

By the Name of ALLAH the Most Gracious the Most Merciful



Oesophagus / Esophagus

L1

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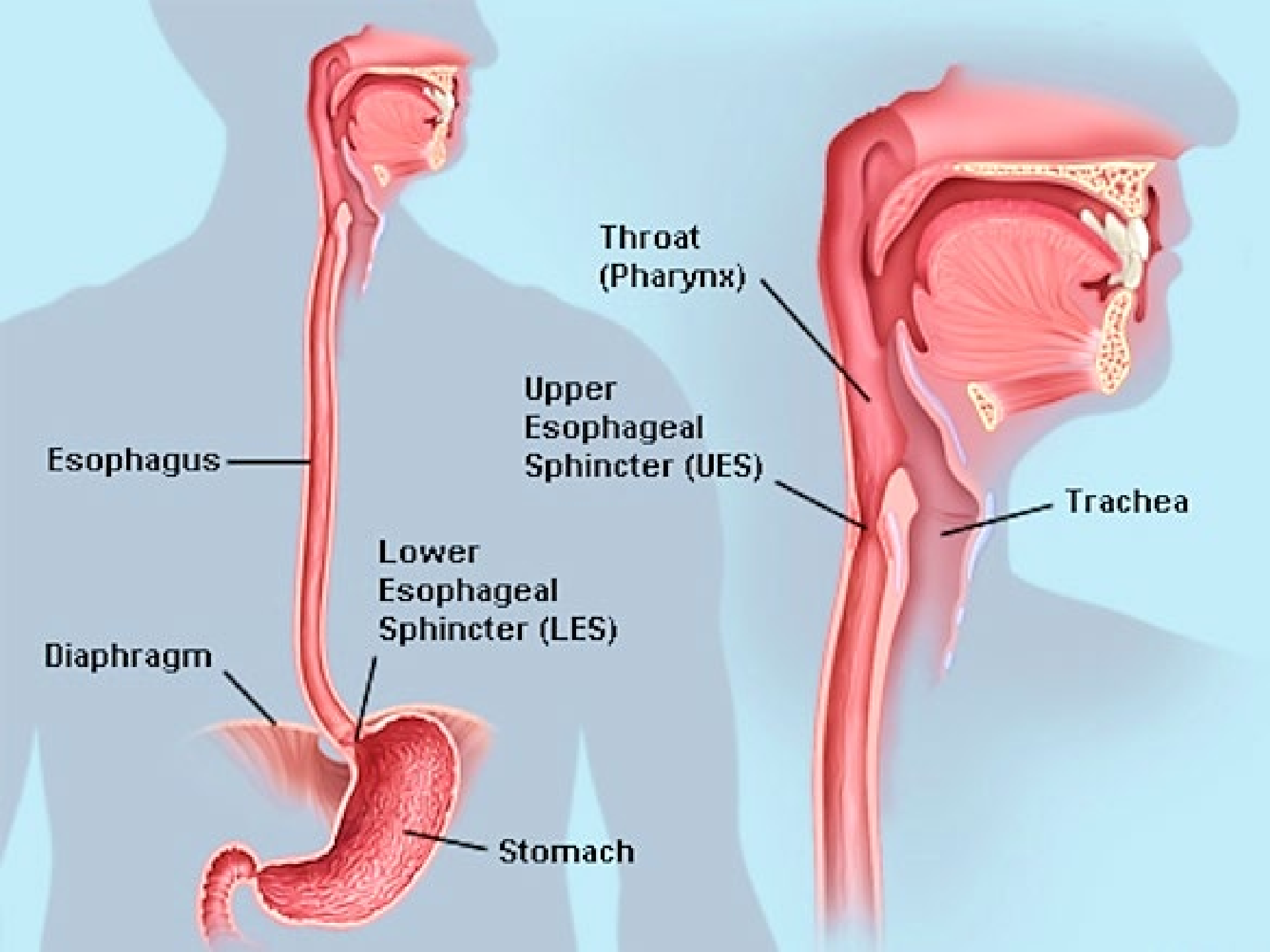
الأحد ٢٤ / ١٠ / ٢٠٢١

Bailey & Love's Short Practice of Surgery, 27th Edition . CH 60 .

Browse's Introduction to The Symptoms and Signs of Surgical Disease , 4th Edition.

Objectives :

- Upon completion of this lecture, you will be able to:
- Describe the classical history and physical examination findings for the Oesophagus
- Discuss the advantages and limitations of the different radiologic studies utilized in the diagnosis of Oesophagus.
- Describe the treatment priorities for the Oesophageal diseases and injuries.
- Know surgical operations regarding Oesophageal conditions.
- Manage emergent Oesophageal states.



Throat
(Pharynx)

Upper
Esophageal
Sphincter (UES)

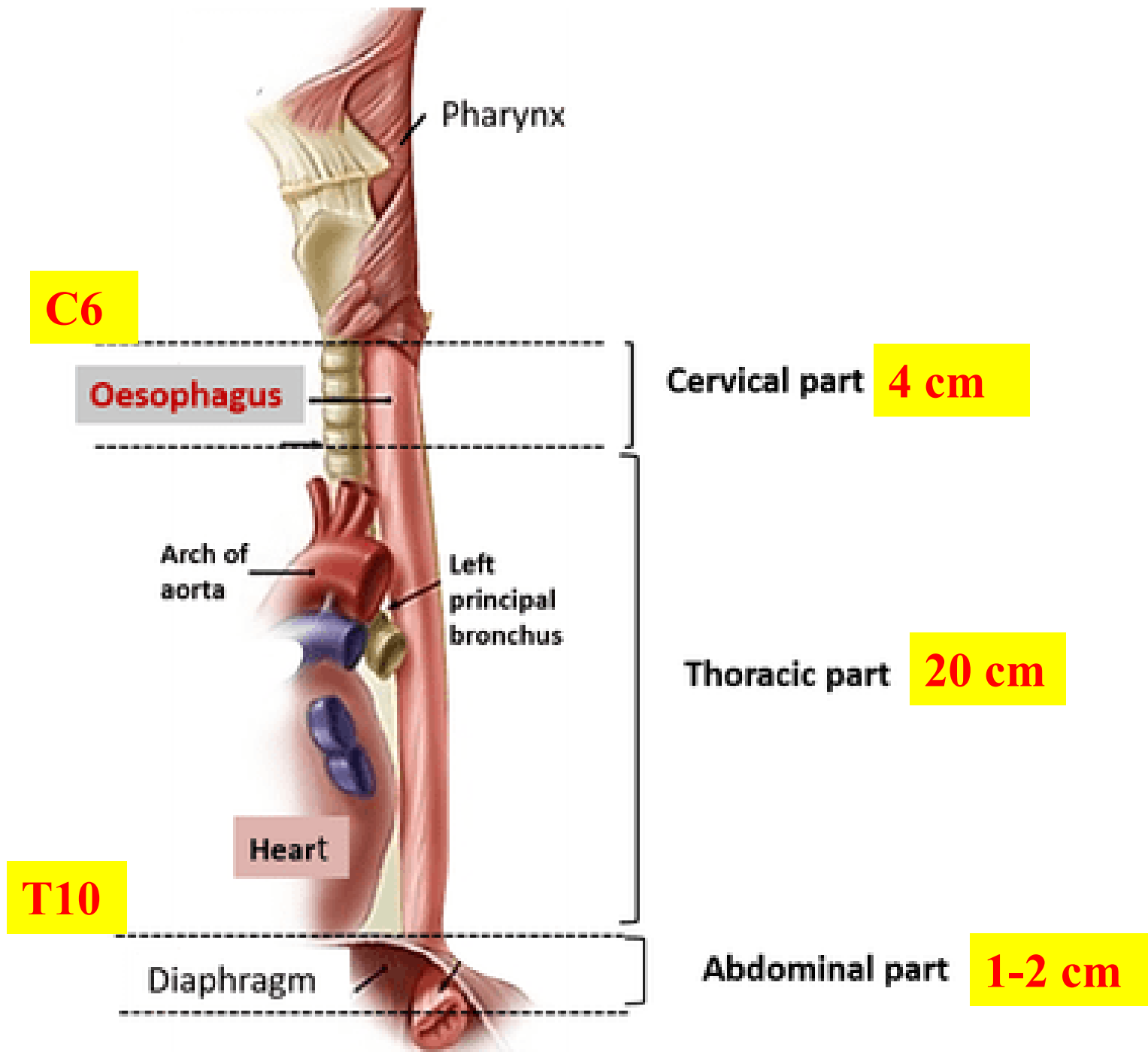
Trachea

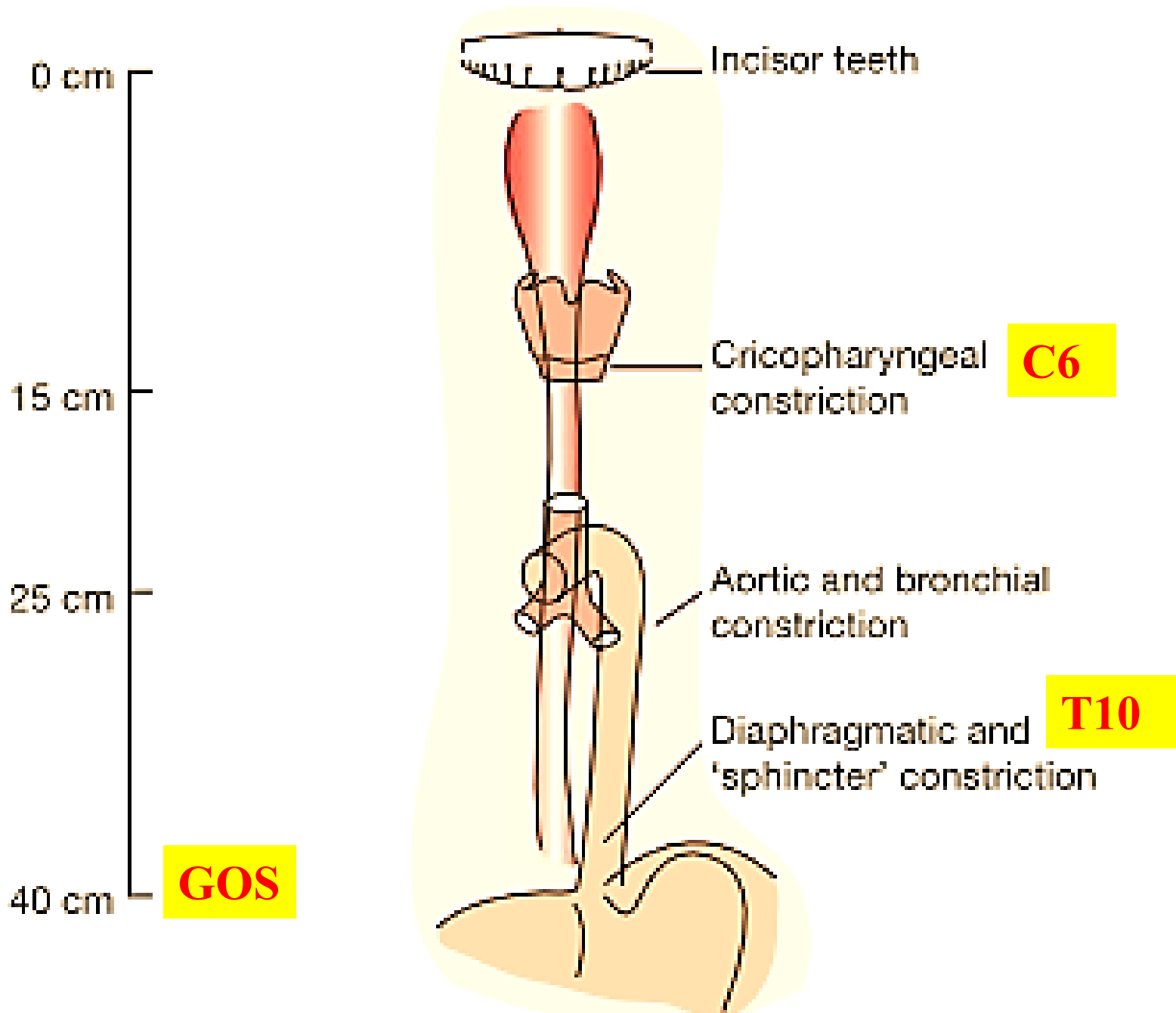
Esophagus

Lower
Esophageal
Sphincter (LES)

Diaphragm

Stomach





Clinical Anatomy

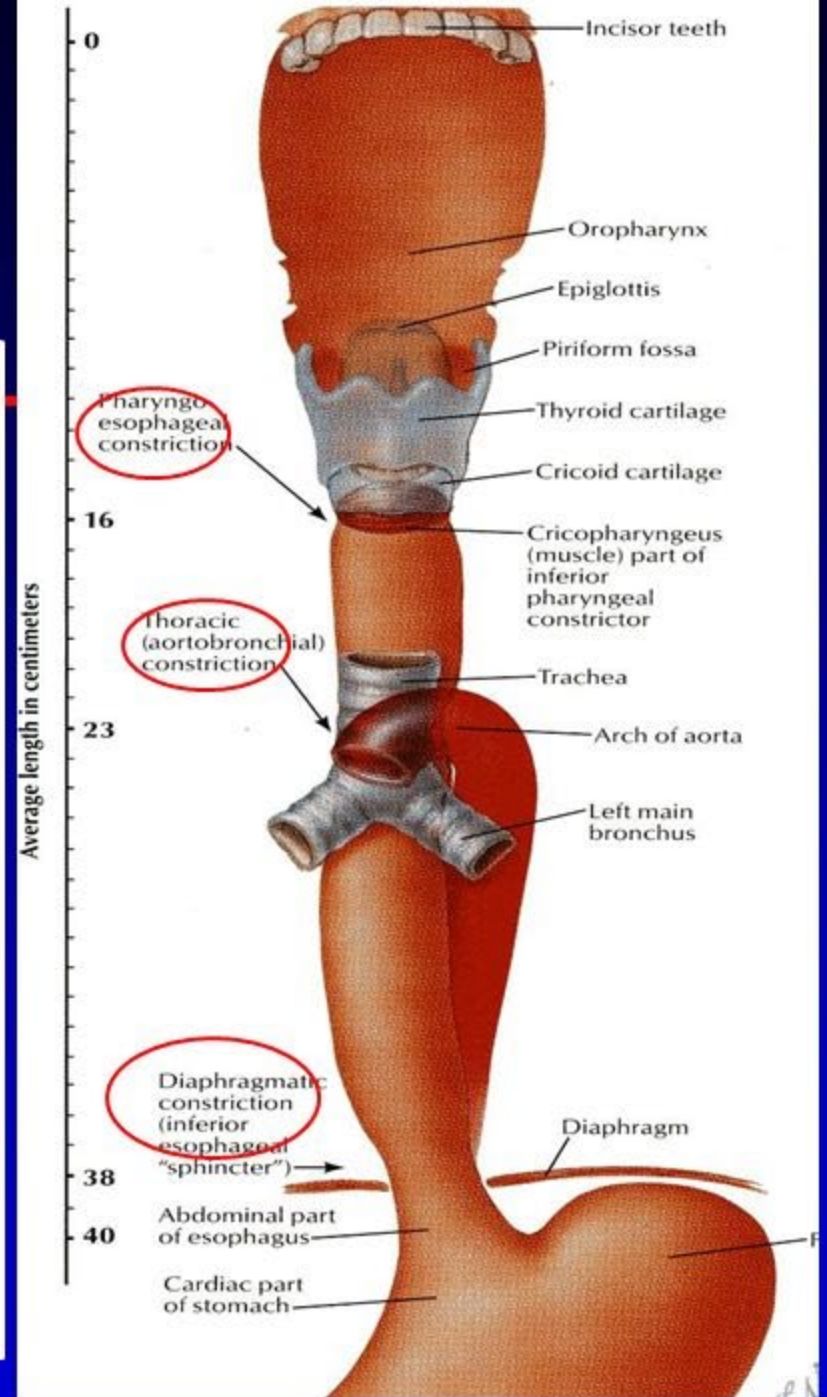
- Three indentations.
- Nasogastric tube.
- Endoluminal Ultrasonography and Cardiac doppler.
- O.G.D.
- Assessment for lesions (imaging (Contrast study & E.LU.)).
- Localization of the lesion (pain, dysphagia).

Clinical Physiology

- Oesophageal sphincters (Upper and Lower).
- The normal LOS is 3–4 cm in length and has a pressure of 10–25 mmHg.
- G.O.R.D.
- Motor activities and wave contractions (Coordination and rhythmicity).

ESOPHAGEAL CONSTRICTIONS

- The esophagus has 3 anatomic constrictions.
- The first is at the junction with the pharynx (pharyngoesophageal junction).
- The second is at the crossing with the aortic arch and the left main bronchus.
- The third is at the junction with the stomach.
- They have a considerable clinical importance.
- Why?



Clinical Pathology

- Intraluminal, Inramural (mucosa & muscularis)
& Extraluminal.
- Diseases (ulcer, mass, Ca, Crohn's disease, ...).

Symptoms

- Dysphagia (DDx oropharyngeal).Localization.
- Odynophagia (reflux oesophagitis , infective oesophagitis & chemical injury).
- Regurgitation and Reflux. (Reflux is the passive return of gastroduodenal contents to the mouth
- Loss of weight, anaemia, cachexia, change of voice due to refluxed material irritating the vocal folds, and cough or dyspnoea due to tracheal aspiration may all accompany regurgitation and/ or reflux.
- Hematemesis +/- Melena .
- Chest pain.(gastro-oesophageal reflux and motility disorders) DDx M.I..

Symptoms

Summary box 62.1

Symptoms of oesophageal disease

- Difficulty in swallowing described as food or fluid sticking (oesophageal dysphagia): must rule out malignancy
- Pain on swallowing (odynophagia): suggests inflammation and ulceration
- Regurgitation or reflux (heartburn): common in gastro-oesophageal reflux disease
- Chest pain: difficult to distinguish from cardiac pain

Investigations

- Radiology (Imaging):
 - Plain X Ray , Contrast Study (Barium swallow) and double contrast.
 - CT scan.
 - M.R.I.
- Endoscopy.(flexible video gastroduodenoscopy).
- Endosonography.

Investigation

- Radiography (Plain (F.B.)/ Contrast study (Ba swallow (GORD, Ulcer, Ca, Motility disorders, stricture, T.O. fistula)/ (Contrast CT scan Ca, perforation) .
- Endoscopy Diagnostic procedure (+/- biopsy { ulcer}/ (Therapeutic procedure) .hemostasis, dilatation (Balloon), F.B., Thermal recanalization
- Endosonography.
- Oesophageal manometry.
- PH and Impedance recording.



Figure 62.8 An impacted meat bolus at the lower end of the oesophagus. This may be the first presentation of a benign stricture or a malignant tumour.

