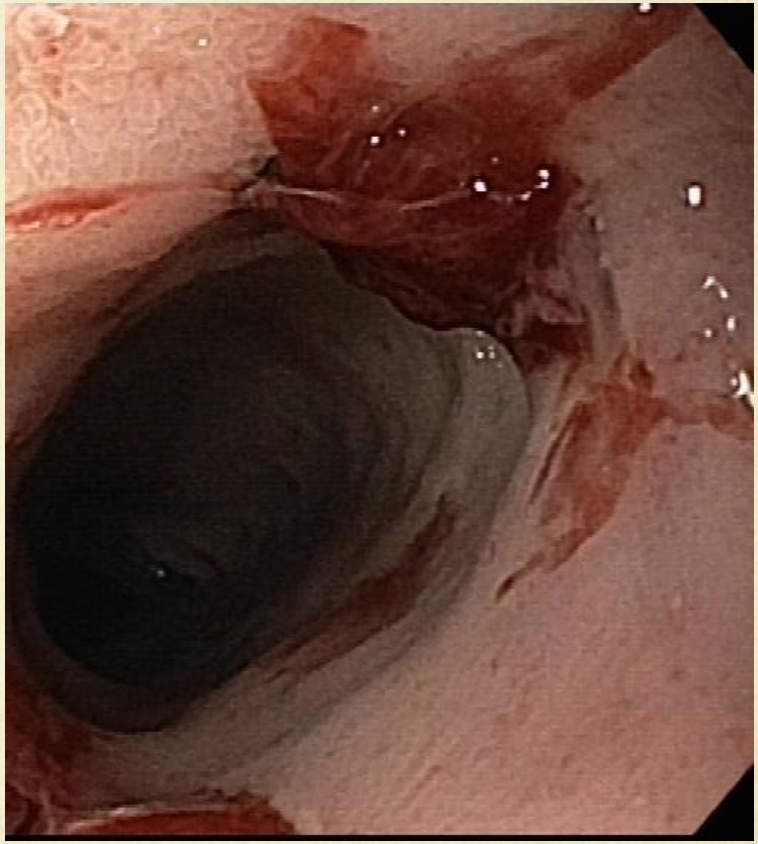
Giant Gastric Ulcer





D1 Dieulafoy's Lesion





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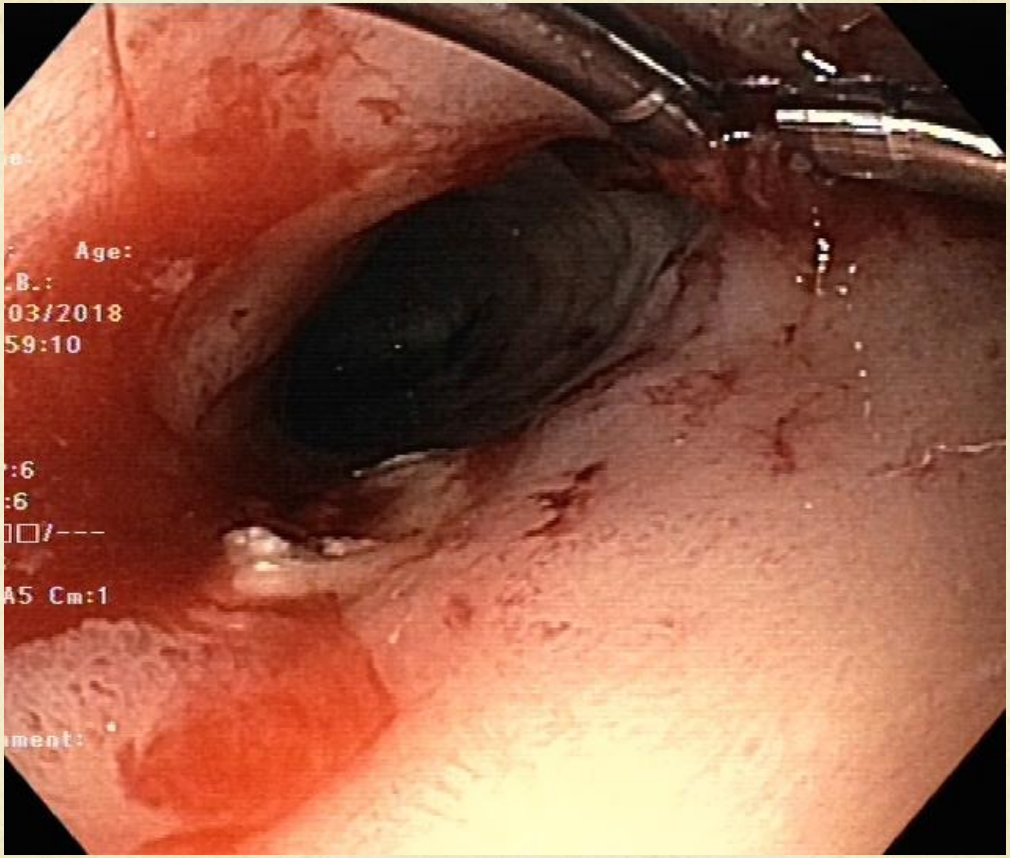
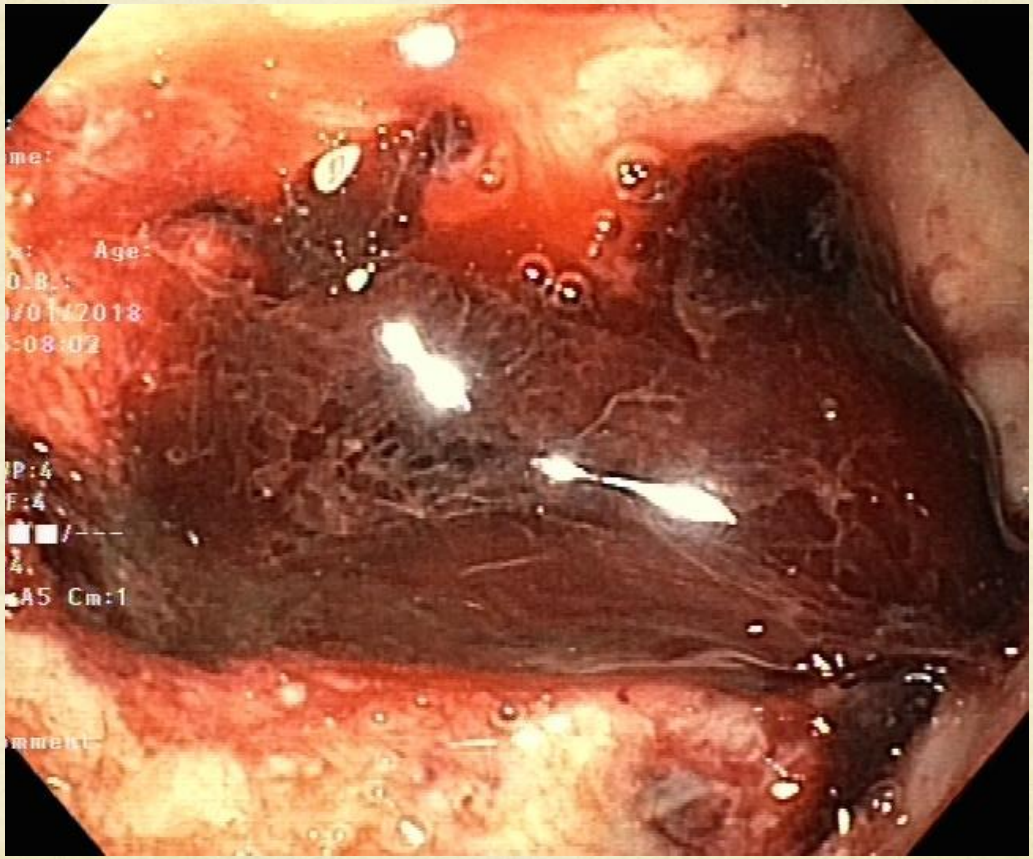