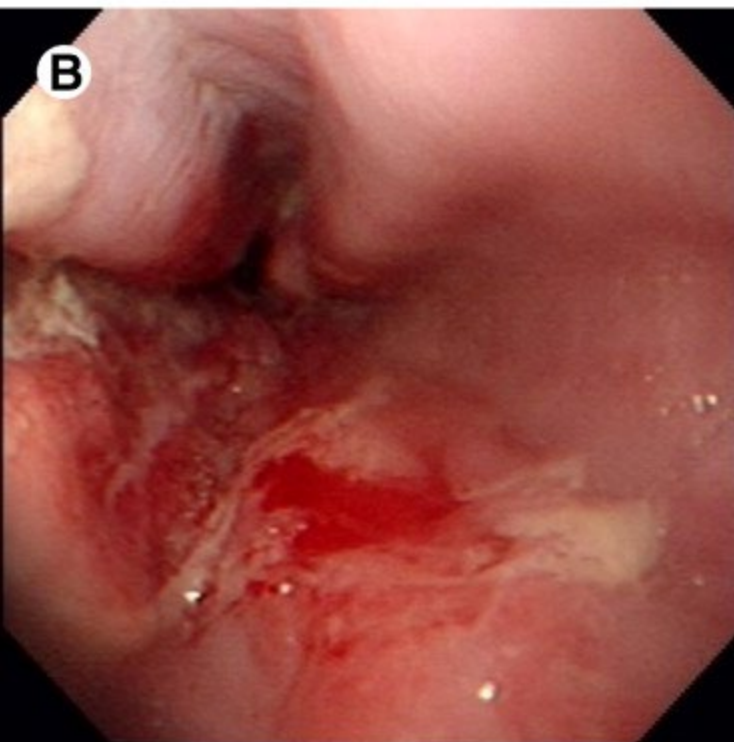
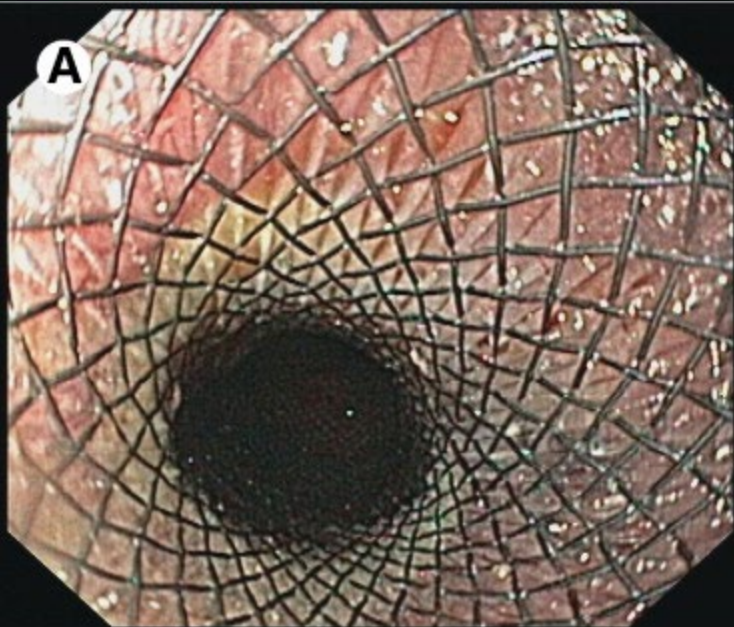
Barium swallow Contrast Study

- Contrast Study.
- Diagnostic



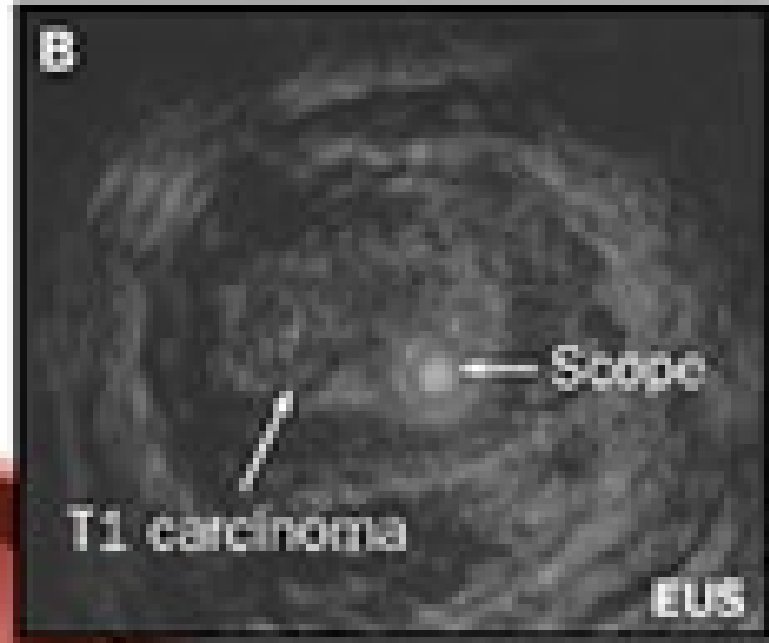
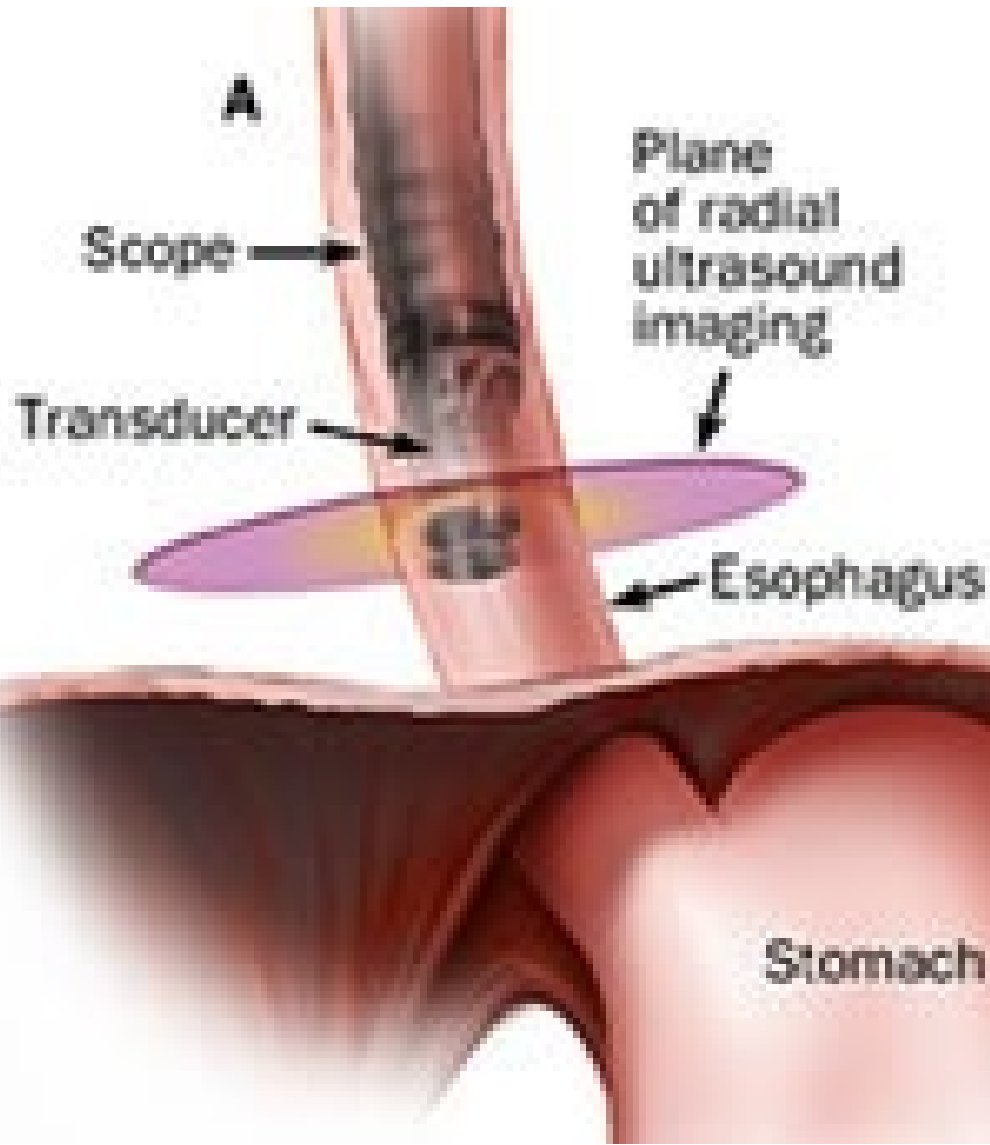
Endoscopy

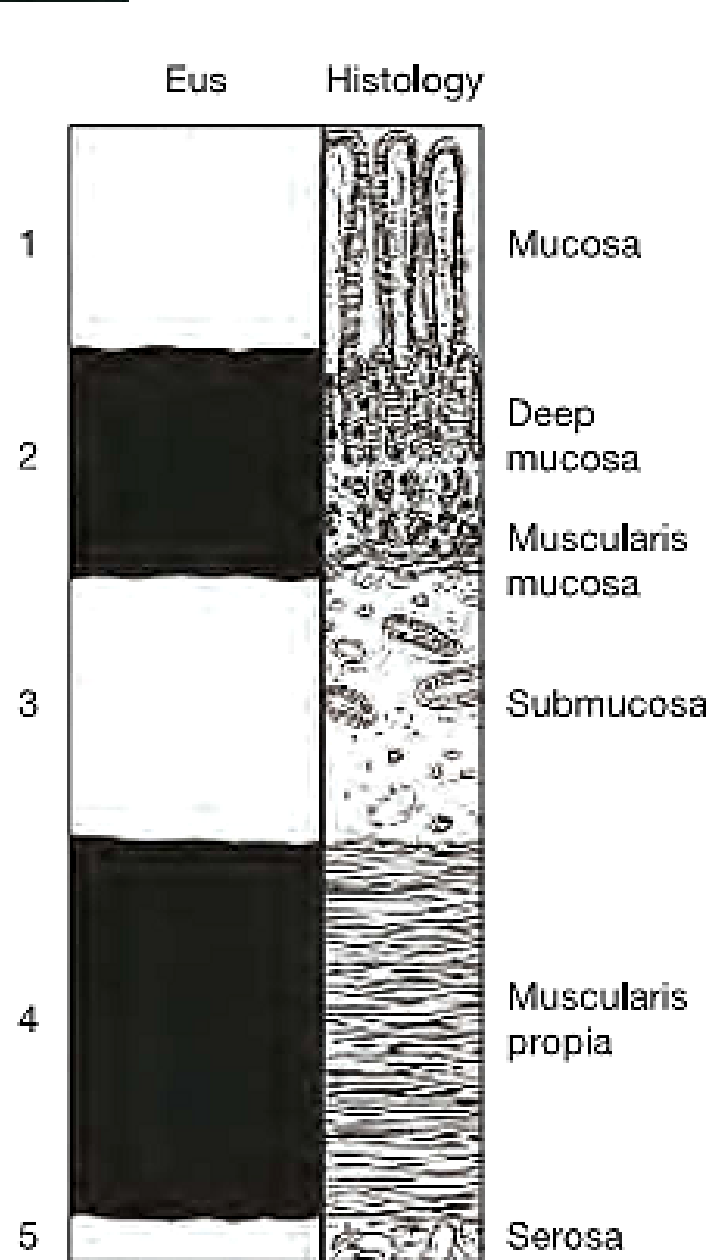
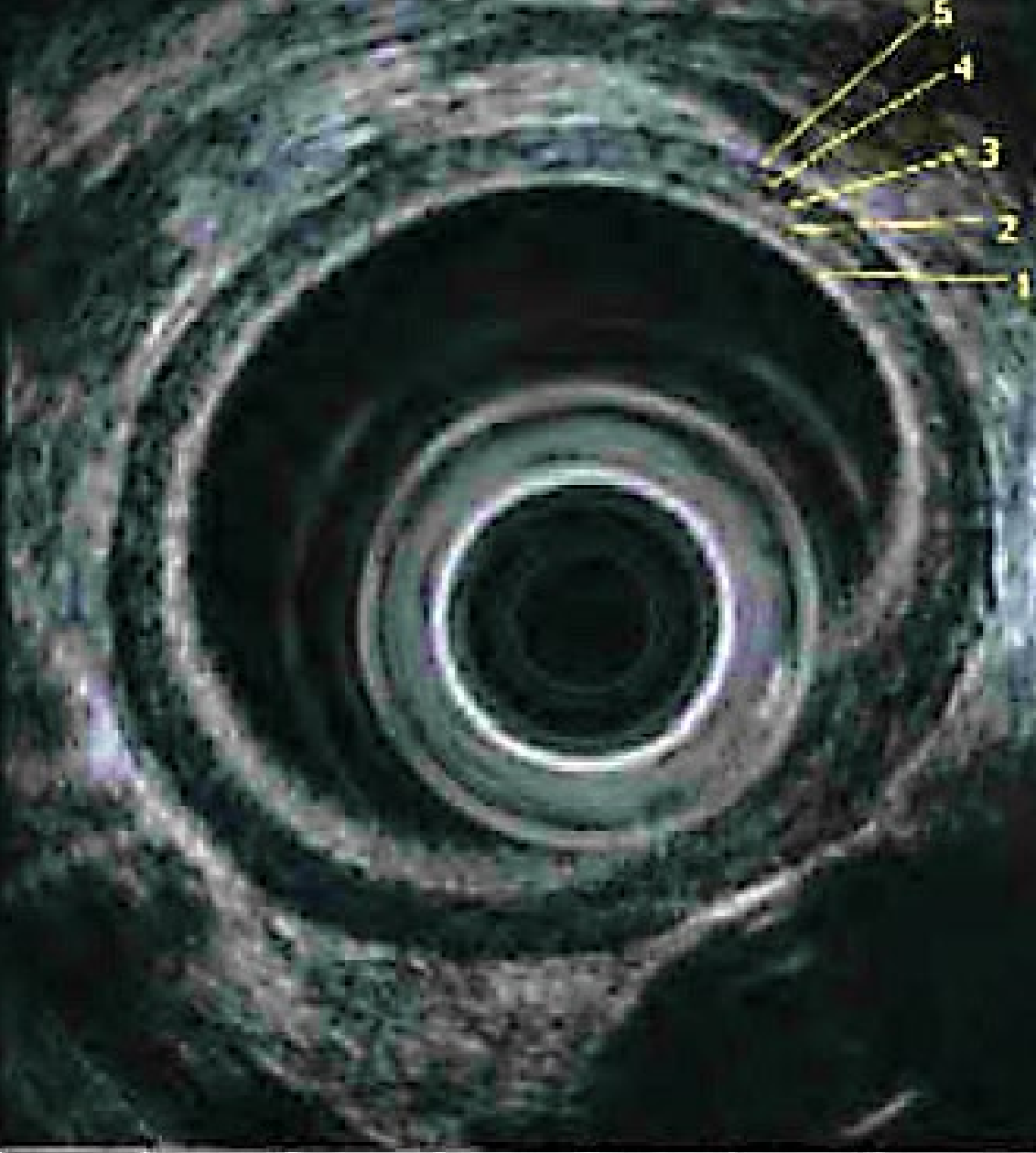
- Diagnostic.(+/- Biopsy)
- Therapeutic:
 - Stent : Cancer
 - Dilatation of strictures : (achalasia).
 - Thermal recanalisation (Various types of laser (mainly Nd–YAG), bipolar diathermy, injection of absolute alcohol or argon-beam plasma coagulation have all been used successfully to ablate tissue in order to recanalise the oesophagus.



DR. MURGA

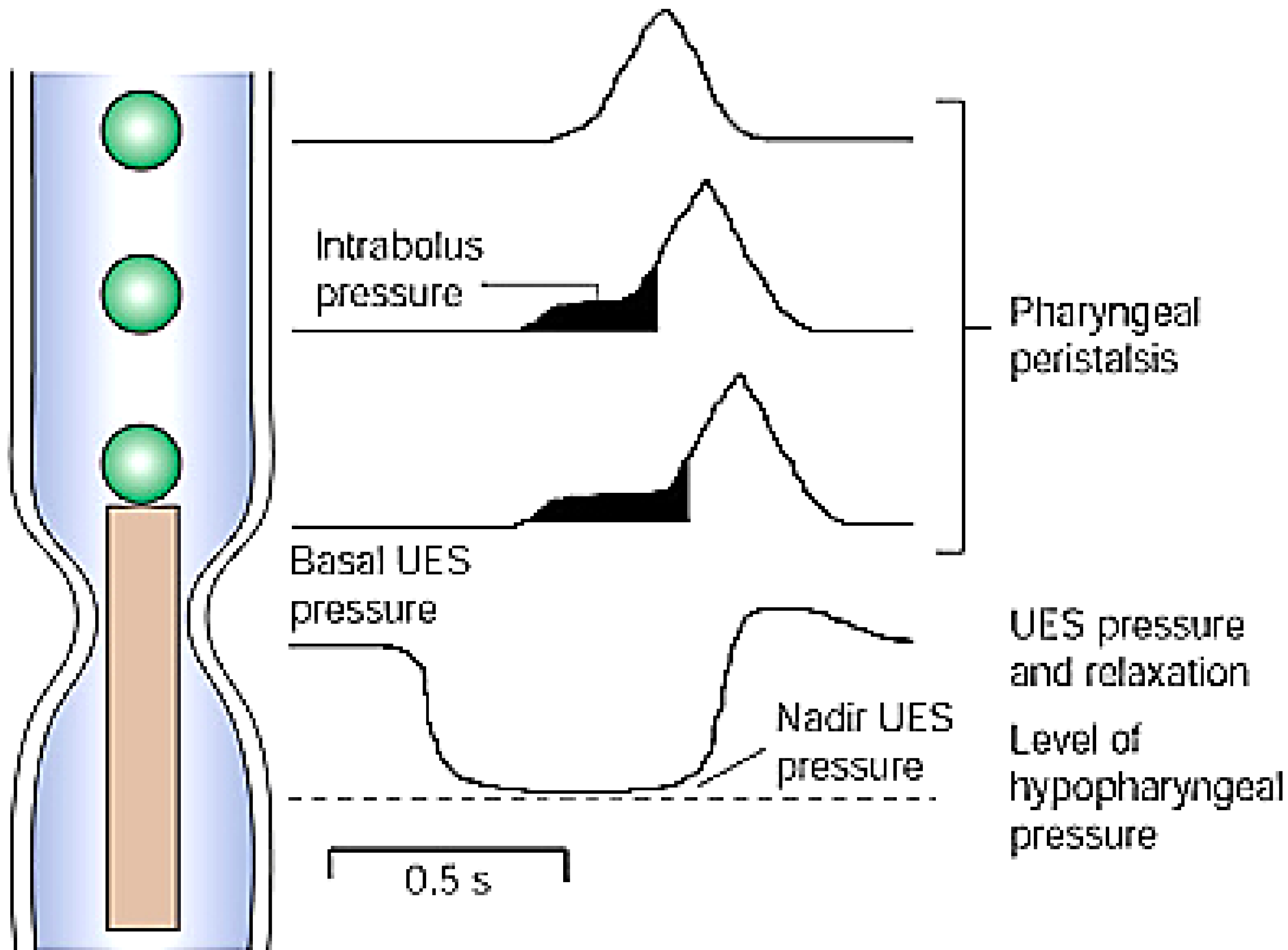
Endosonography

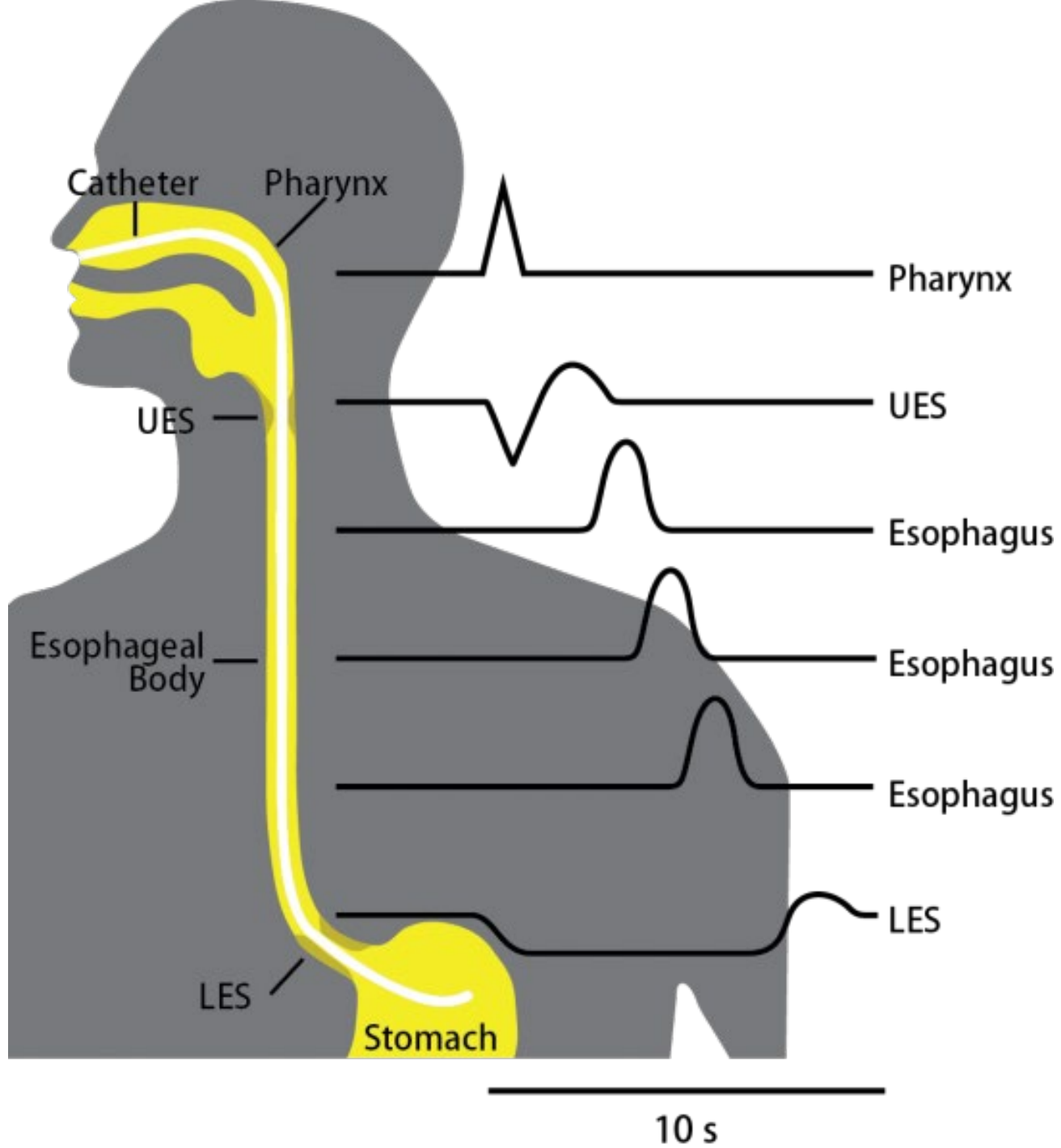




Hyper- and hypoechoic bands.