Giant Ulcer



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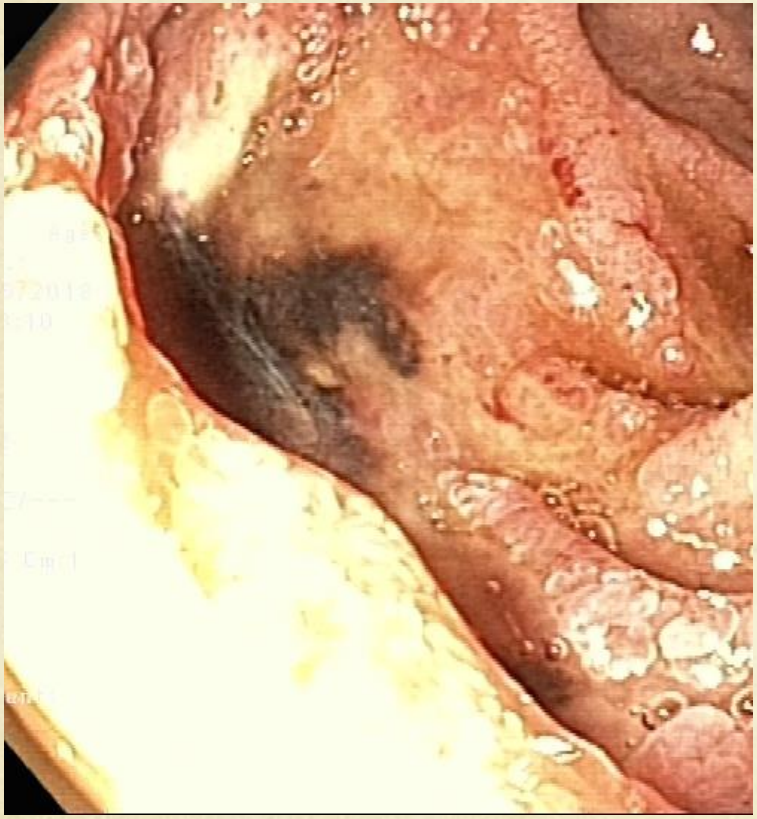