Manometry





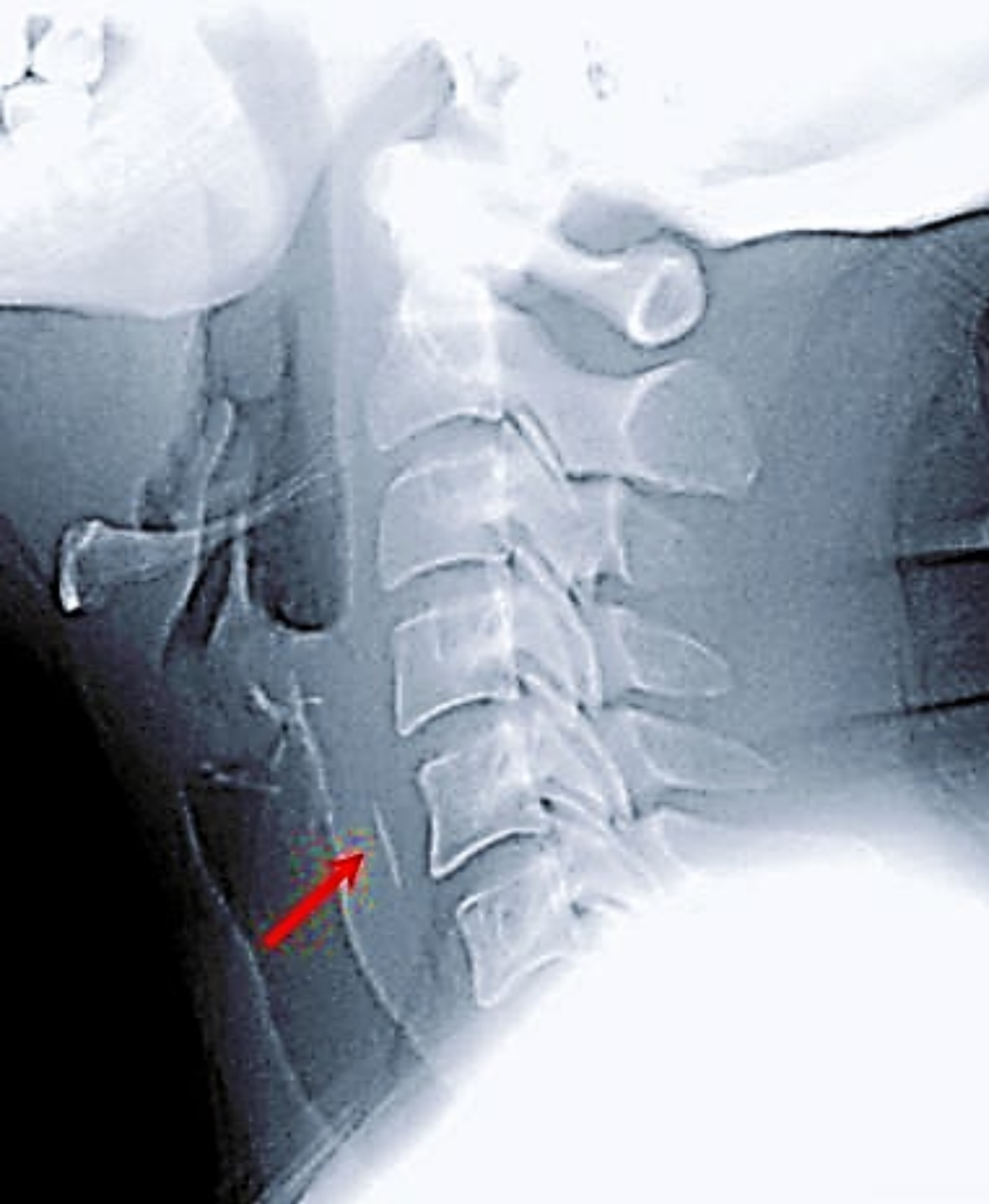
Twenty-four-hour pH and combined pH-impedance recording

Diseases and Injuries

- **Congenital abnormalities.**
- **Foreign bodies.**
- **Perforation(spontaneous Barotrauma),Pathological,Penetrating injury, Foreign body,Instrumental) (Chemical, Physical , mechanical and Ca.,.**
- **Mallory Weiss Syndrome.**
- **Corrosive Injury.**
- **Drug induced Injury.**
- **G.O.R.D.**
- **Barrett's Oesophagus.**
- **Hiatus Hernia.**
- **Neoplasm (Benign and Malignant).& post cricoid tumor.**
- **Motility disorders and diverticulae. (Achalasia, Webs,**
- **Infections (candida, Chagas disease)**
- **Crohn's disease.**
- **Plummer vinson disease (Sideropenic Dysphagea).**
- **Vascular abnormality.**
- **Varicose vein.**
- **Mediastinal fibrosis.**

Foreign Bodies

- Children :Button and battery.
- Adult : Impacted food bolus (above significant pathological site.
- Rx: Flexible Endoscopy :
 - (grasper, snaring or basket).An Overtube can be used to withdraw the F.B. through it.
 - A Multiwire retrieval basket for battery removal.
 - Impacted food bolus can be broken up or extracted.



Impacted Foreign Body.

Lateral radiograph of the neck demonstrates a linear density in the region of the proximal esophagus (red arrow) consistent with an impacted foreign body--in this case, a chicken bone. There is no air in the soft tissues and no soft tissue swelling is identified to indicate the presence of a retropharyngeal abscess.



- A circular metallic density in keeping with a coin projects over the thoracic outlet.
- It lies in coronal plane. Lungs are clear with no atelectasis.

Soft tissue neck confirms coin lies in the oesophagus, posterior to the trachea.



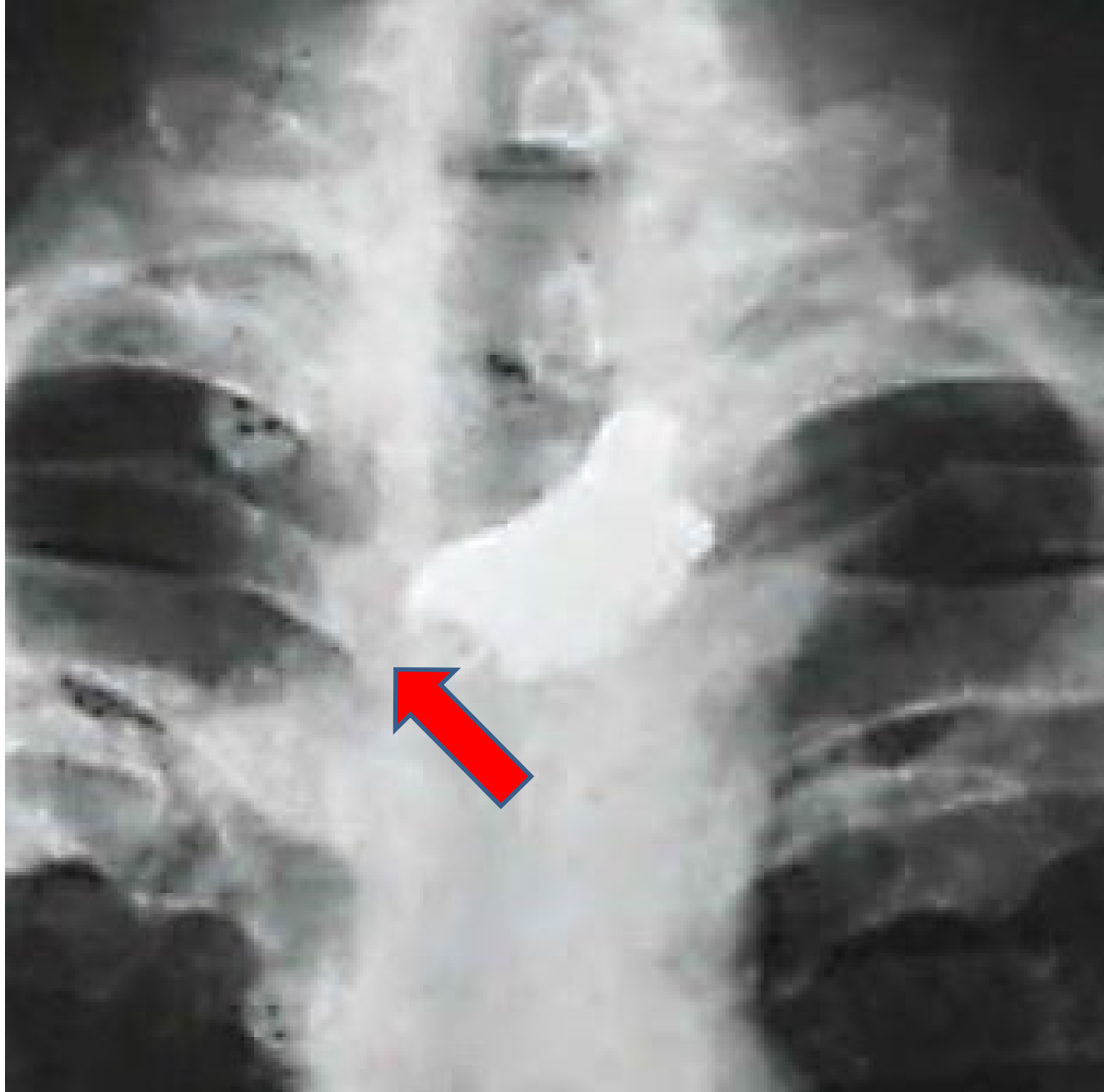


Figure 62.7 False teeth impacted in the oesophagus. (Note: modern dentures are usually radiolucent.)

Presentation

Ingested coin. No respiratory distress.

Case Discussion

- coins lying in the oesophagus tend to lie in the **coronal** plane,
 - whereas coins lying in the trachea lie in the **sagittal** plane.
- associated features of airway foreign bodies include atelectasis or hyperinflation as well as respiratory distress

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- Iatrogenic (Instrumental)
- Spontaneous

Summary box 62.3

Perforation of the oesophagus

- Potentially lethal complication due to mediastinitis and septic shock
- Numerous causes, but may be iatrogenic
- Surgical emphysema is virtually pathognomonic
- Treatment is urgent; it may be conservative or surgical, but requires specialised care

Spontaneous (Boerhaave's) Perforation

- Vomiting (or Straining) against closed glottis.
- Burst at lower 1/3rd .
- Chemical mediastinitis +/- pluritis.
- S+S: Chest pain and dyspnea.
- Imaging : Pneumomediastinum, Pneumothorax or pneumoperitonium. Pleural effusion > upper abdominal rigidity.
- Rx : Surgery.

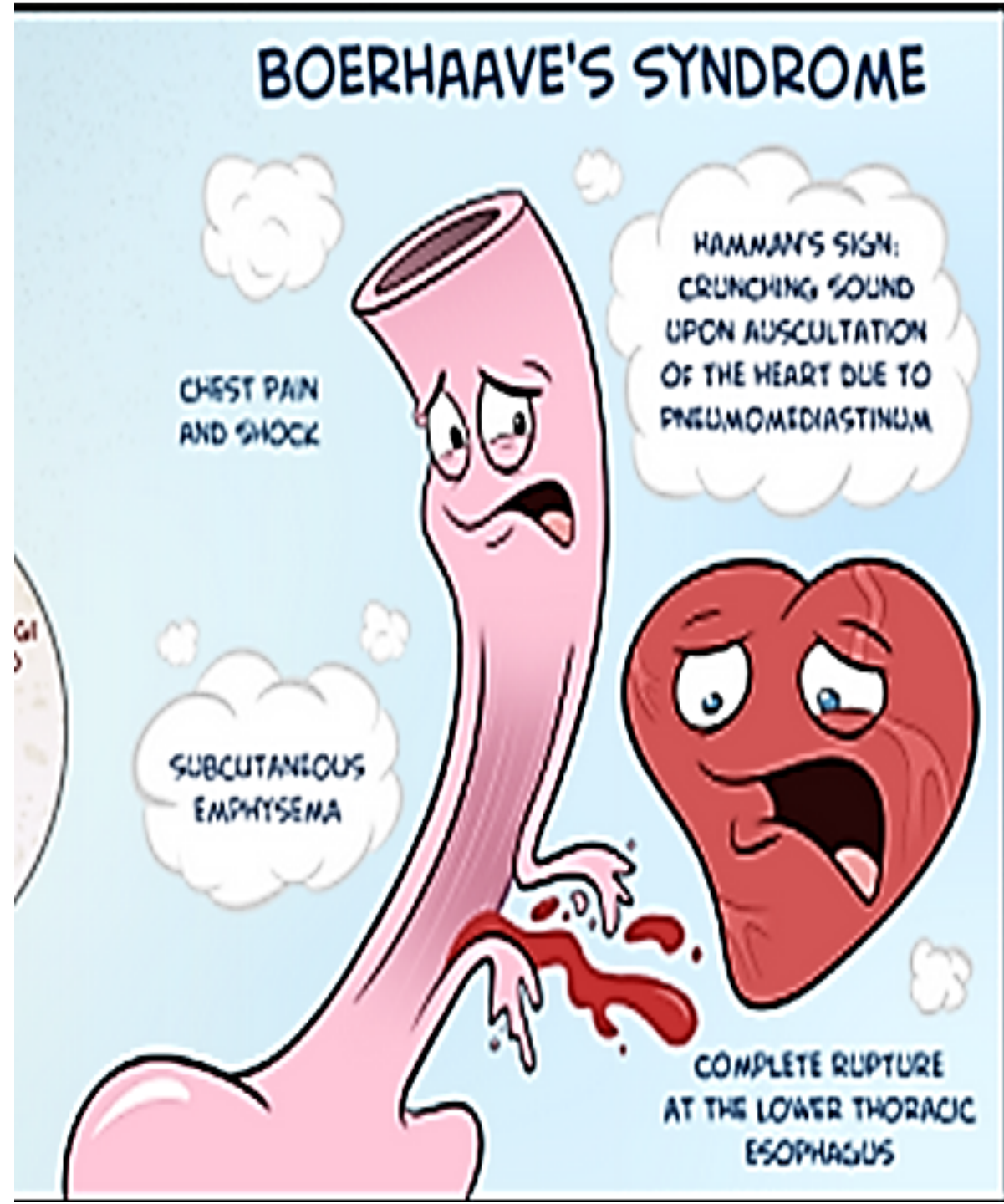
BOERHAAVE'S SYNDROME

CHEST PAIN
AND SHOCK

HAMMAN'S SIGN:
CRUNCHING SOUND
UPON AUSCULTATION
OF THE HEART DUE TO
PNEUMOMEDIASTINUM

SUBCUTANEOUS
EMPHYSEMA

COMPLETE RUPTURE
AT THE LOWER THORACIC
ESOPHAGUS



- **Pathological Perforation : Tumor**
(Adjacent structure pleura, trachea and great vessels).
- **Penetrating Injury (stab).**
- **Foreign Body.**
- **Instrumental Perforation (OGD).**

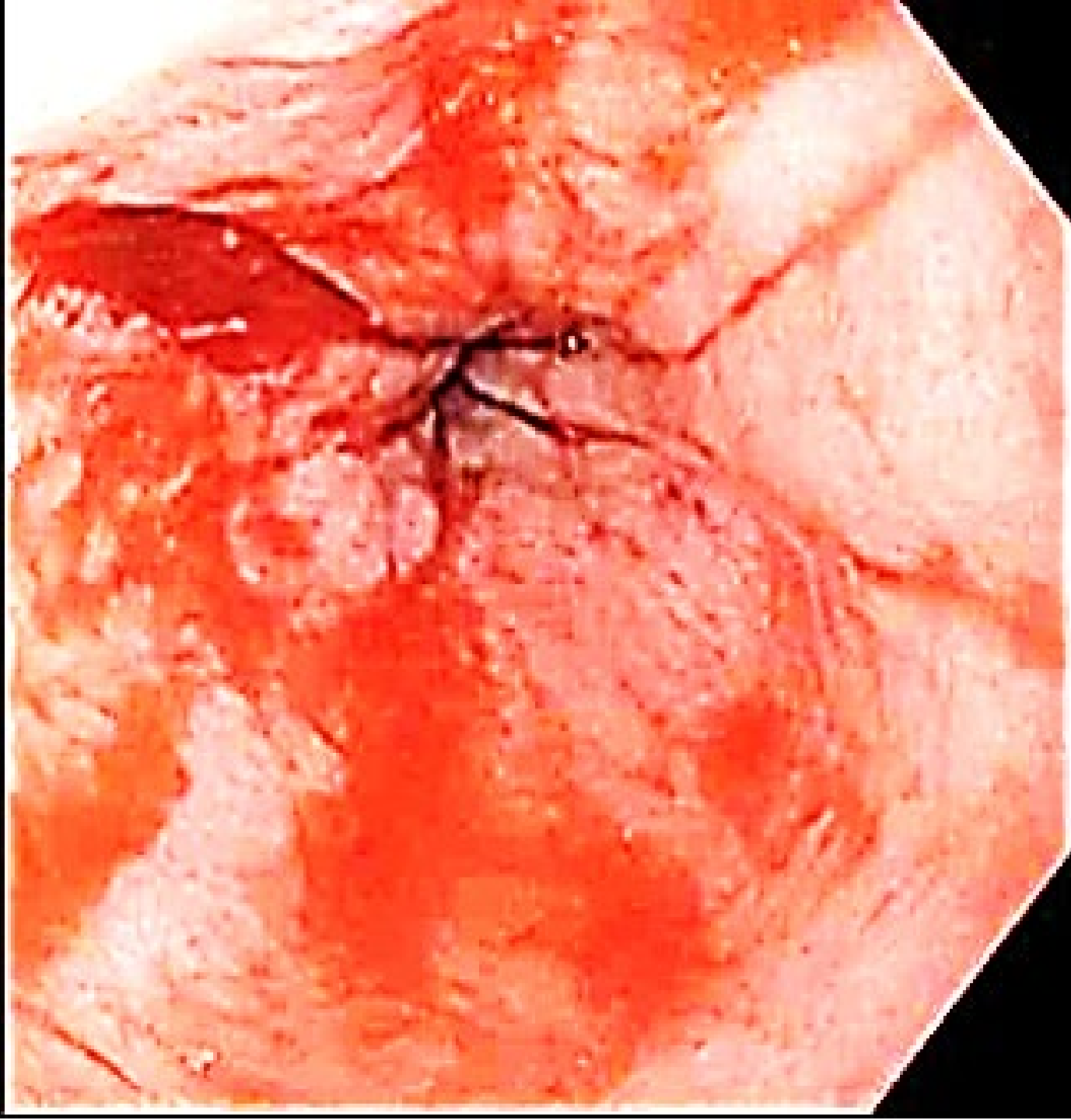
TABLE 62.1 Management options in perforation of the oesophagus.

Factors that favour non-surgical management	Factors that favour surgical repair
Small septic load	Large septic load
Minimal cardiovascular upset	Septic shock
Perforation confined to mediastinum	Pleura breached
Perforation by flexible endoscope	Boerhaave's syndrome
Perforation of cervical oesophagus	Perforation of abdominal oesophagus

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Mallory Weiss Tear

- It is a longitudinal tear a long GO Junction.
- It is due to strenuous and repetitive vomiting.
- Associated (+ / -) hematemesis.
- Endoscopy.
- Upper Longitudinal gastrotomy looking for the tear doing under running suture.



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Corrosive Injury

- Suicidal attempts .
- Accidental . (Children)
- Alkalis : liquefaction and saponification of fat, dehydration, blood vessels thrombosis leading to fibrous scarring.
- Acids : Coagulative necrosis with eschar formation, limiting the penetration to the deeper layers of the esophageal wall .
- Associated with gastric injury.
- Mx: Early endoscopy
 - Minor Injury: Redness and edema. (Conservative).
 - Severe Injury: Deep ulcer, black eschar & penetrating lesion (Feeding jejunostomy).
- Scheduled Endoscopy to assess stricture formation (Balloon dilatation, resection or replacement by colon).

DRUG-INDUCED INJURY

- Many medications, such as antibiotics and *potassium preparations*, are potentially damaging to the oesophagus, because tablets may remain for a long time, especially if taken without an adequate drink.
- Acute injury : dysphagia and odynophagia, which may be severe. The inflammation usually resolves within 2–3 weeks .Treatment is conservative .If stricture is diagnosed, esophageal dilatation is required .

تم بتوفيق الله

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Oesophagus / Esophagus

L2

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الثلاثاء ٢٦ / ١٠ / ٢٠٢١

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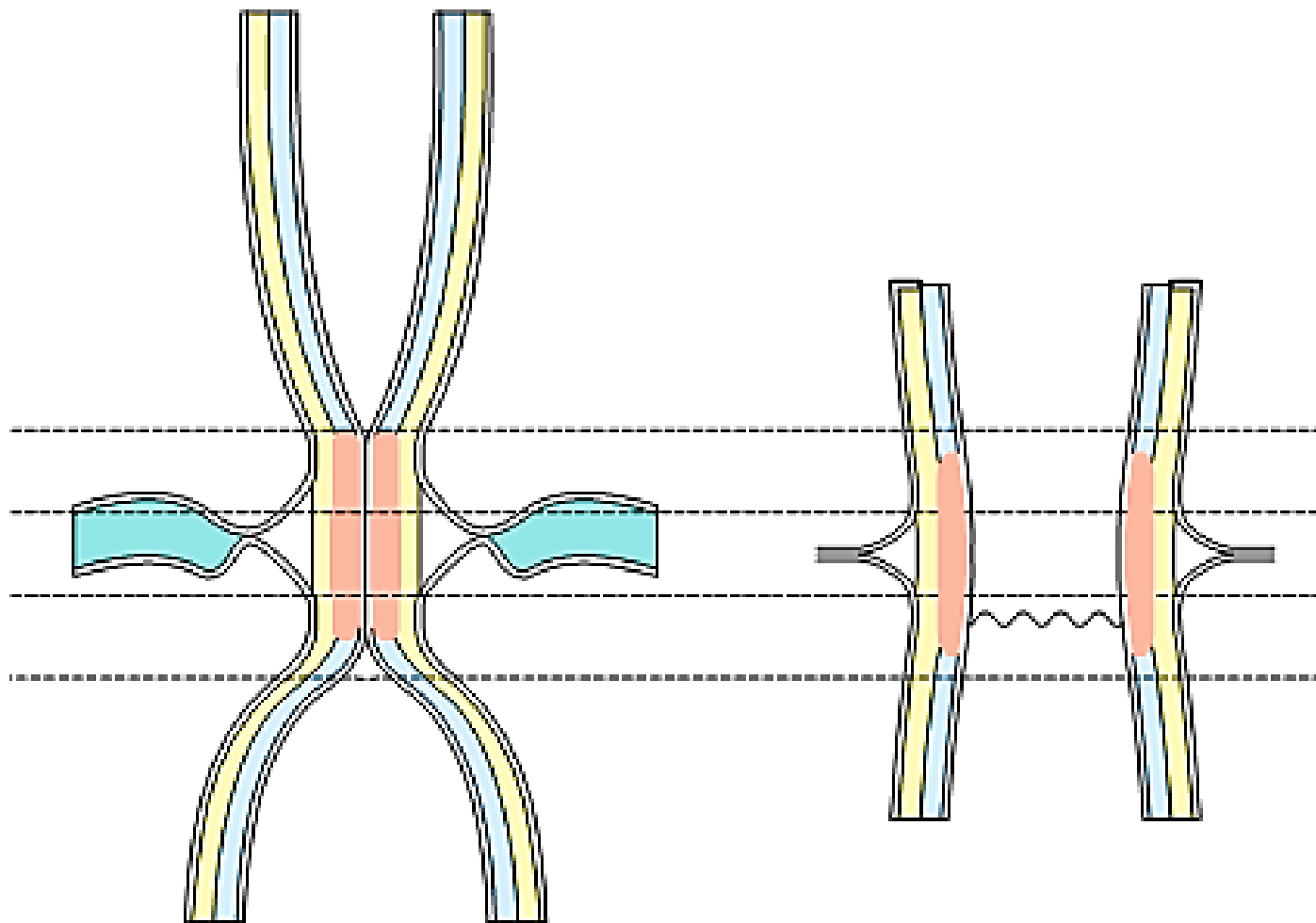
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G.E.R.D. / G.O.R.D.