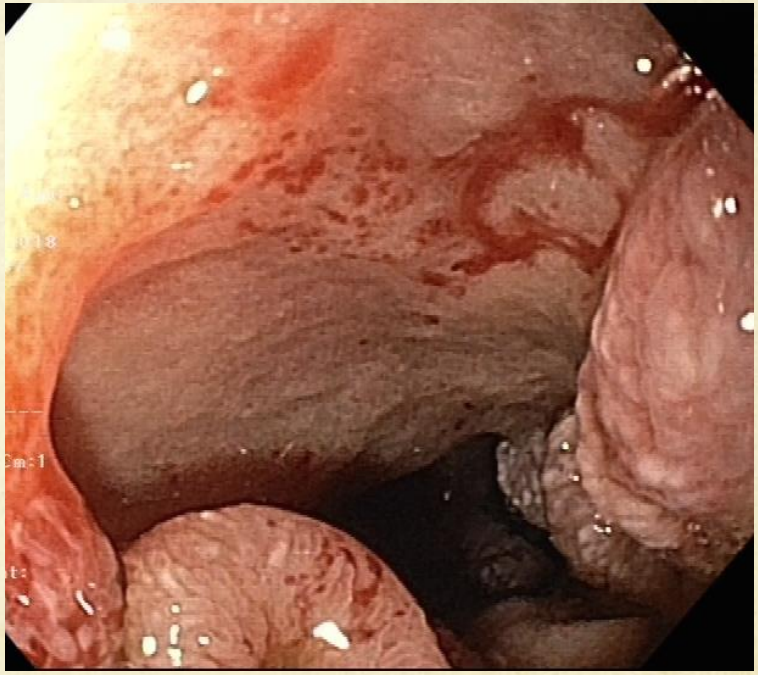
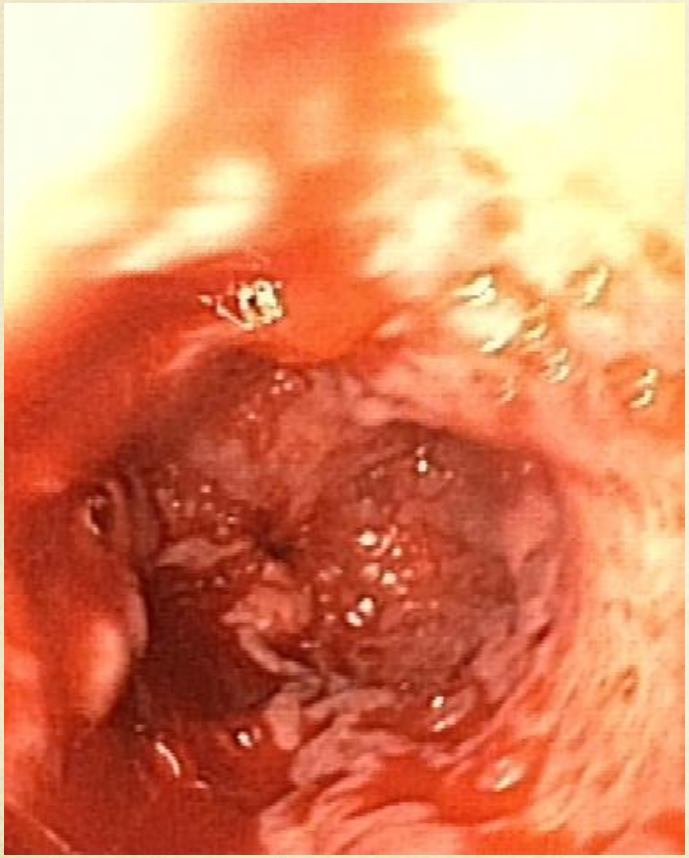
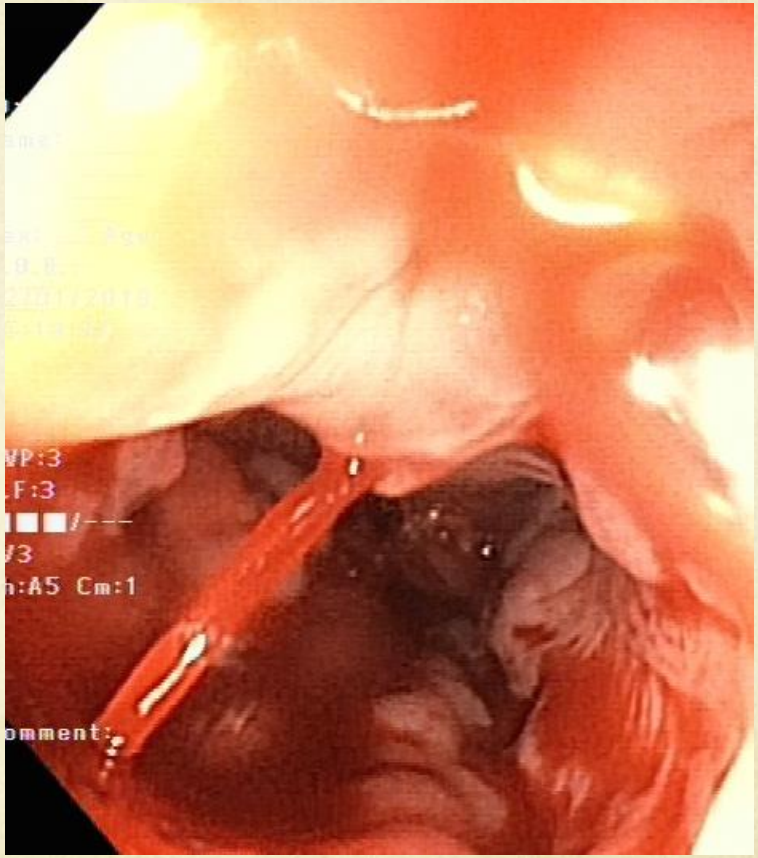