CHEST
-VE

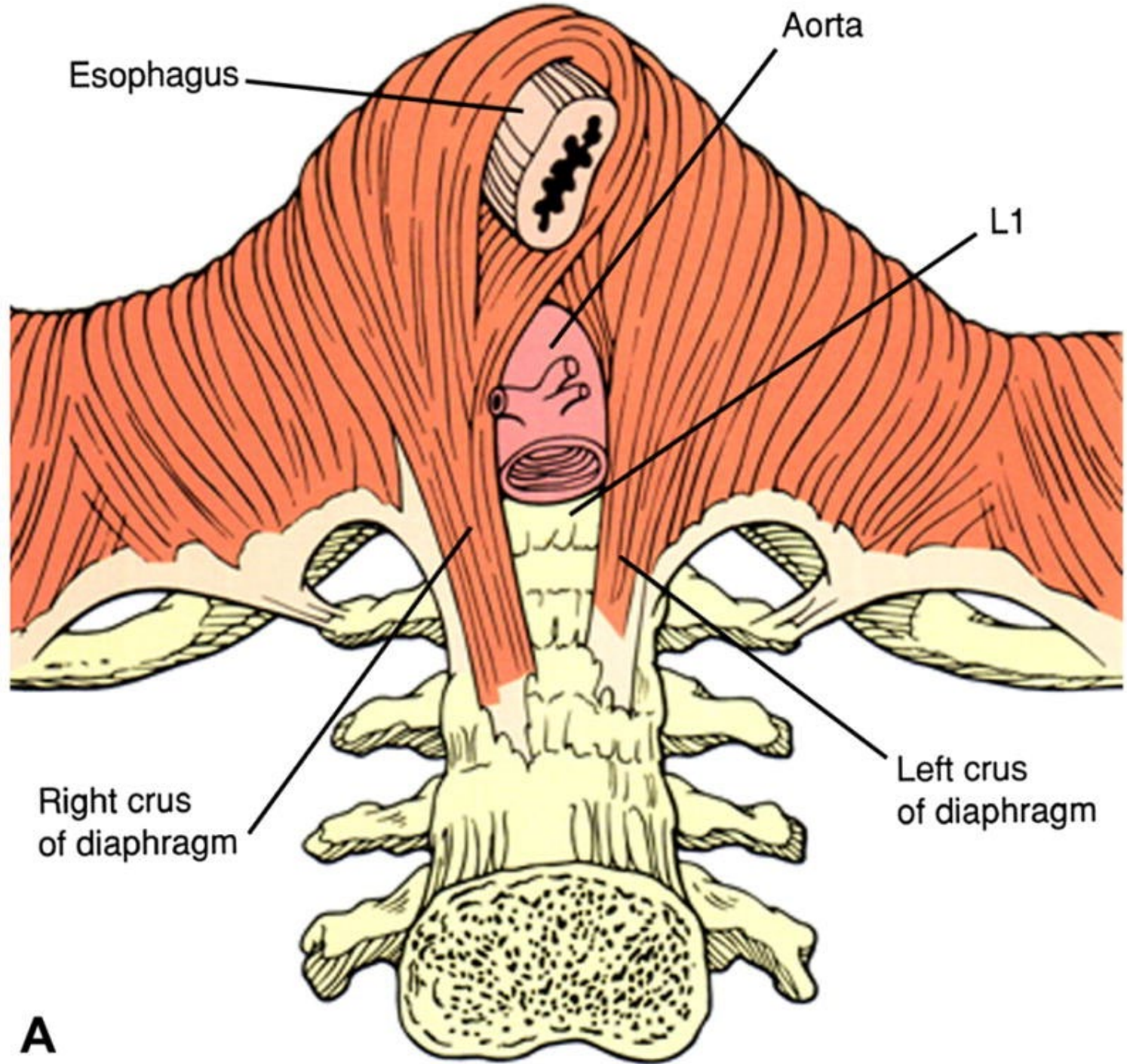
ABDOMEN
+VE



Anatomy of the sphincter

Closed

Open



A

- Incompetent G.O.S.
- Change in G.O. pressure gradient.
- Heart burn, Epigastric pain and reflux.
- If dysphagia (stricture).
- Ix : Endoscopy+biopsy.

(normal esophagus, esophagitis , H.H. , Barrett's esophagus).

- 24 hrs PH recording and esophageal manometry.

- Medical management
- PPIs.
- Simple measures that are often neglected include advice about weight loss, smoking, excessive consumption of alcohol, tea or coffee, the avoidance of large meals late at night and a modest degree of head-up tilt of the bed.

- Endoscopic : Plication angle of His,RFA+ polymer injection in LOS
- Surgical:Anti-Reflux surgery

Summary box 62.8

GORD

- Is due to **loss of competence of the LOS** and is **extremely common**
- May be associated with a hiatus hernia, which may be **sliding** or, **less commonly, rolling (paraoesophageal)**
- The most common symptoms are heartburn, epigastric discomfort and regurgitation, often made worse by **stooping and lying**
- **Achalasia and GORD are diagnostically easily confused**
 - Dysphagia may occur, but a **neoplasm must be excluded**
 - Diagnosis and treatment can be instituted on **clinical grounds**
- Endoscopy may be required and 24-hour pH is the '**gold standard**'
 - Management is **primarily medical** (PPIs being the most effective), but surgery may be required; **laparoscopic fundoplication is the most popular technique**
 - Stricture may **develop in time**

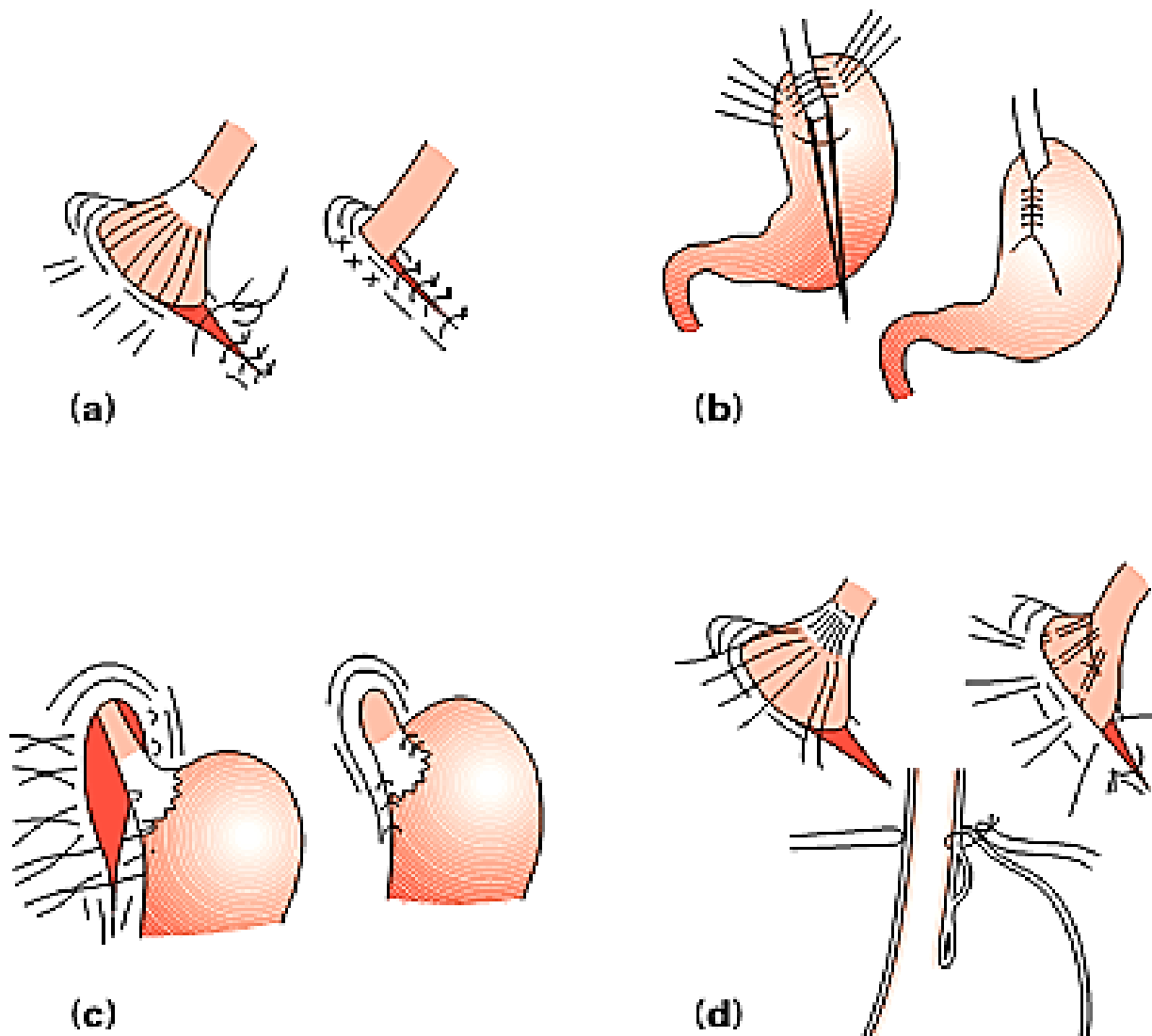
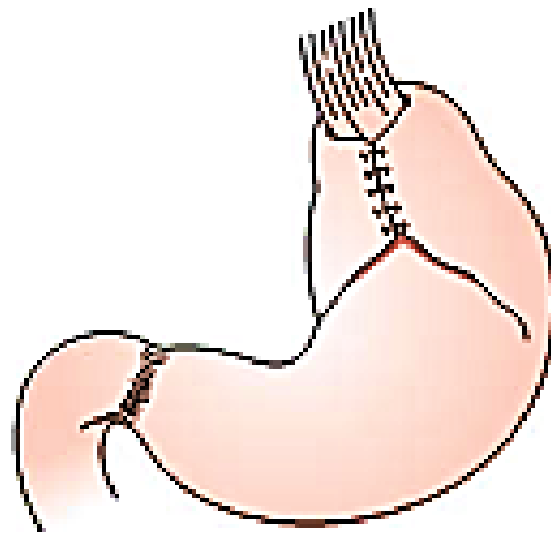
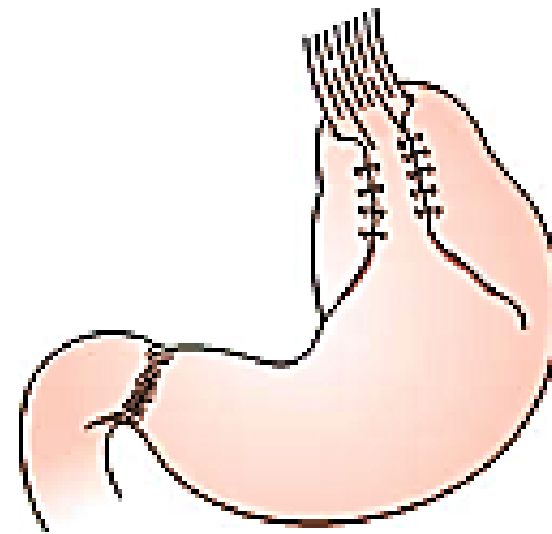


Figure 62.21 Various operations for the surgical correction of gastro-oesophageal reflux disease. **(a)** The original Allison repair of hiatus hernia (this is ineffective and is no longer done); **(b)** Nissen fundoplication; **(c)** Hill procedure; **(d)** Belsey mark IV operation.



(a)



(b)

Figure 62.23 (a) Total (Nissen) fundoplication; (b) partial fundoplication (Toupet).

Complication

- **Stricture.**
- **Shortening.**
- **Barrett's Esophagus.**

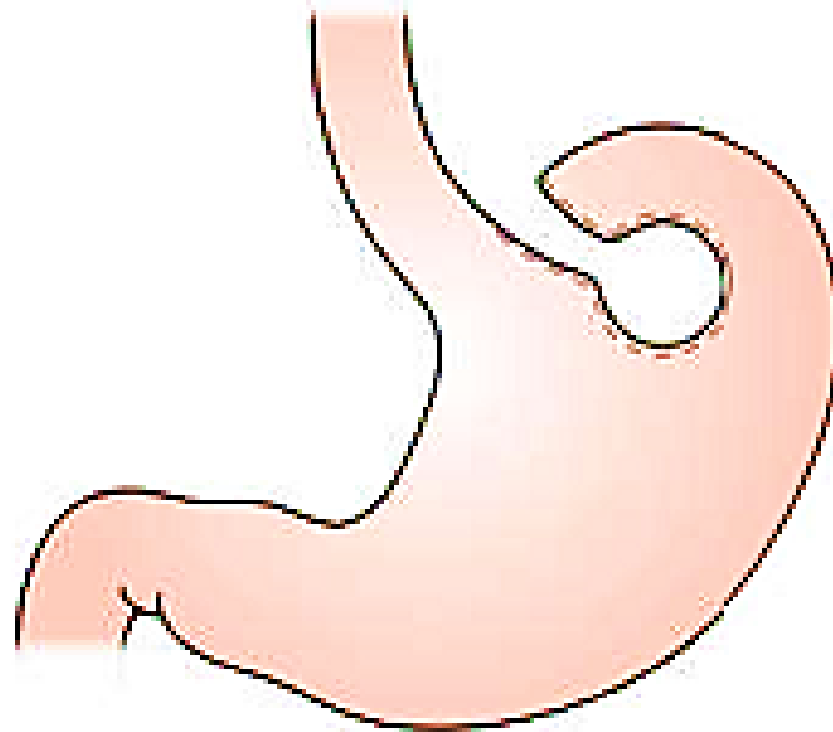


Figure 62.24 Collis gastroplasty to produce a neo-oesophagus around which a Nissen fundoplication is done. The operation may be performed by a laparoscopic as well as an open approach, using circular and linear staplers.

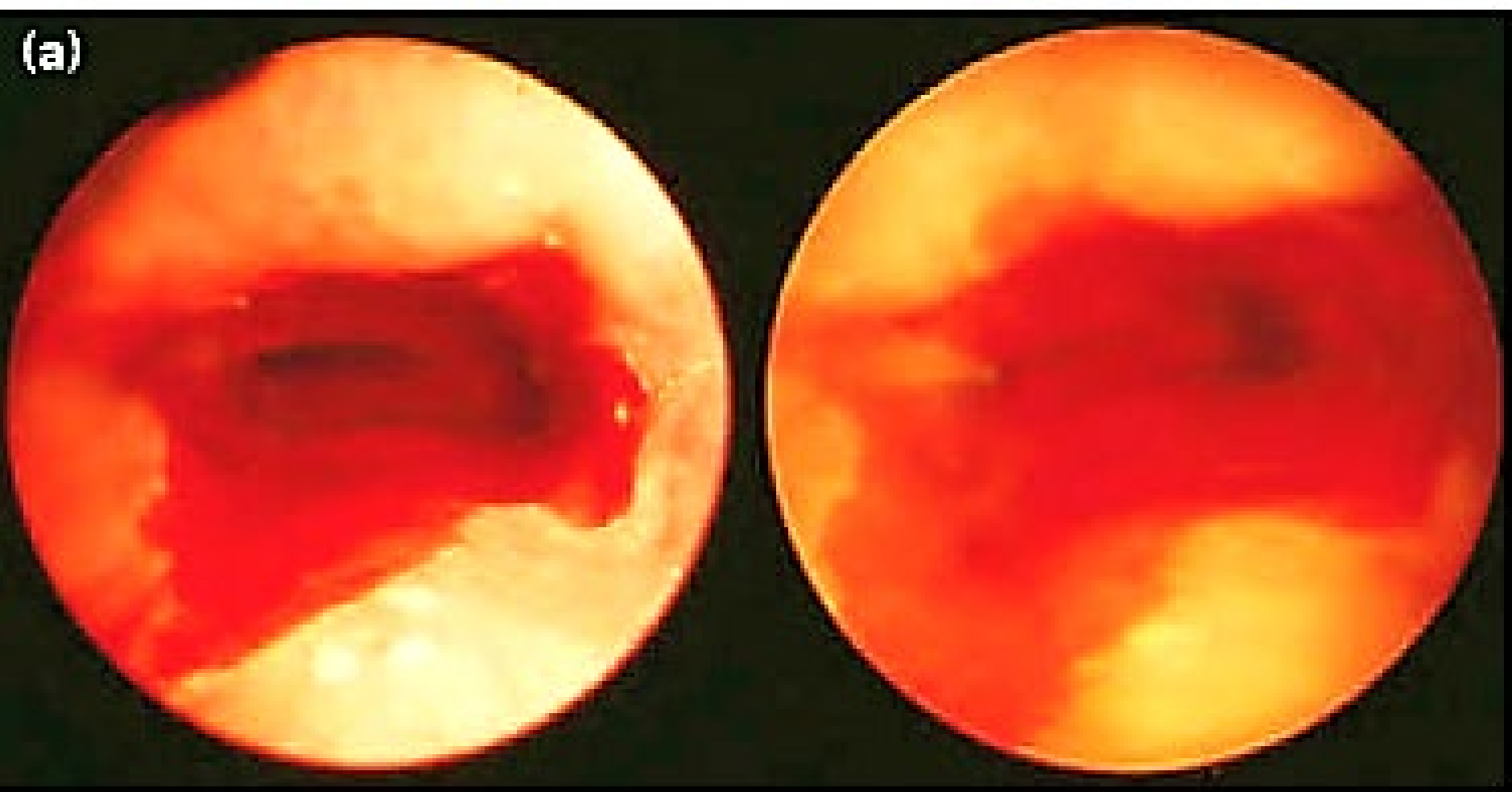
Barrett's Esophagus

- Diagnosed if there was at least 3 cm of columnar epithelium in the distal oesophagus. With the better appreciation of the importance of intestinal metaplasia.
- GORD +/- H.H.
- Precancerous (Dysplasia). adenocarcinoma .
- Endoscopy + Biopsy.
- PPI.
- Mucosal ablation (laser, photodynamic therapy, Argon beam plasma coagulation, R.F. A. and E.M.R.

The relative risk of cancer rises with increasing length of abnormal mucosa. The following terms are widely used:

- classic Barrett's (≥ 3 cm columnar epithelium);
- short-segment Barrett's (< 3 cm of columnar epithelium);
- cardia metaplasia (intestinal metaplasia at the oesoph-agogastric junction without any macroscopic change at endoscopy).