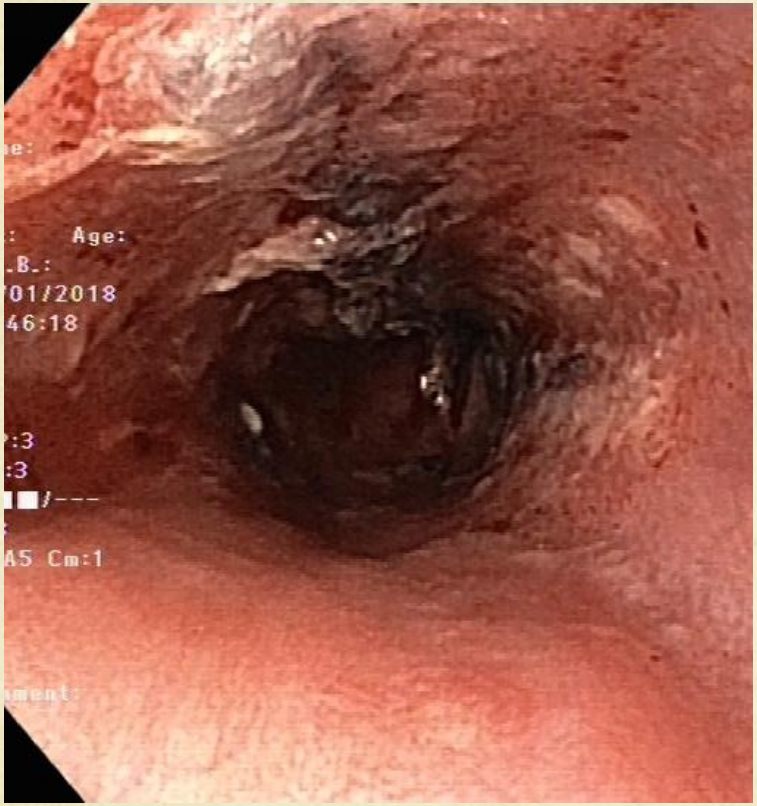


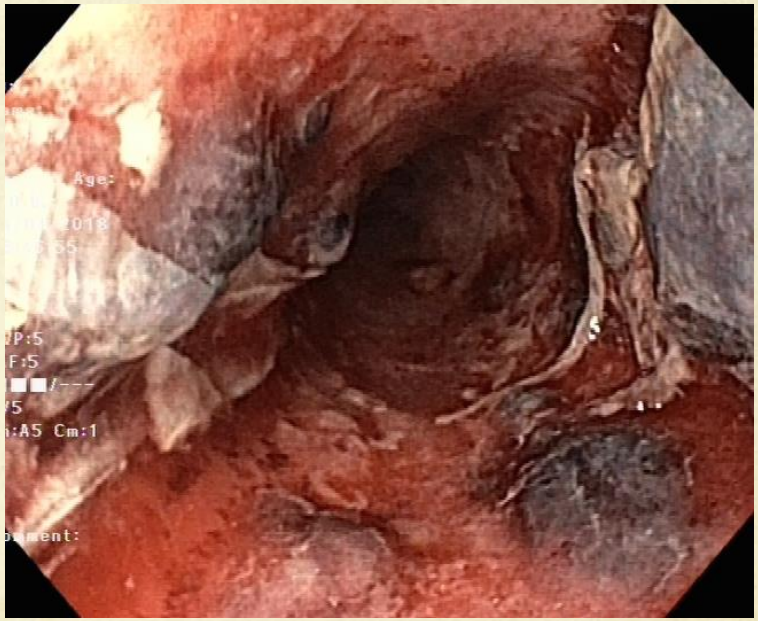
Oesophageal Causes



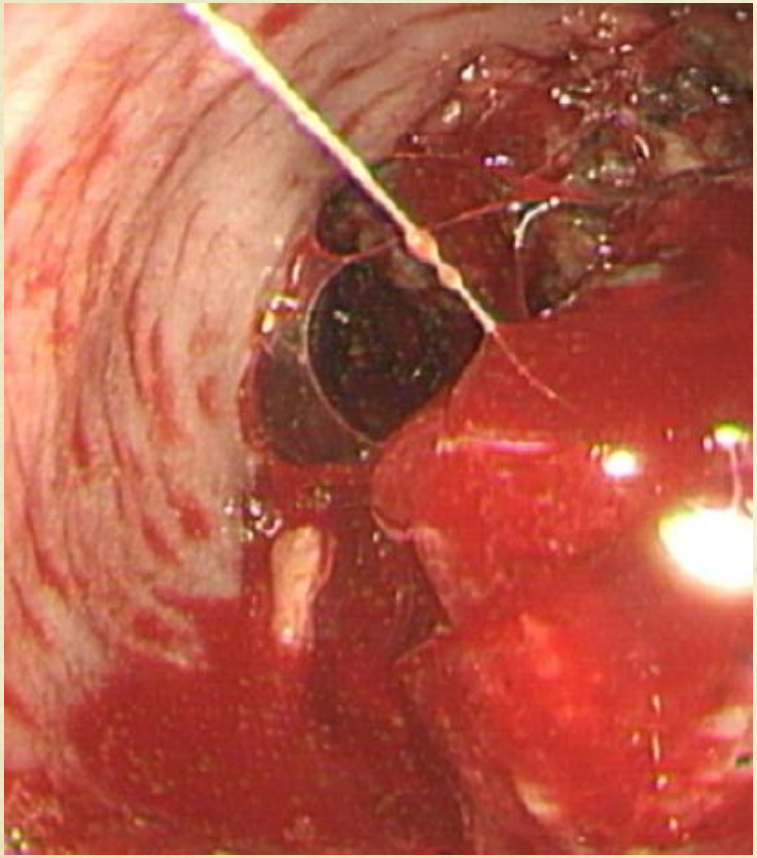


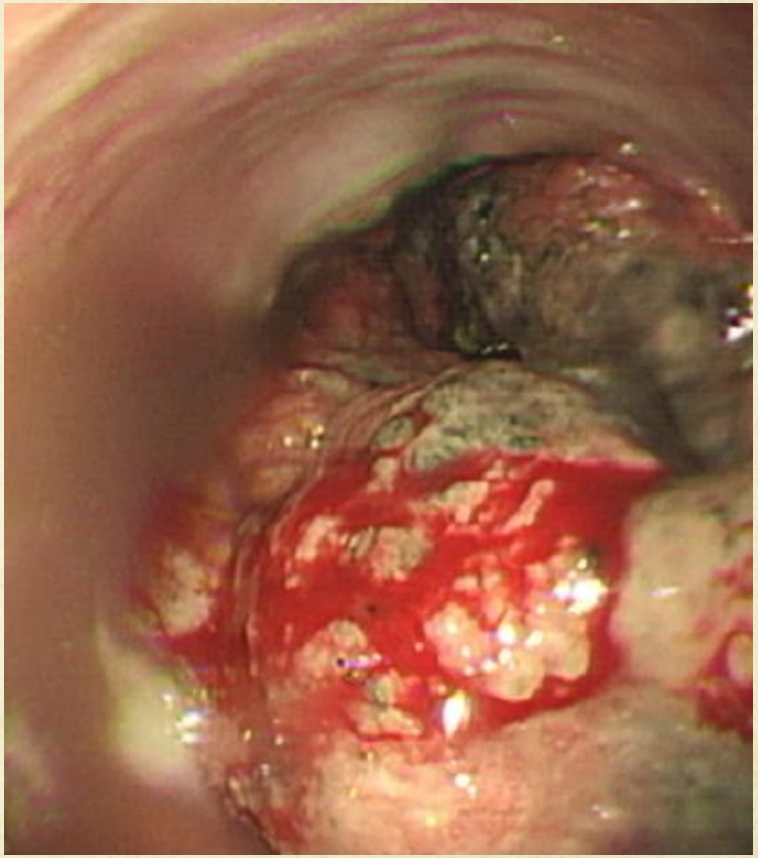
Oesophageal Trauma



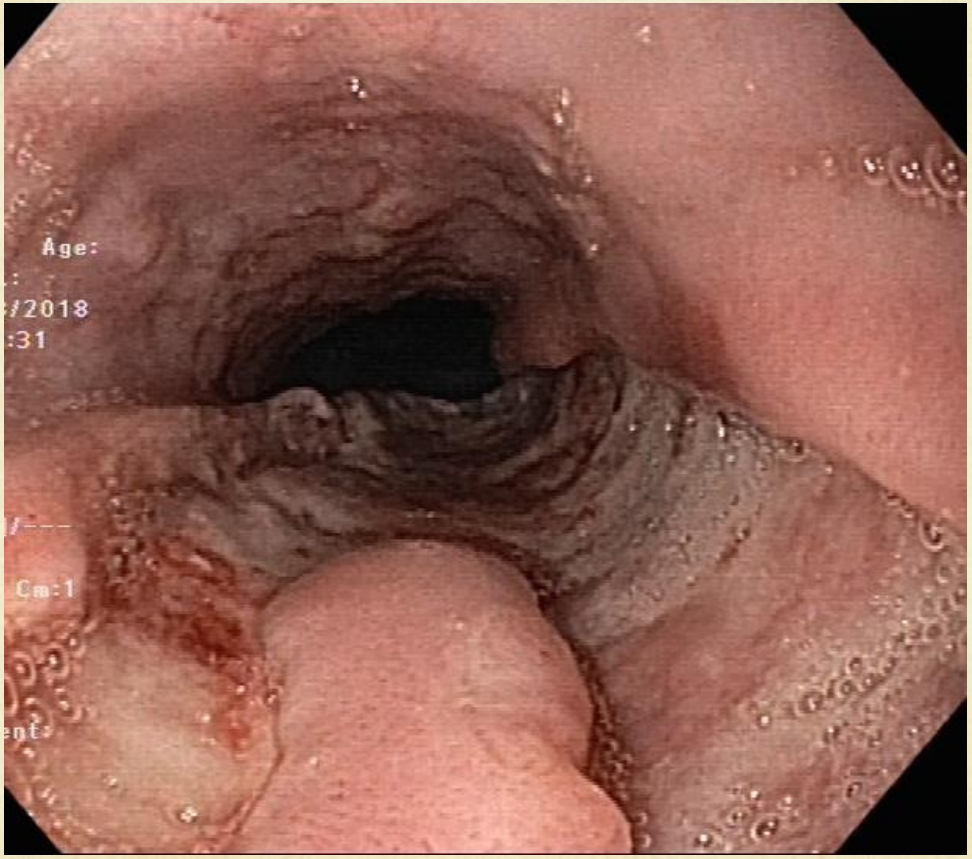


Oesophageal Malignacy





Giant Oesophageal Ulcer



Management after endoscopy

- Close monitoring of patients
- HR/BP/Hb
- If stable for 4-6 hours, then allow oral diet
- Suspected active rebleeding
  - Repeat endoscopy
- Concerns regarding optimal endoscopic therapy:
  - Repeat endoscopy in 12-24 hours

Uncontrolled haemorrhage or rebleeding

Uncontrolled haemorrhage

- IR
- Surgery

Rebleeding

- ?repeat endoscopy
- Persistent SRH
  - Repeat endoscopy therapy
  - IR
  - Surgery

Surgery

- Oversewing of ulcer
- Partial gastrectomy
- Selective vagotomies
- Experienced surgeon
- Experienced anasthetist

Follow-up

- All patients should be treated with PPI
- And probably maintained for life
- Exclude other potential causes:
  - Aspirin
  - NSAIDs
- Eradicate H.pylori

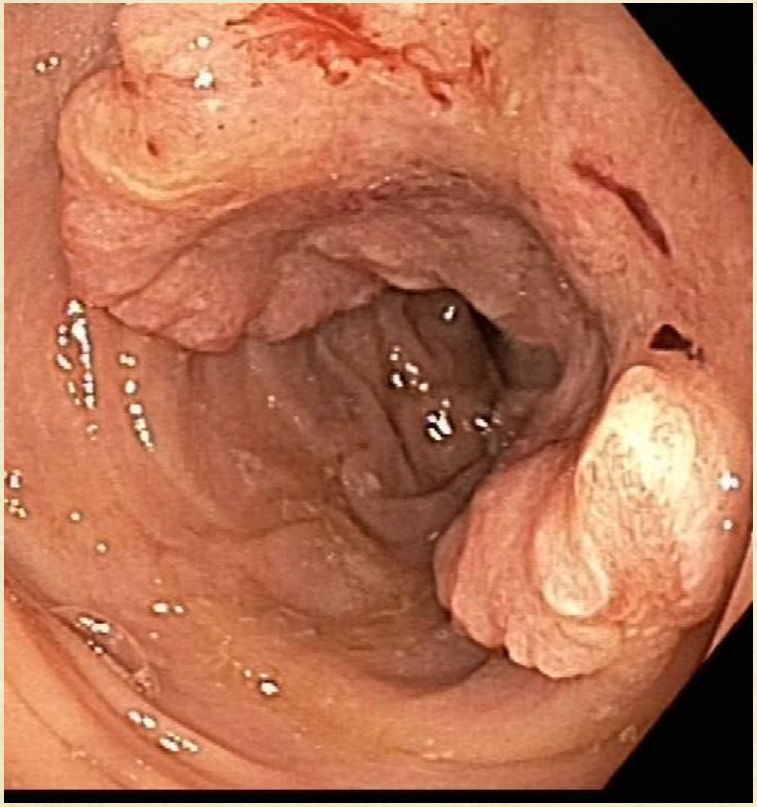
Gastric Ulcers

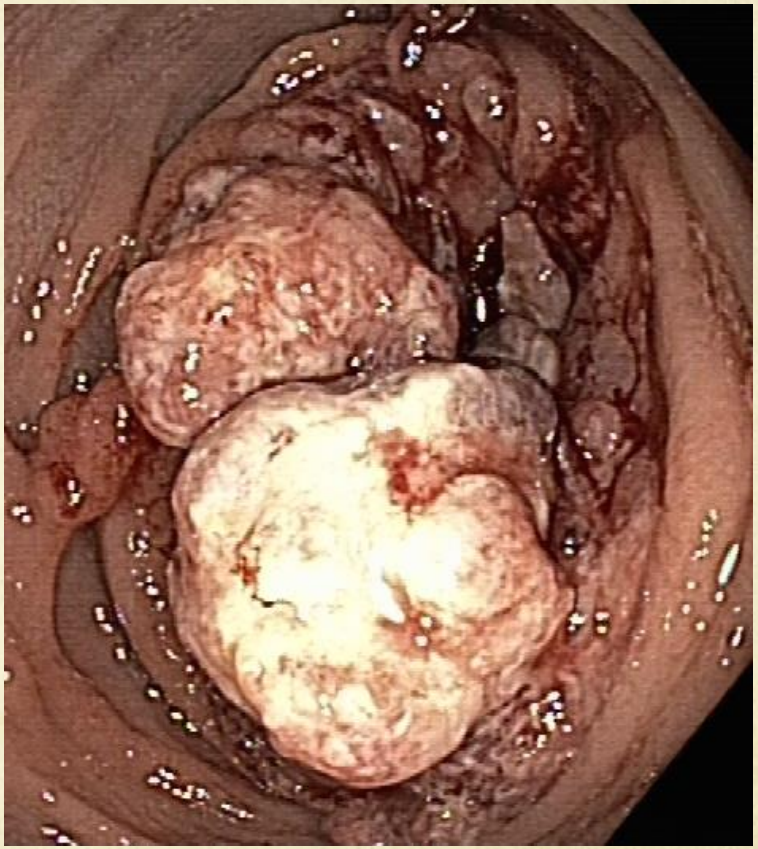
- Repeat endoscopy 6 weeks

Duodenal ulcers

- No repeat necessary

Think of other possibilities





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Medical Update Group Meeting