(a)



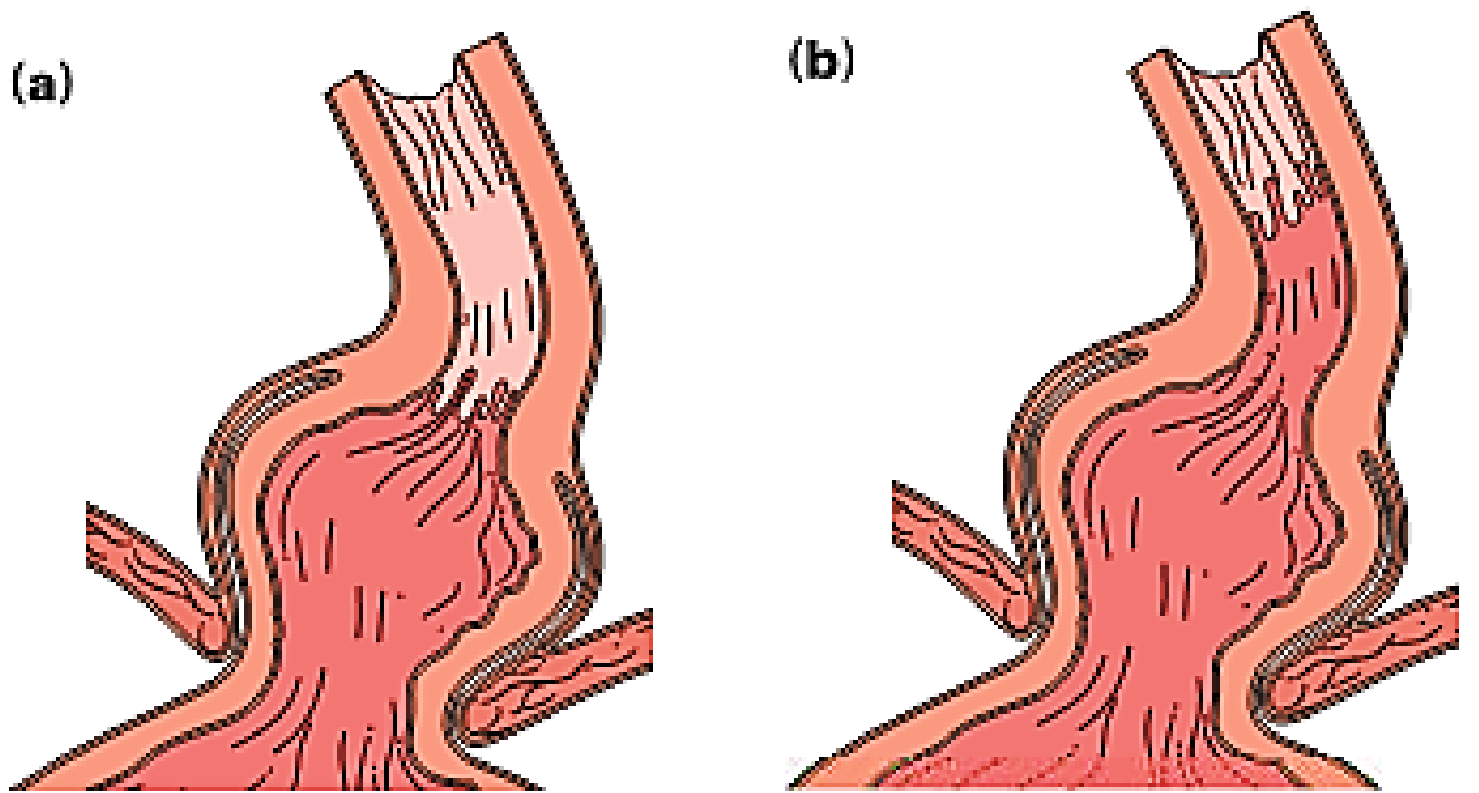
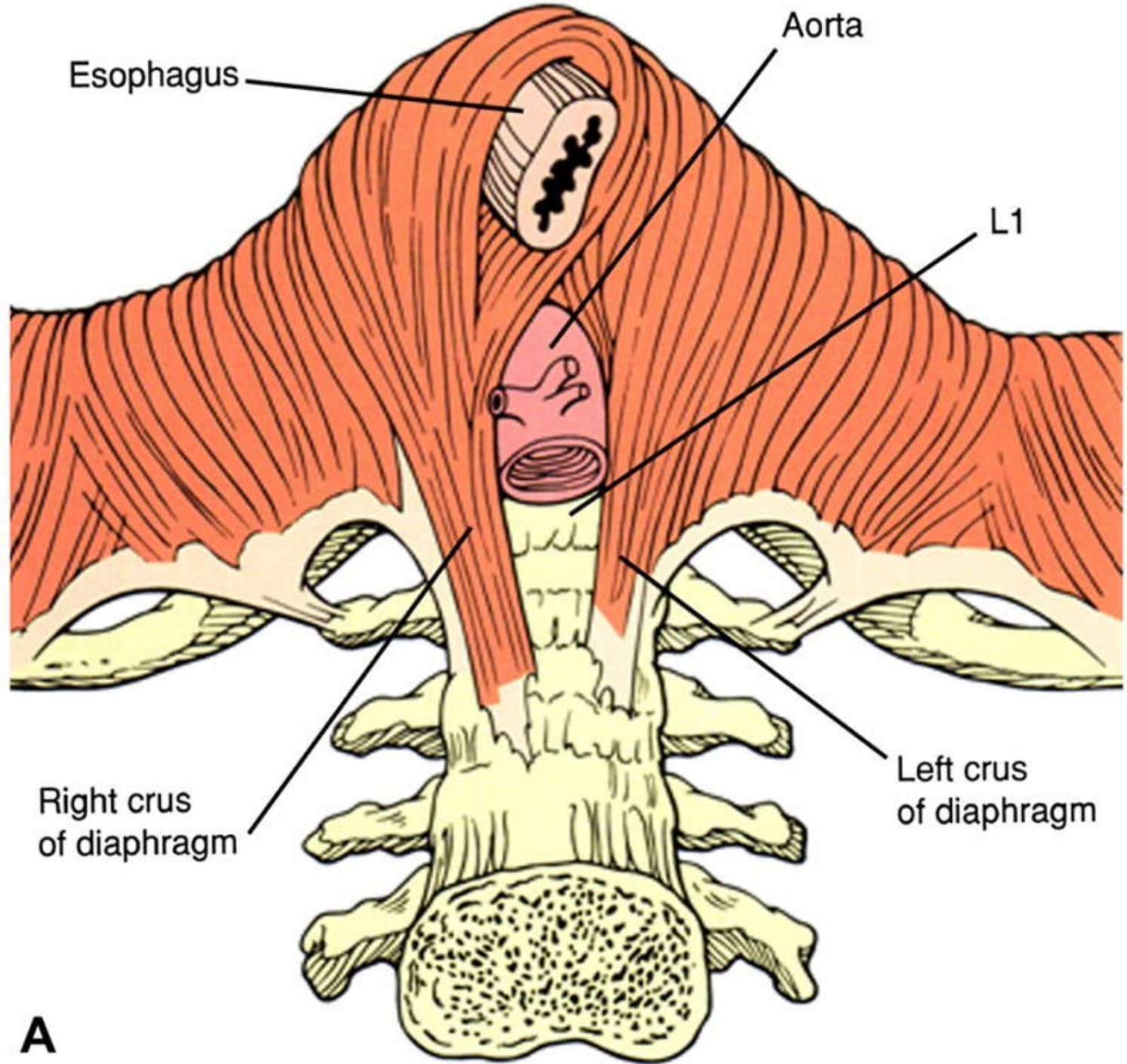


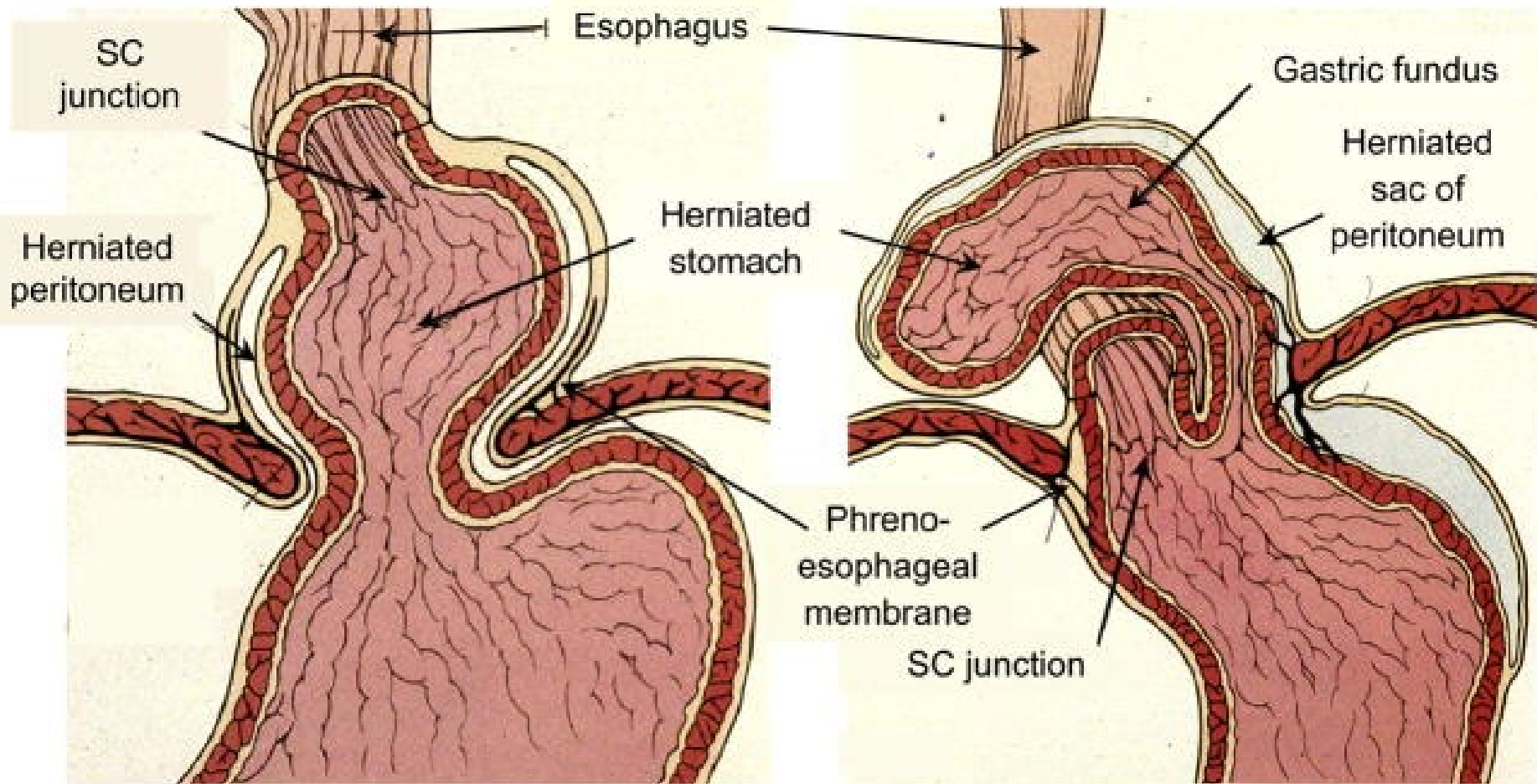
Figure 62.26 (a) The interrelationship of the lower oesophageal sphincter, the squamocolumnar junction and the diaphragm in sliding hiatus hernia. (b) Barrett's oesophagus and sliding hernia.

Hiatal hernia

- Esophageal hiatus hernia (Sliding) .
- Paraesophageal hiatus hernia (Rolling) : occurs when part of the stomach protrudes into the thoracic cavity through the esophageal hiatus of the diaphragm.



A



Para-esophageal Hernia (Rolling)

- Fixed cardia , greater curve in the chest (Lt).
- Potentially dangerous, because of volvulus (Volvulus).
- Colon / small bowel.
- Ps : Dysphagia, chest pain . Relief on belching.
- Ix : CXR (plain and contrast). CT scan and Endoscopy.

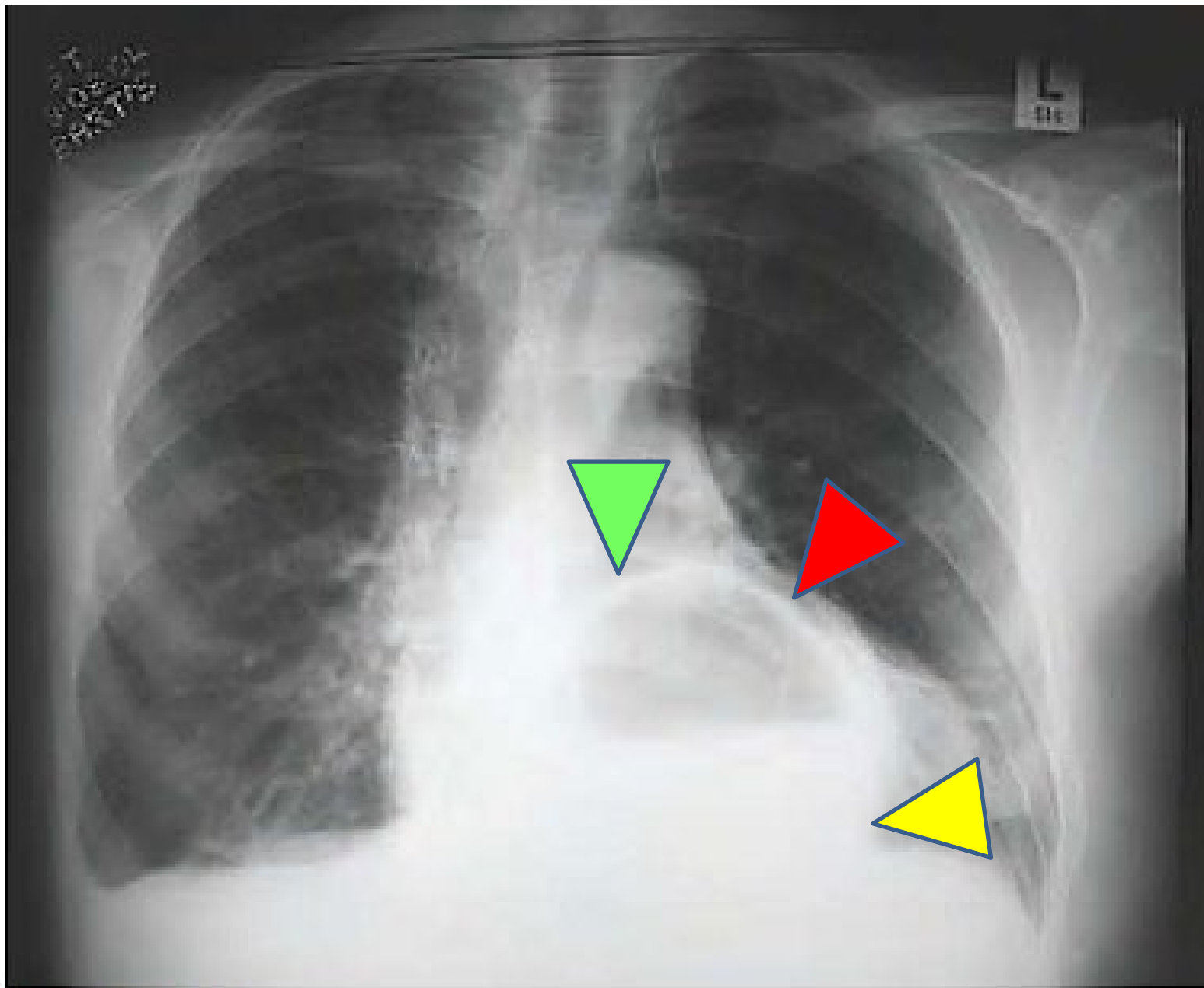
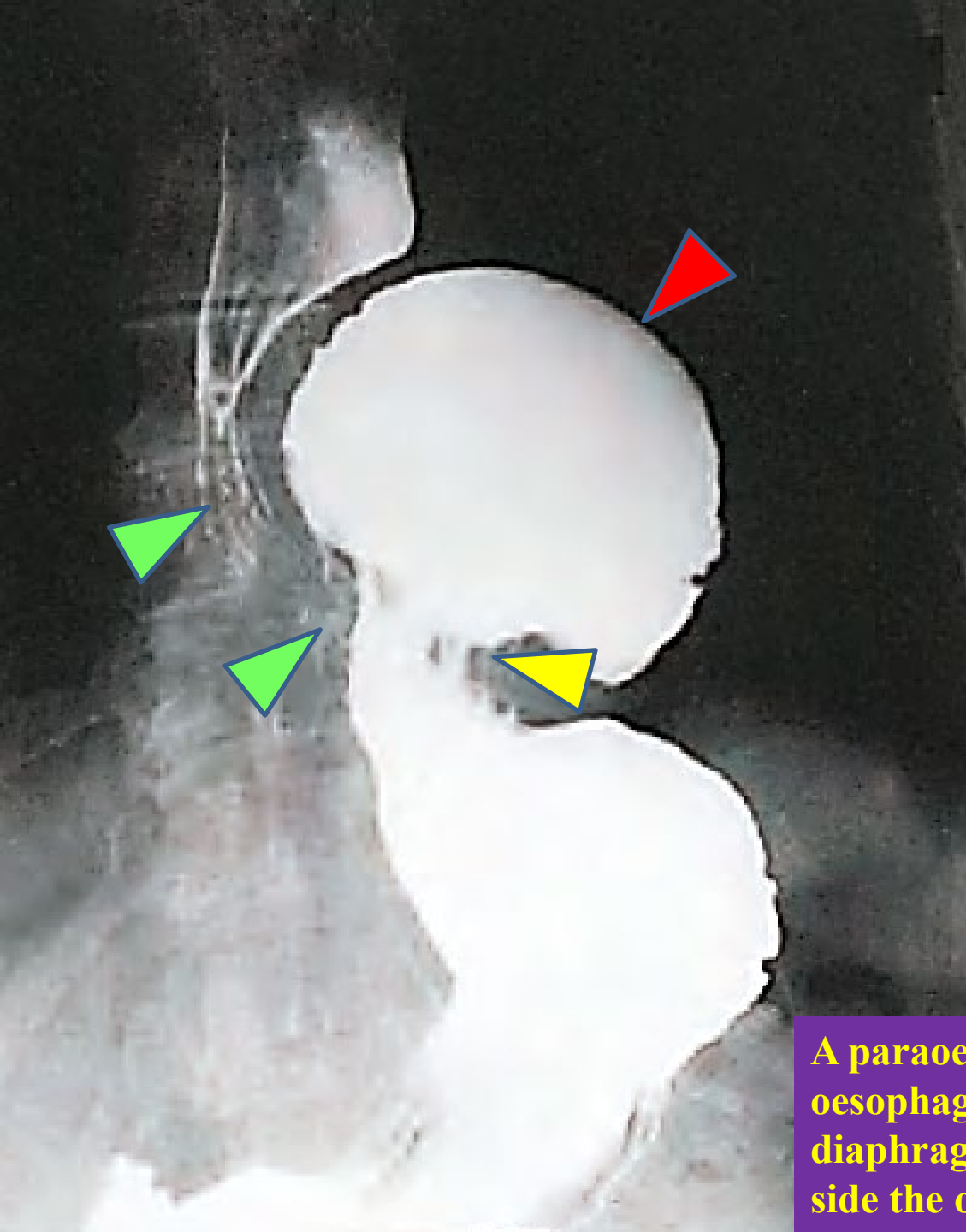


Figure 62.33 A gas bubble seen on a plain chest radiograph, showing the fundus of the stomach in the chest (courtesy of Dr Stephen



A paraoesophageal hernia showing the gastro-oesophageal junction just above the diaphragm and the fundus alongside the oesophagus, compressing the lumen.

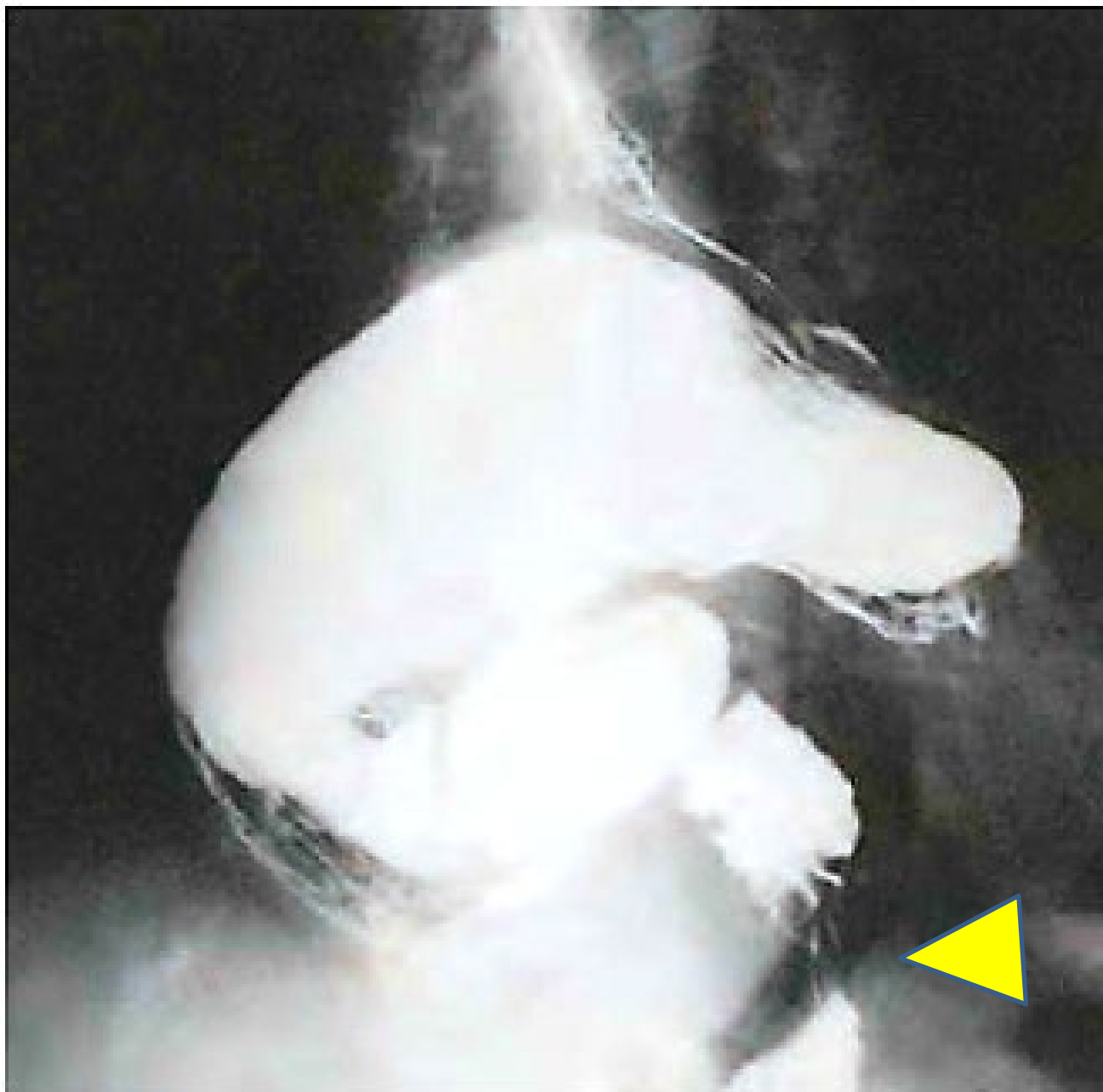
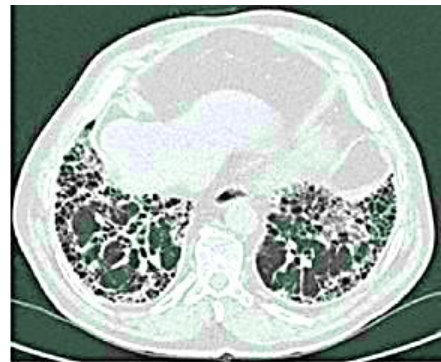
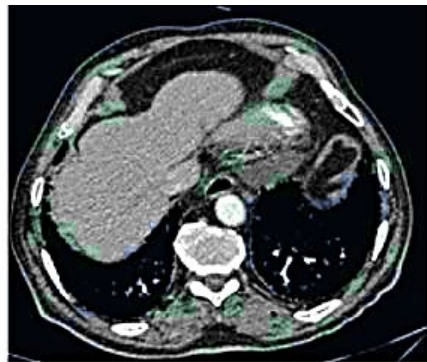
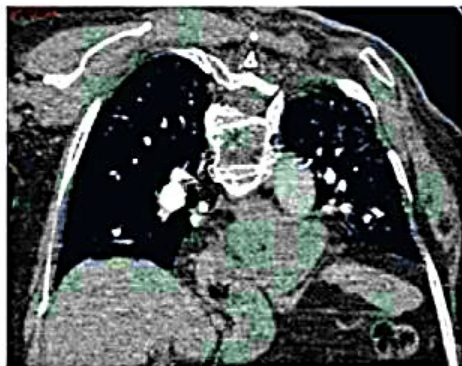


Figure 62.32 A huge paraoesophageal hernia with an upside-down stomach and the pylorus just below the hiatus.

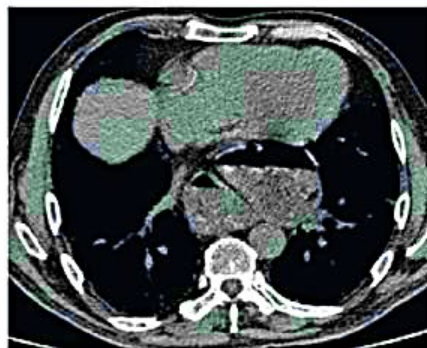
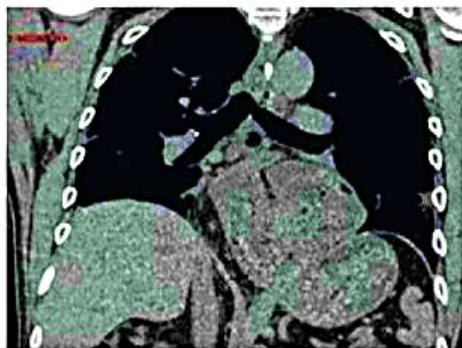
Type I



Type II



Type III



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- **Varicose vein.**
- **Mediastinal fibrosis.**

Benign Tumours

- Rare.
- Mostly :GISTomas, lipoma & granular cell tumor.

Malignant Tumours

- 1st: Mostly epithelial in origin (Sq > Adeno).
- Post cricoid tumor (Plummer–Vinson syndrome)
- 2nd: rare.

Carcinoma of the oesophagus

- Squamous cell usually affects the upper two-thirds; adenocarcinoma usually affects the lower third
- Common aetiological factors are tobacco and alcohol (squamous cell), GORD and obesity (adenocarcinoma)
- The incidence of adenocarcinoma is increasing
- Lymph node involvement is a bad prognostic factor
- Dysphagia is the most common presenting symptom, but is a late feature
- Accurate pretreatment staging is essential in patients thought to be fit to undergo 'curative' treatment

- Both M1 early.
- It is insidious.
- Early presentation (non specific).
- Dysphagia, regurgitation & Wt. loss.(vomiting & odenophagea).
- Spread : Direct (Longitudinal / Lateral).and transperitoneal (Transcoelomic).

Blood stream. (3 Ls, brain).

Lymphatic (L.N.).(caudal/cranial)

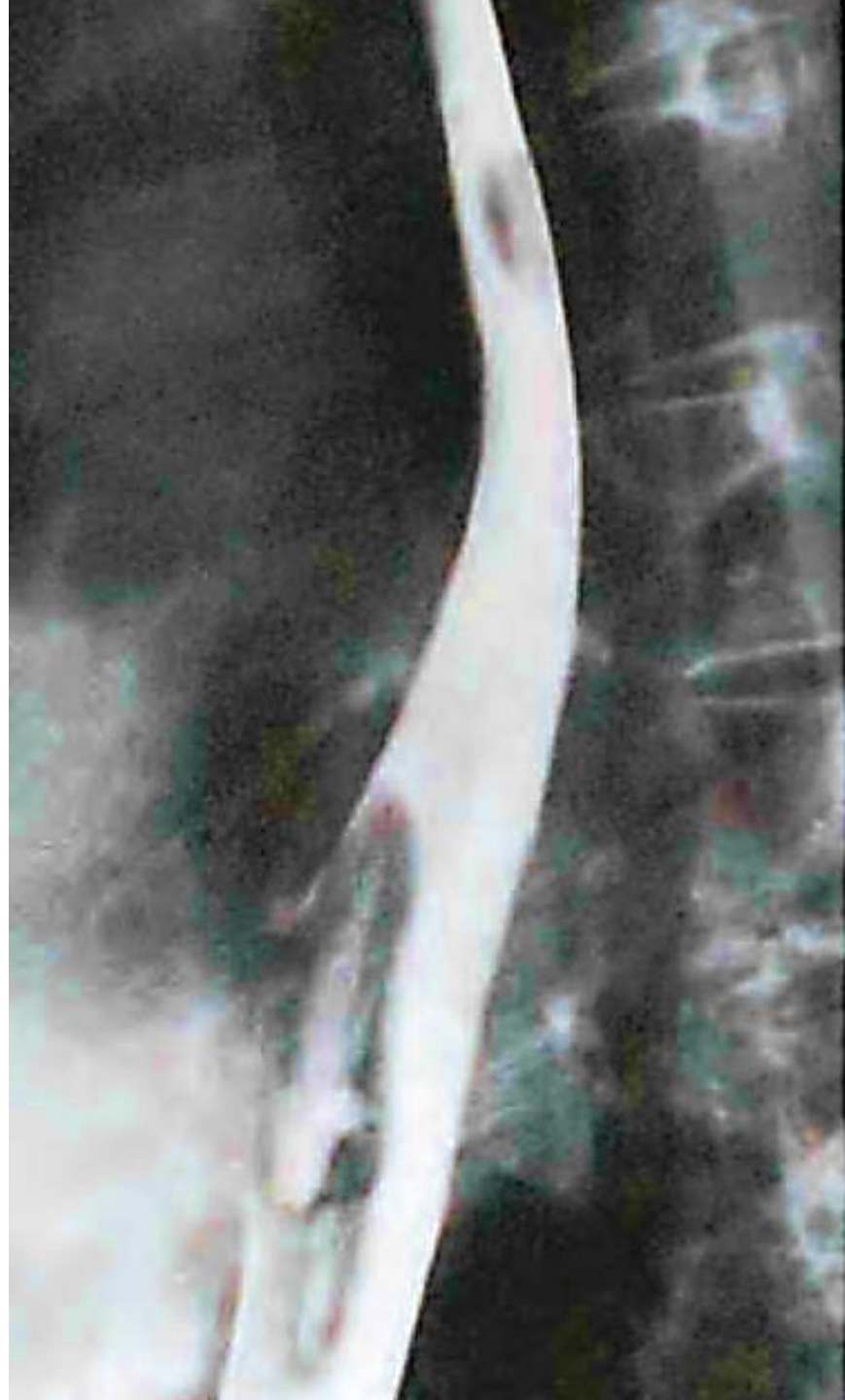
Advanced Malignancy

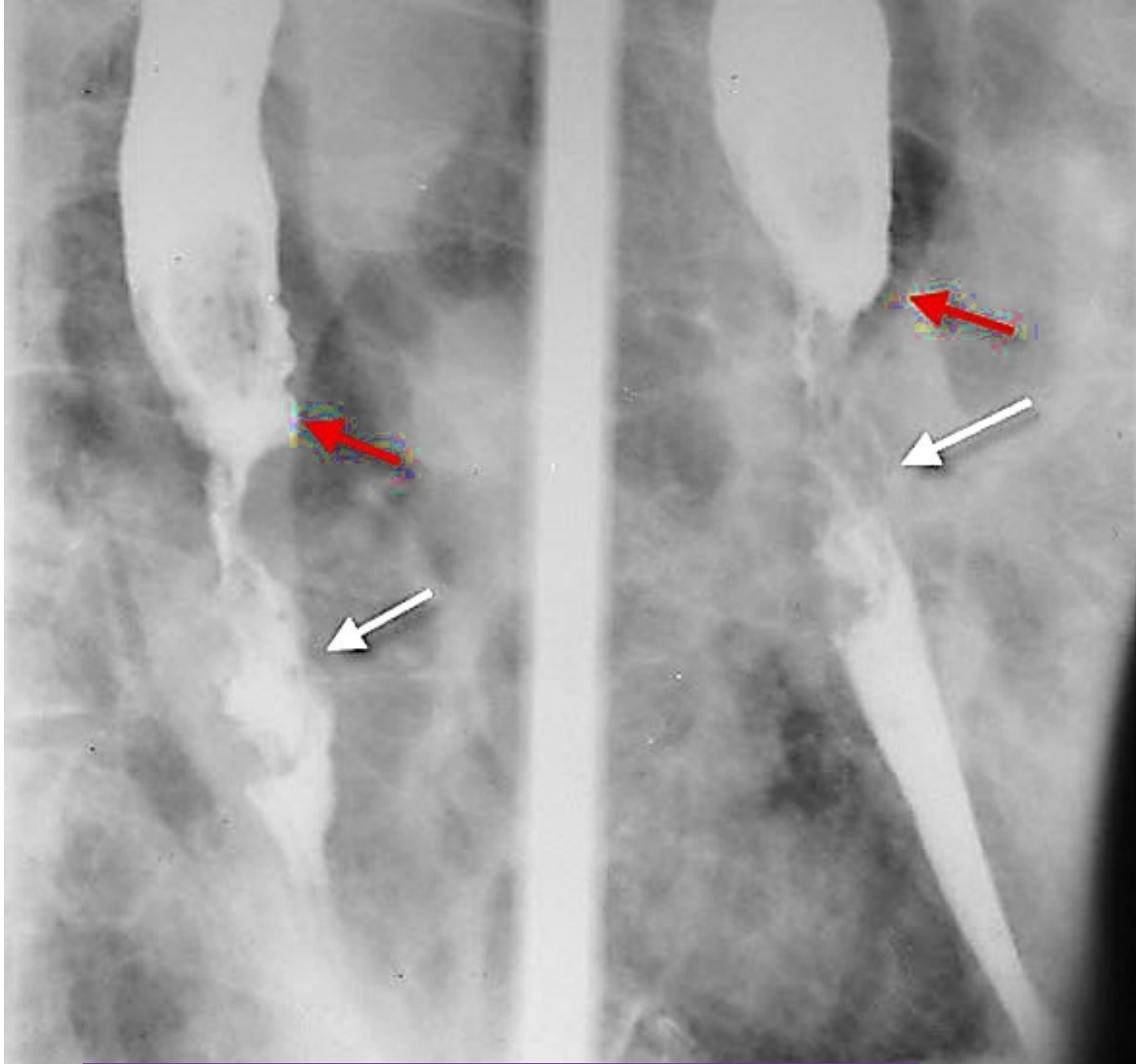
Surgical cure is unlikely

- R.L.N. palsy.(Hoarseness).
- Horner's Syndrome.
- Chronic spinal pain.
- Diaphragmatic paralysis.
- others.:Wt.Loss $> 20\%$, Loss of Appetite.
- Cx L.N.

Investigations

- Hematology & Biochemistry.
- C.X.R.
- Ba swallow.
- Endoscopy + Biopsy.
- Bronchoscopy.
- Endoluminal Ultrasonography.
- Abdominal Ultrasonography.
- PET + CT scan.
- MRI.
- Explorative Laparoscopy.(Trans peritoneal seeding).
Ca cardia.

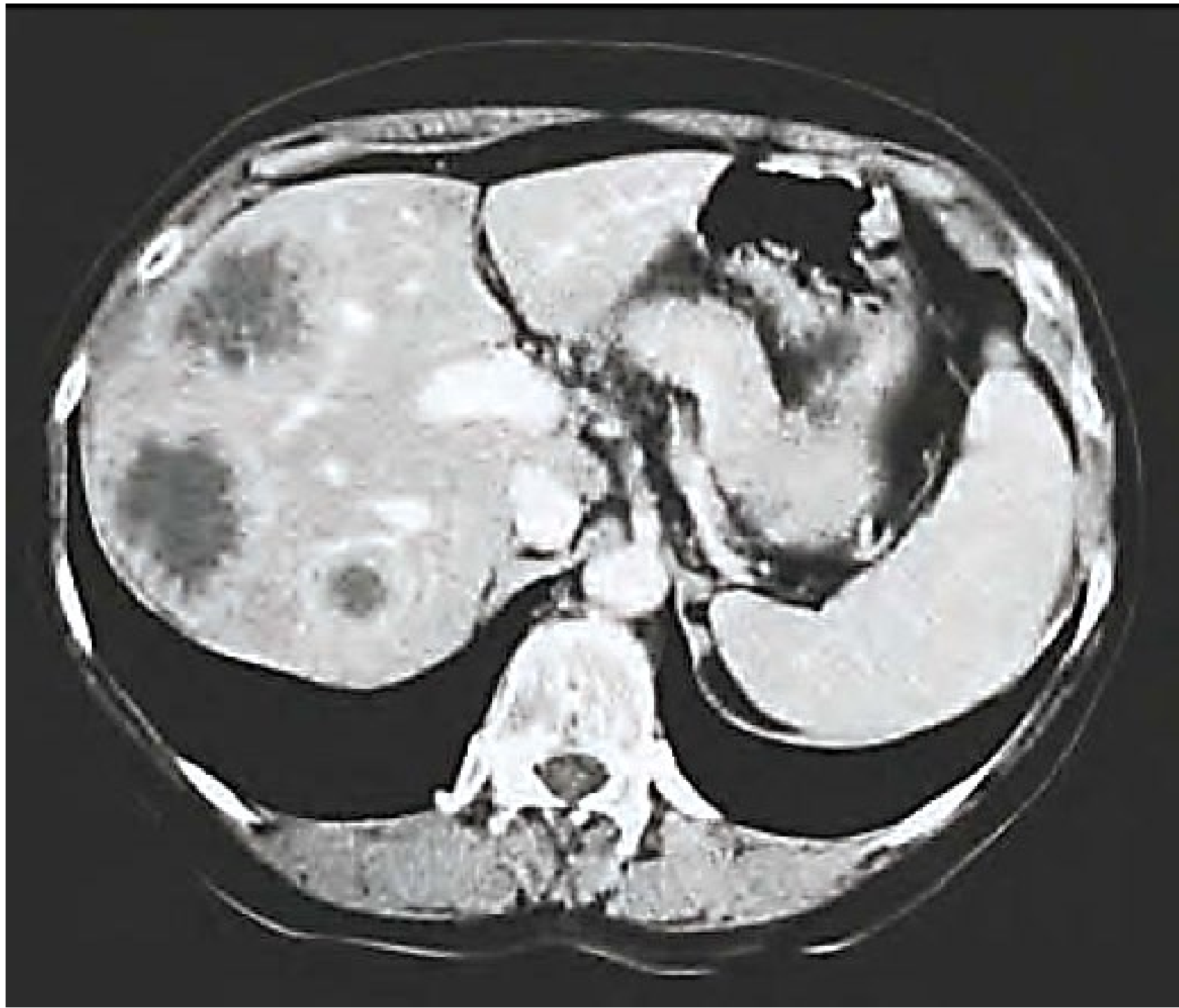


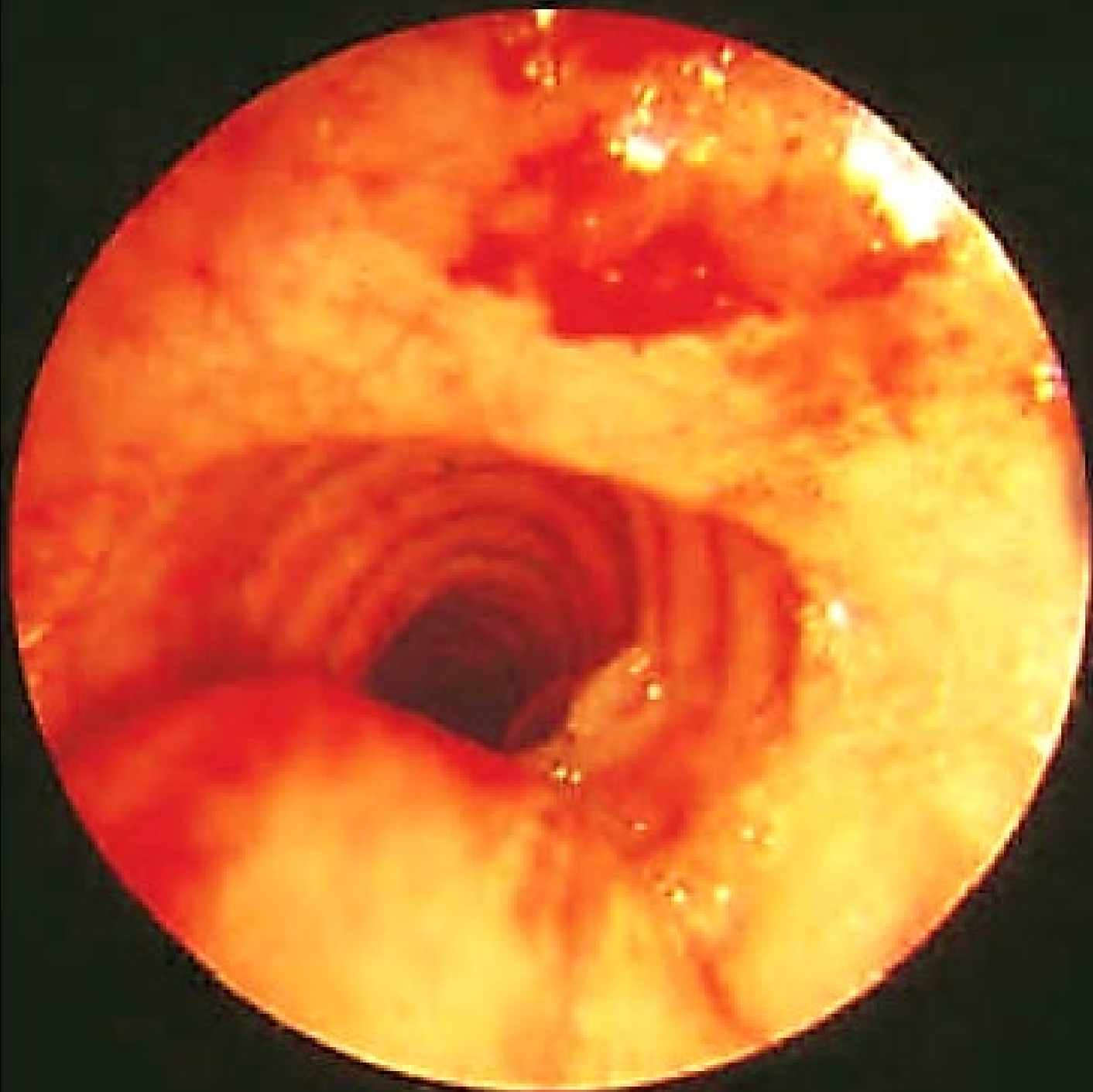


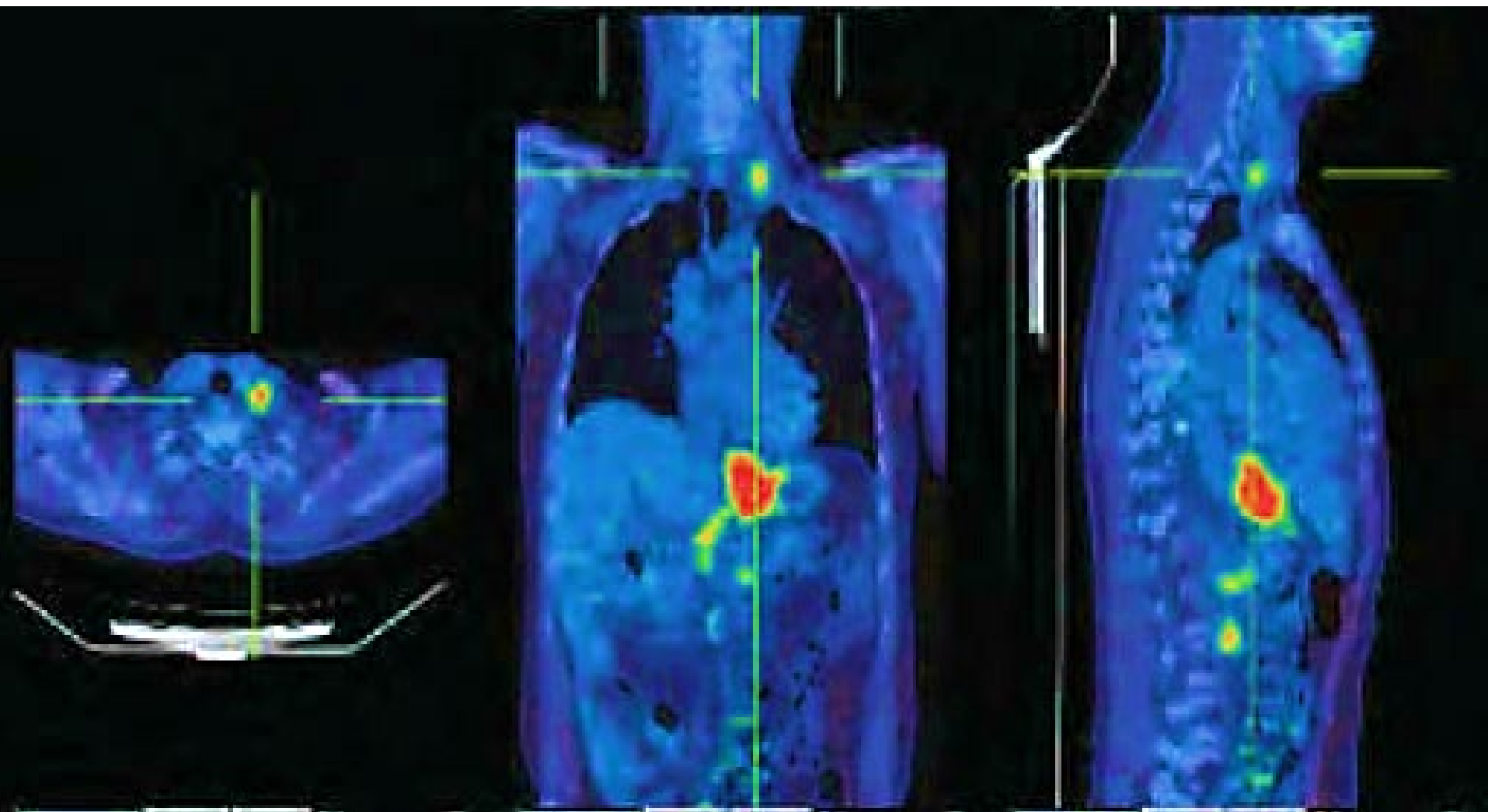
An irregular stricture with shouldered margins.

L.N.









Positron emission tomography/computed tomography demonstrating a primary tumour and a distant metastatic node.

Assessment and Evaluation

- Staging. (advancement of the disease) (T.N.M.)
- Grading.(Histopathology)
- Operability.(Fitness)
- Respectability. (Resection of the tumor)
- Curability. (Complete free of malignancy)
- palliative management. (Symptomatic Relief)

Treatment of carcinoma of the oesophagus

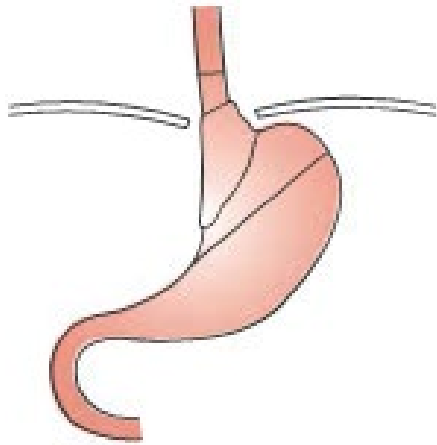
- Radical oesophagectomy is the most important aspect of curative treatment
- Neoadjuvant treatments before surgery may improve survival in a proportion of patients
- Chemoradiotherapy alone may cure selected patients, particularly those with squamous cell cancers
- Useful palliation may be achieved by chemo-/radiotherapy or endoscopic treatments

Modalities of Treatment

- Surgery (EMR T1a, Radical surgery Esophagectomy +L.N. clearance.).
- Chemotherapy.(Neoadjuvant & adjuvant).
- D.X. Therapy (Radiotherapy).
- Chemotherapy.
- Radiofrequency Ablation.
- Palliative (Thermal recanalization, Stent).

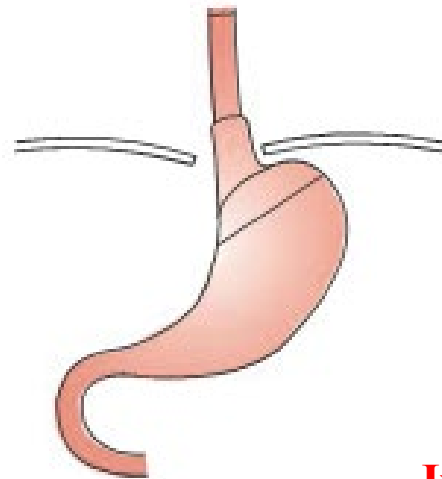
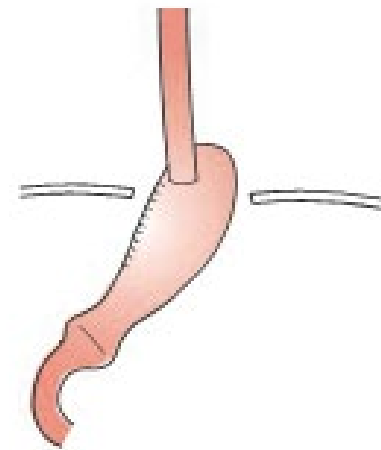
Esophagectomy

- 10 cm above , 5 cm below .If not achieved then Radiotherapy.
- Transhiatal (Thoracoabdominal).
- Iver Lewis (Abdominal then Thoracic).
- Mckoen operation (Cx).



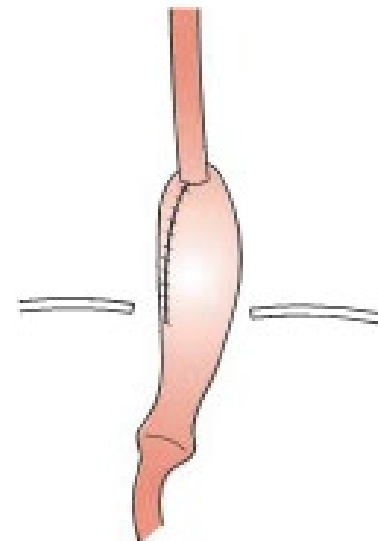
(a)

Transhiatal (Thoracoabdominal)

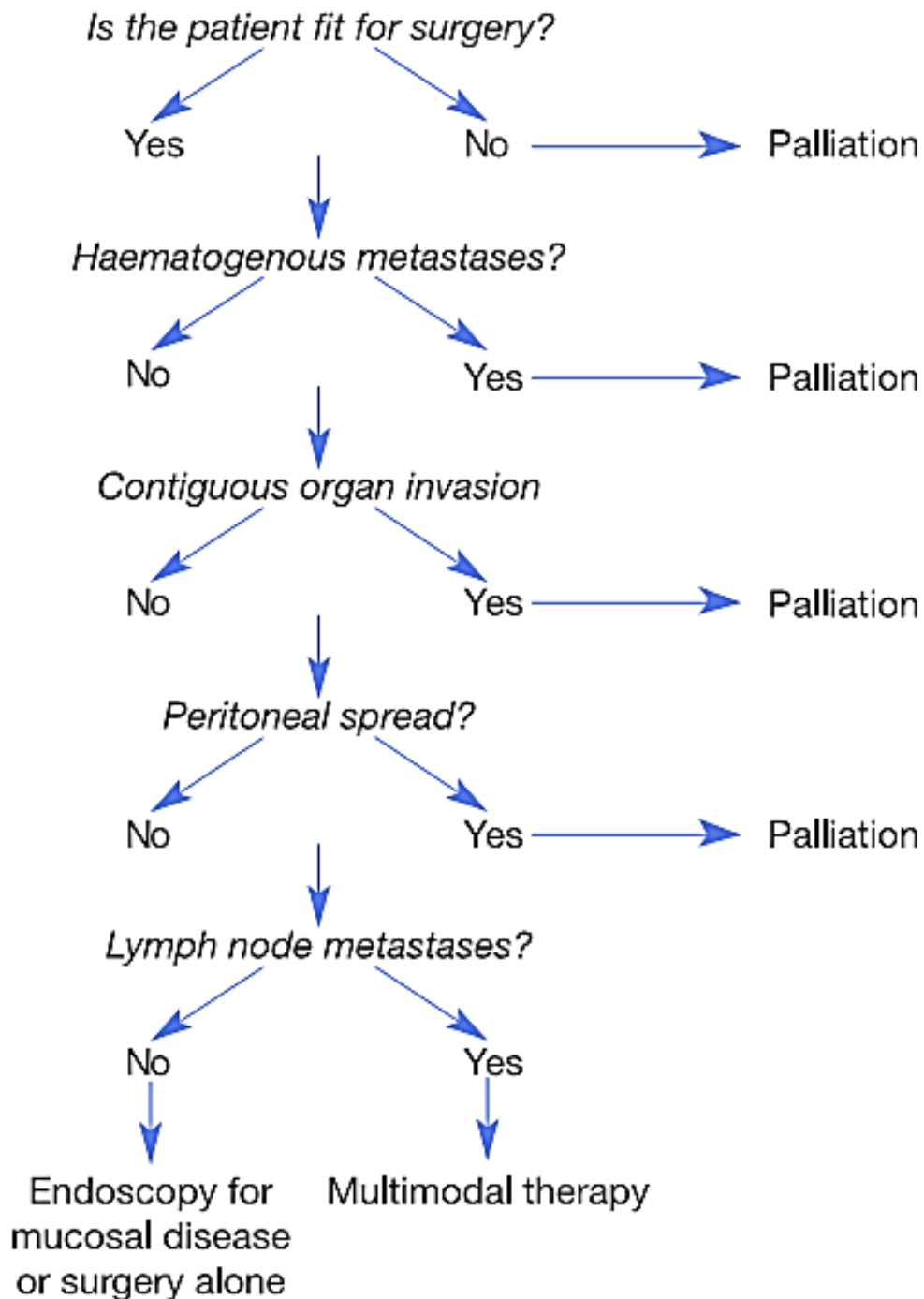


(b)

Ivor Lewis (Abdominal then Thoracic).



The two usual approaches for surgery of the oesophagus are (a) the thoracoabdominal, which opens the abdominal and thoracic cavities together, and (b) the two-stage Ivor Lewis approach, in which the abdomen is opened first, closed and then the thoracotomy is performed. In the **McKeown operation**, a third incision in the neck is made to complete the cervical anastomosis.



- **Congenital abnormalities.**
- **Foreign bodies.**
- **Perforation(spontaneous Barotrauma),Pathological,Penetrating injury, Foreign body,Instrumental) (Chemical, Physical , mechanical and Ca.,.**
- **Mallory Weiss Syndrome.**
- **Corrosive Injury.**
- **Drug induced Injury.**
- **G.O.R.D.**
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- **Hiatus Hernia.**
- **Neoplasm (Benign and Malignant).& post cricoid tumor.**
- **Motility disorders**
- **Infections (candida,)**
- **Crohn's disease.**
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- **Varicose vein.**
- **Mediastinal fibrosis.**

Esophageal Motility disorders

- Pain.(severe spasm).
- Dysphagia.
- Regurgitation.
- Weight loss.
- Barium swallow.
- Manometry.

Classification of Motility disorders

- Pharyngo-Esophageal
- Body of the esophagus.
- L.O.S.

TABLE 62.3 General classification of oesophageal motility disorders.

Disorders of the pharyngo-oesophageal junction

Neurological – stroke, motor neuron disease, multiple sclerosis, Parkinson's disease

Myogenic – myasthenia, muscular dystrophy

Pharyngo-oesophageal (Zenker's) diverticulum

Disorders of the body of the oesophagus

Diffuse oesophageal spasm

Nutcracker oesophagus

Autoimmune disorders – especially systemic sclerosis (CREST)

Reflux associated

Idiopathic

Allergic

Eosinophilic oesophagitis

Non-specific oesophageal dysmotility

Disorders of the lower oesophageal sphincter

Achalasia

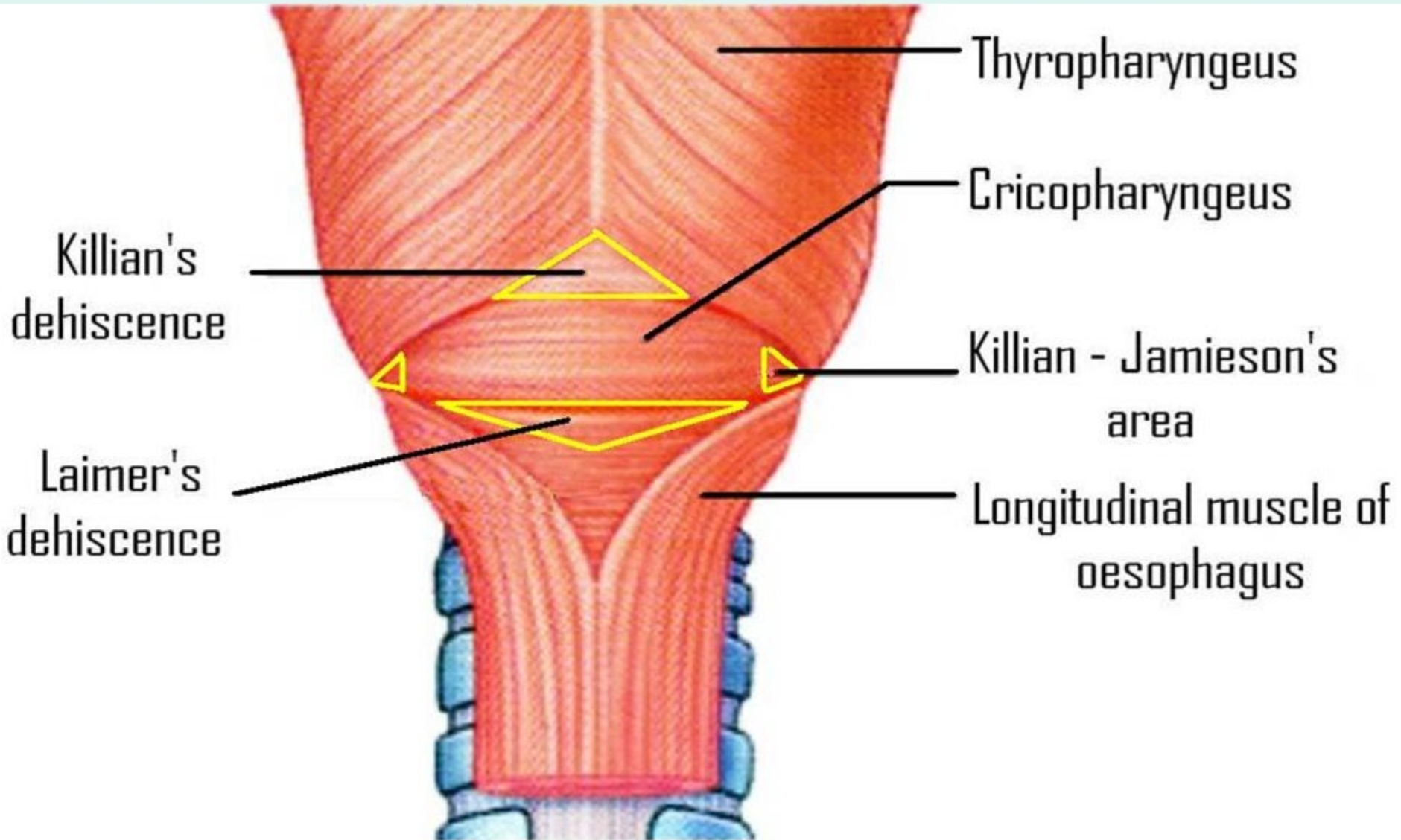
Incompetent lower sphincter (i.e. GORD)

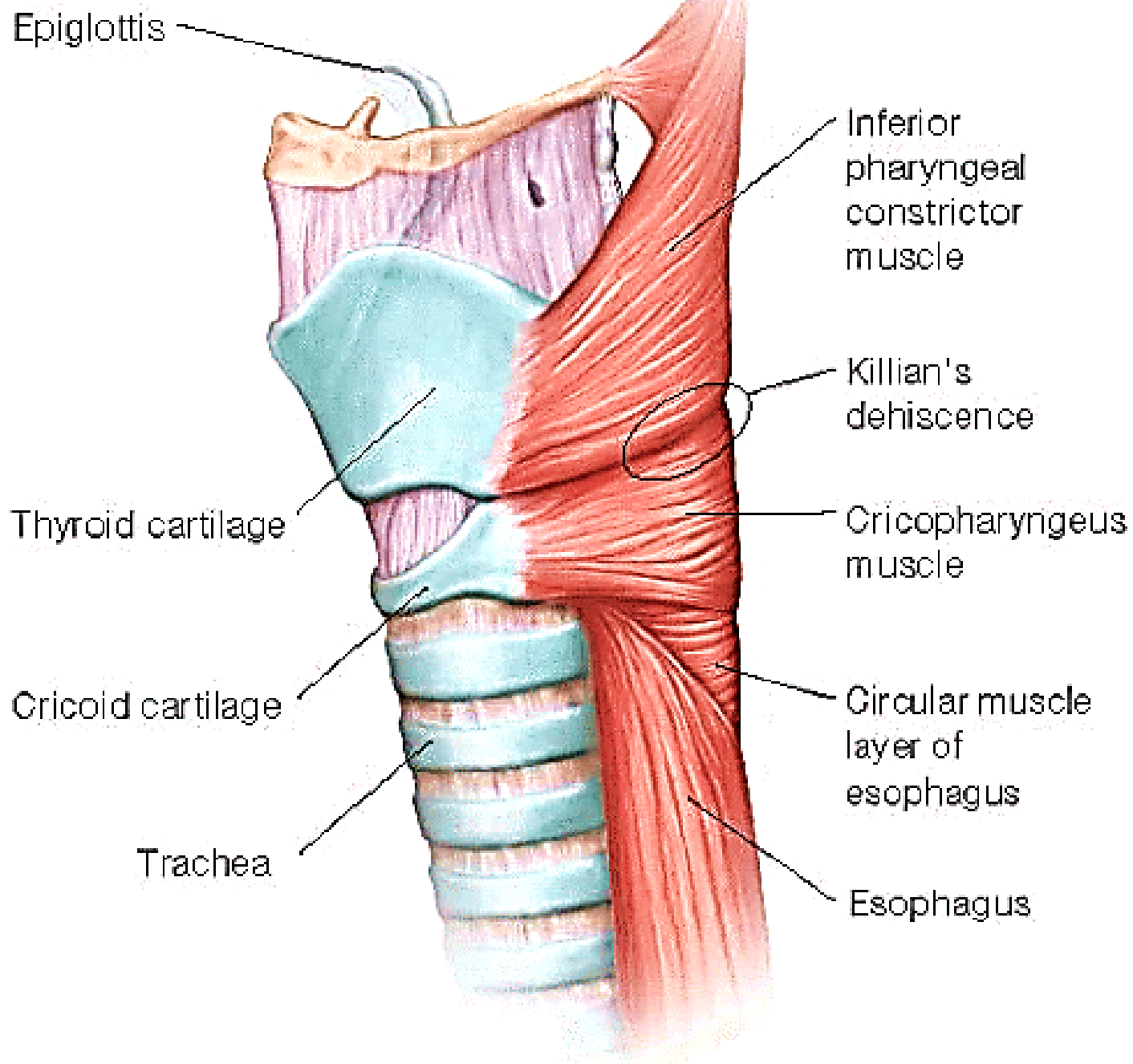
Pharyngeal Pouch(Zenker's diverticulum)

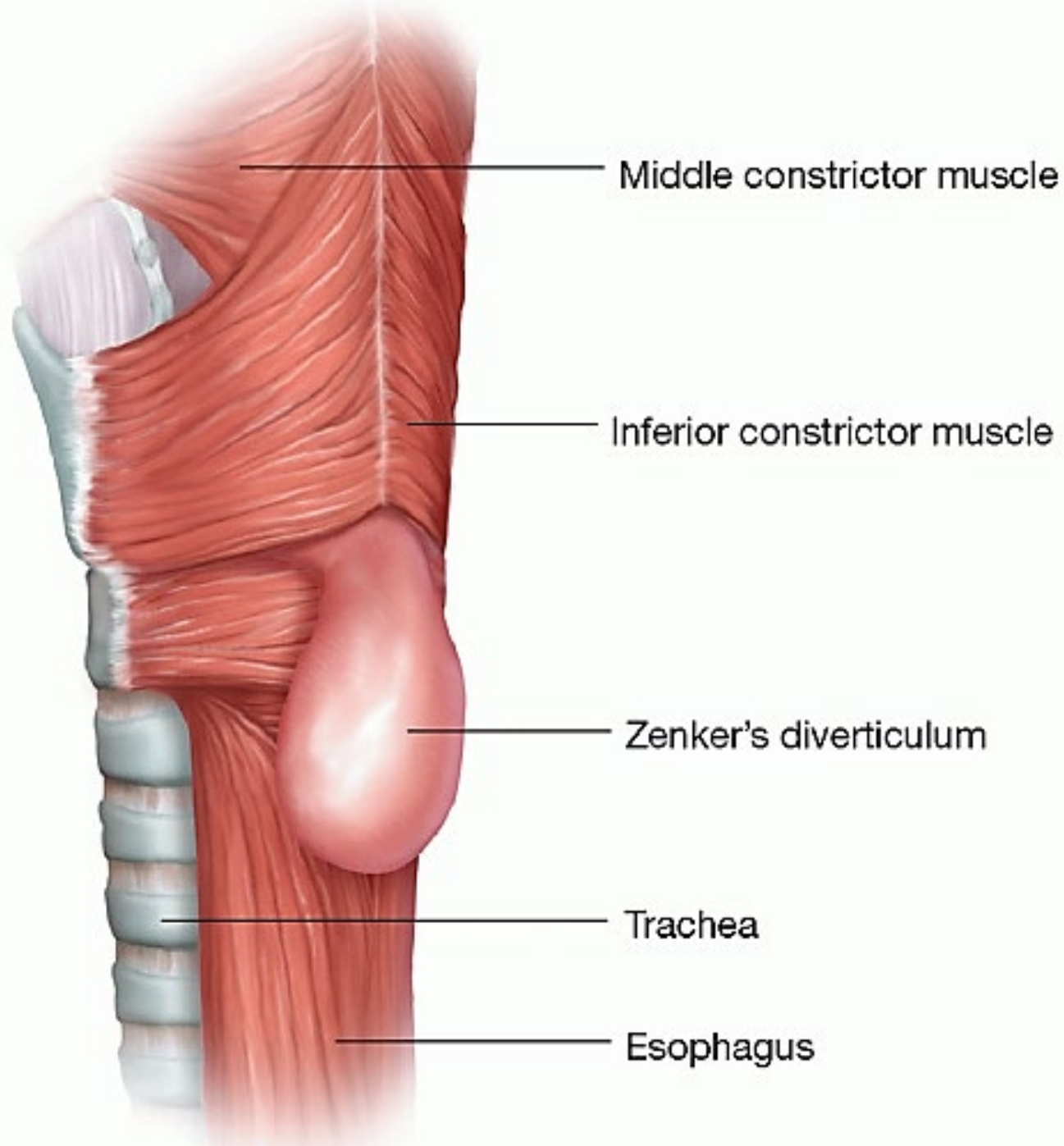
- Pulsion diverticulum (mucosal diverticulum of the pharynx) and It is a false diverticulum.
- Dehiscence of Killian Inferior Pharyngeal m. (oblique and horizontal fibers.
- Incoordination.
- Pharyngeal dysphagia and halitosis.
- Then Esophageal dysphagea (pressure effect { extraluminal }).
- Ix: Endoscopy, Ba study.
- Rx: Endoscopy with linear cutting stapler (diverticulo-esophagectomy).

Open surgery (Pouch excision/ suspension (diverticulopexy) +/- cricopharyngeal myotomy.

Weak spots b/w muscles







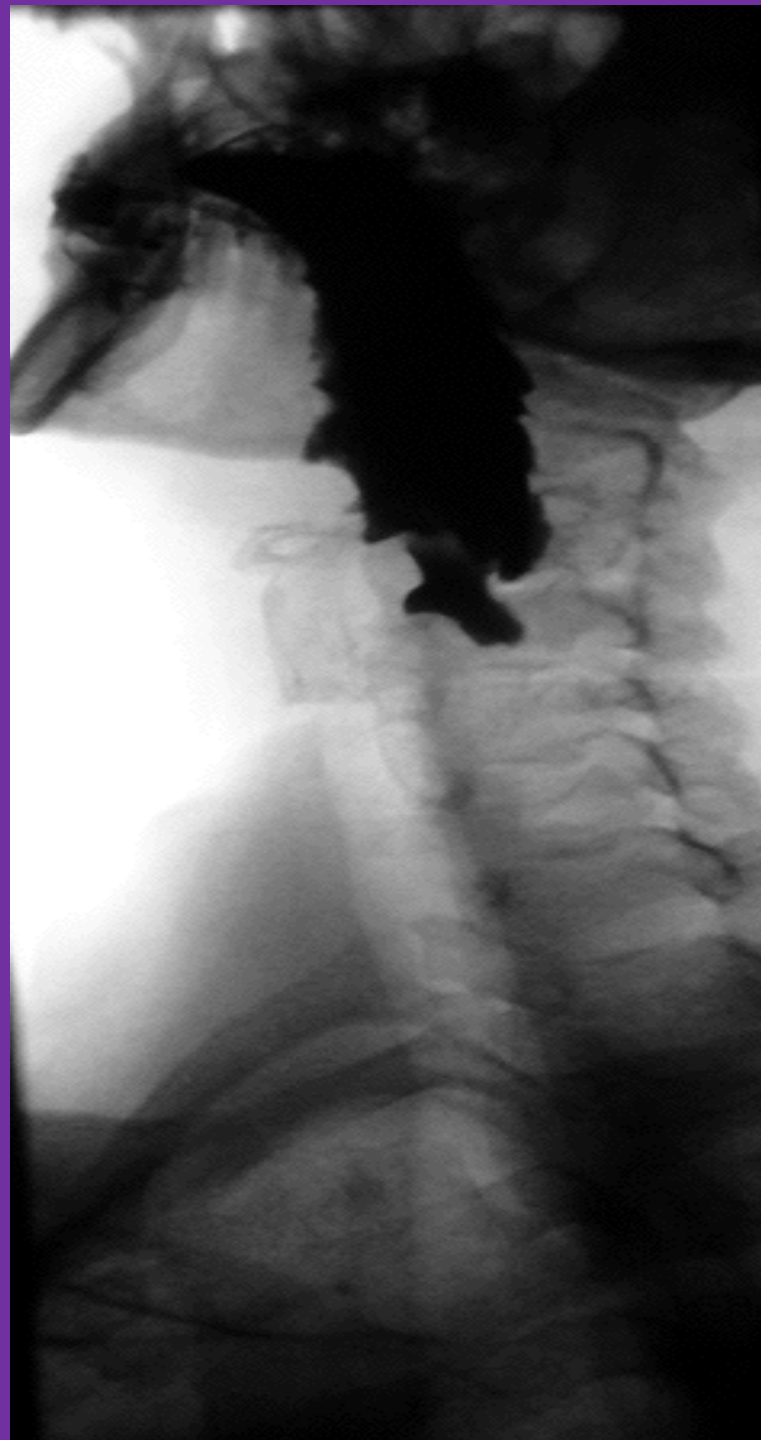
Middle constrictor muscle

Inferior constrictor muscle

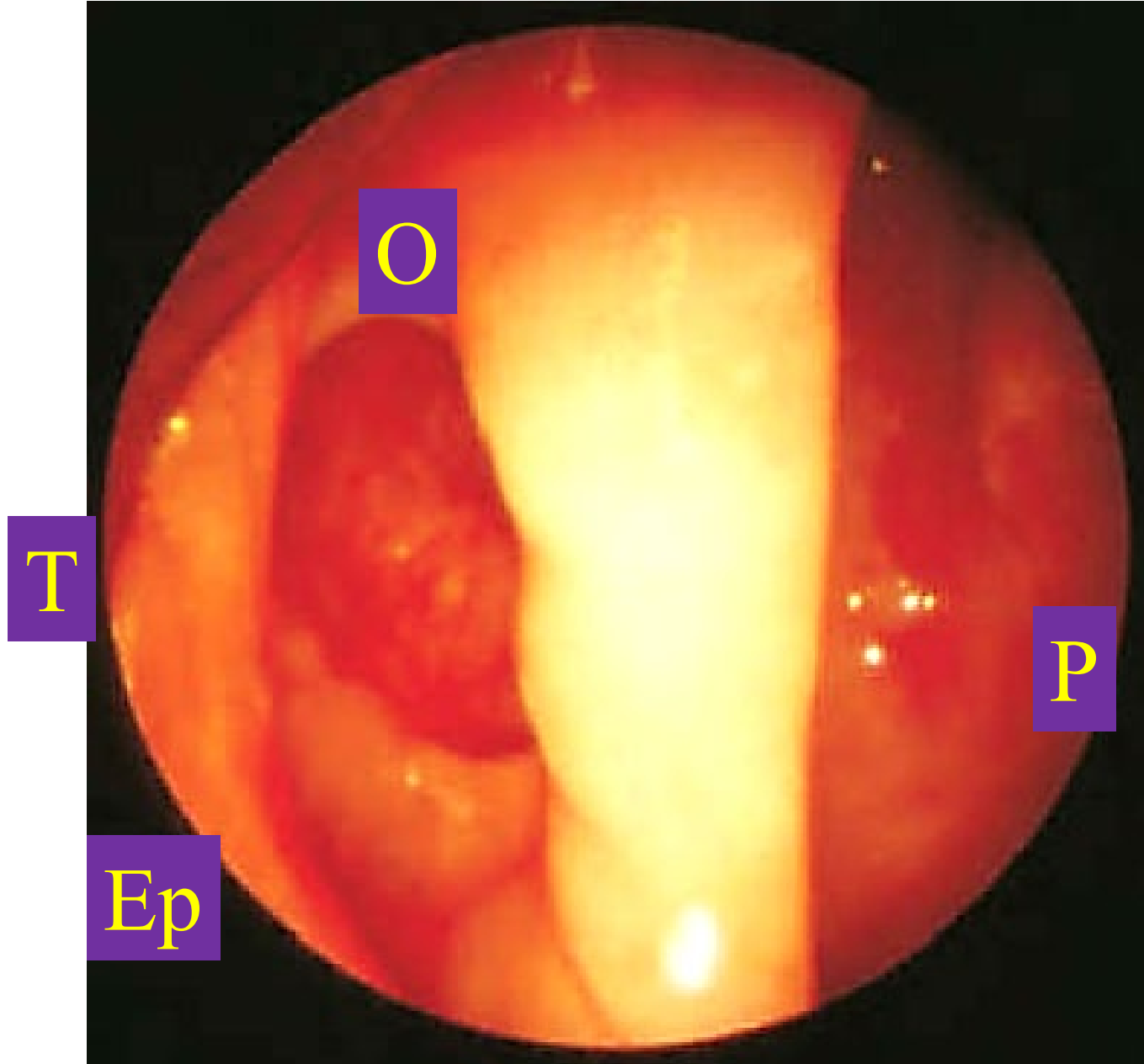
Zenker's diverticulum

Trachea

Esophagus







The endoscopic appearance of the mouth of a pharyngeal pouch posterior to the normal opening (left) of the oesophagus.

Disorder Body of the Esophagus

Chicago classification

- Distal Esophageal Spasms (Corkscrew Esophagus).
- Jack hammer (Hypercontractile Esophagus).

- GERD.
- Chest pain.
- Dysphagia.
- Regurgitation.

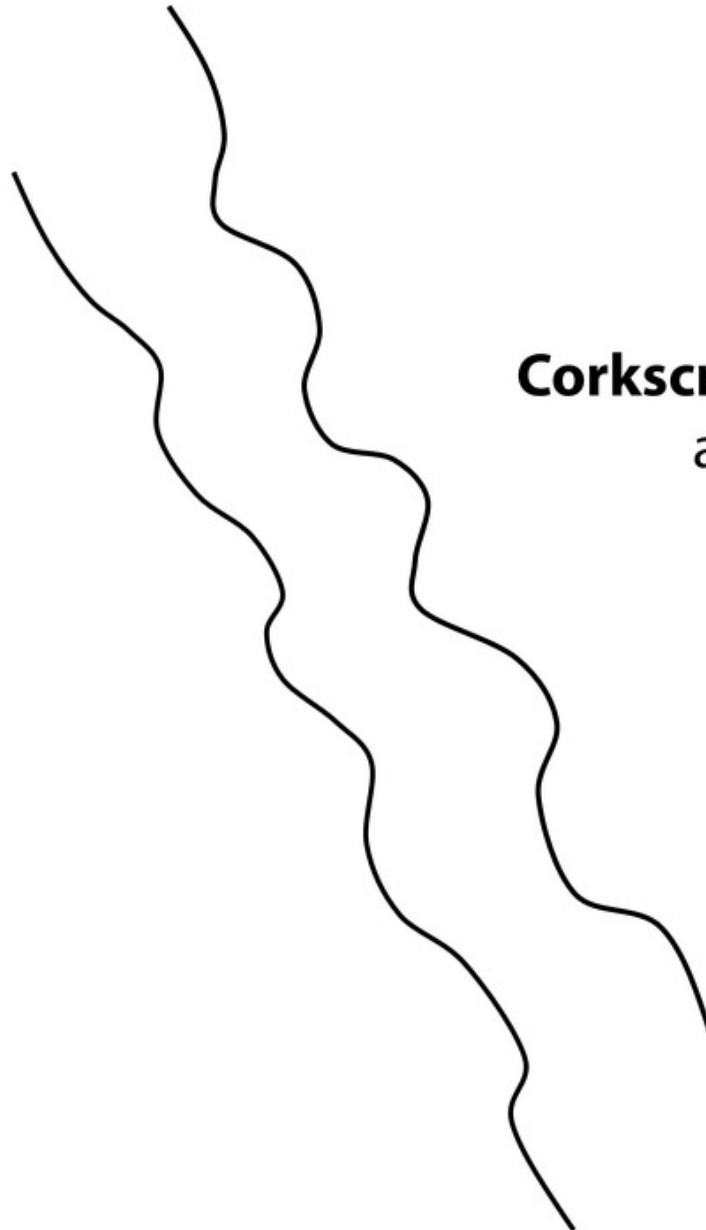
Distal Esophageal Spasms

- Distal 2/3rd .
- Ba study (corkscrew" or "rosary bead esophagus“) .
- Manometry: (where normal peristalsis is interrupted by (more than 20% of contractions occurring prematurely non-propulsive) contractions occurring in the distal oesophagus
- Rx: Medication : PPI, Ca.C.B., Vasodilators, Endoscopic dilatation , Botulinum Toxin .
- POEM (Peroral Endoscopic Myotomy)
- Surgery : Extended esophageal myotomy.



corkscrew

Diffuse oesophageal spasm



Corkscrew or Shis Kabab
appearance



Incoordinated peristalsis with simultaneous contraction of the oesophagus at multiple points

Rosary bead esophagus

Acq. time: 11:2



10 c

R

(Jack hammer)/ (Nutcracker)/ Hypercontractile Esophagus

- Is a hypercontractile esophageal motor disorder.
- Which is defined by high-resolution manometry (HRM) when high amplitude, high speed waves of contractions occur that have a distal contractile integral (DCI) greater than 8000 mm Hg.s.cm.
- Ix: Ba study : Nutcracker sign.
High-pressure manometric features
- Rx: as for corkscrew esophagus.





What is Nutcracker Esophagus or Hypertensive Peristalsis?

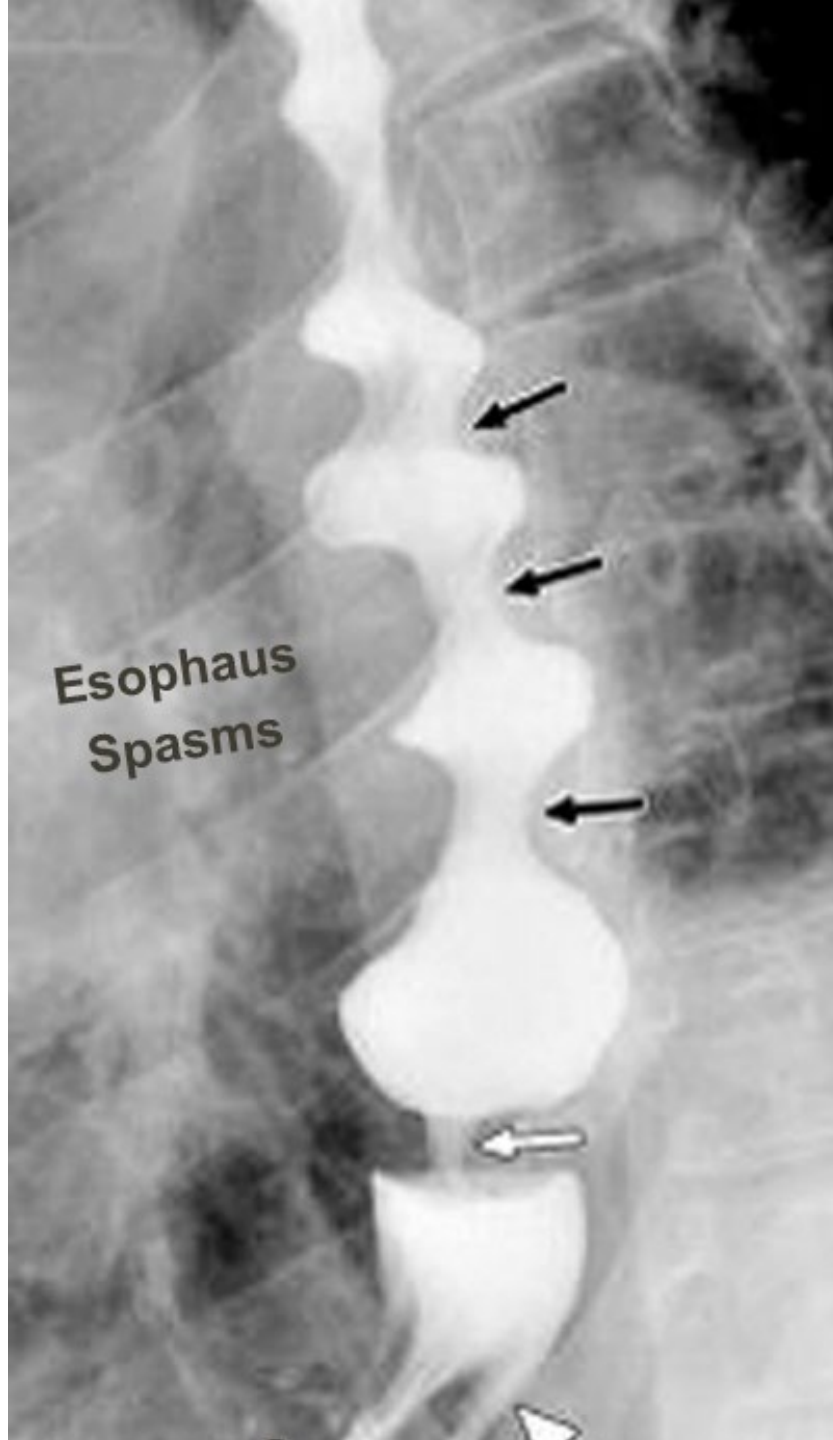
It is a benign condition and one of the motility disorders of the esophagus where the patient has contractions in the smooth muscles of the esophagus, which occur for excessive duration or amplitude

For More Information:
Visit: www.epainassist.com

Food

Relaxed Muscle

Contracted Muscle



Achalasia

- Middle life.
- Selective loss of inhibitory ganglionic cells in the myenteric plexus.
- Non relax LOS and absent peristalsis (body).
- Not reflux.
- Regurgitation, Dysphagia.
- Dx : Adenocarcinoma of the cardia.

Diagnosis

- History (regurgitation, hoarseness of voice , halitosis) .
- Plain CXR .(megaesophagus).
- Ba Study. (bird's beak/ rat tail)
- Endoscopy.



ACHALSIA CARDIA

- Barium swallow showing dilatation of the esophageal body

*With short segment stricture.

* A "bird-peak " like tapering of the esophagus at the GE junction. OR

*A Sigmoid " Mega esophagus



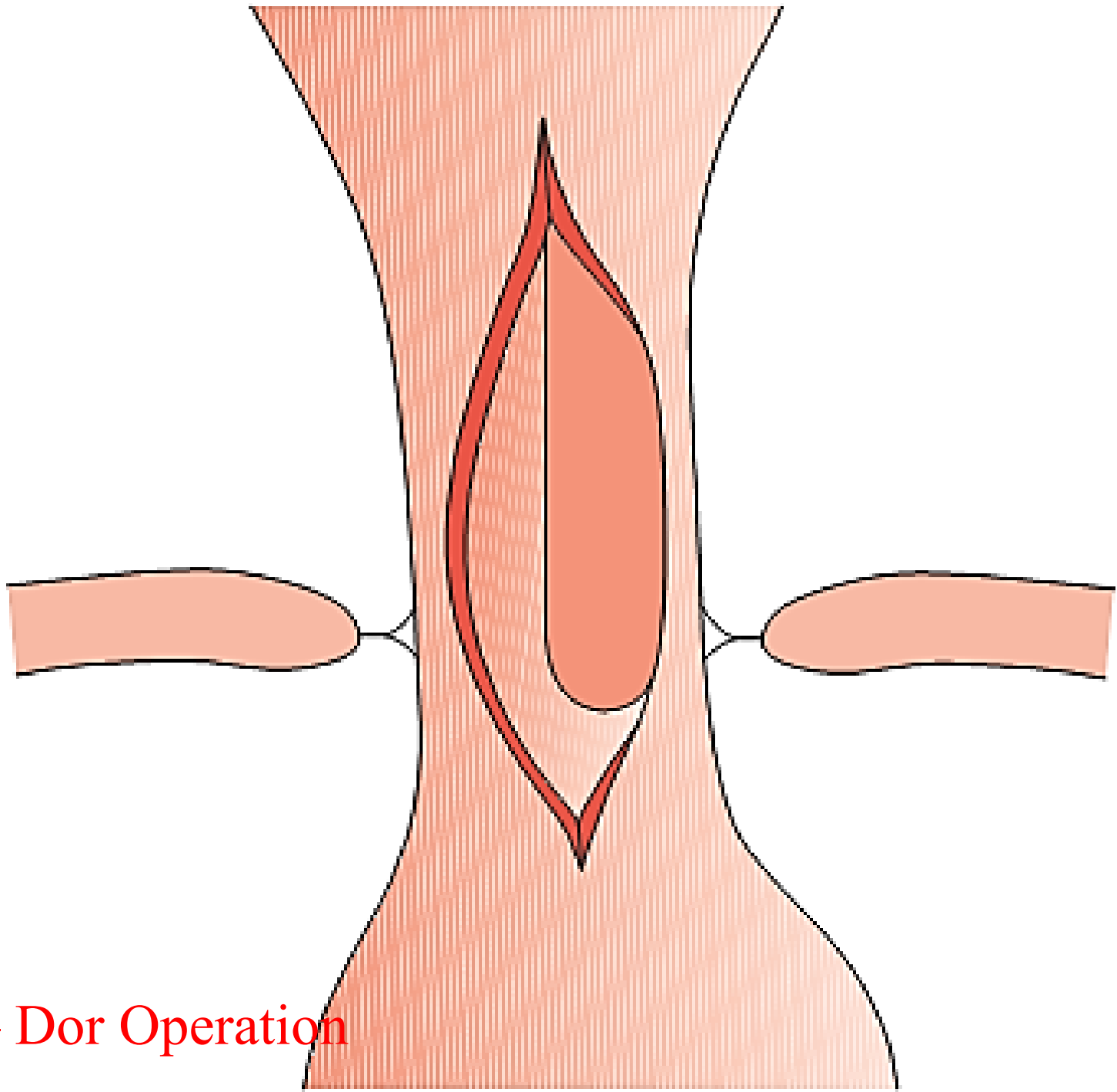
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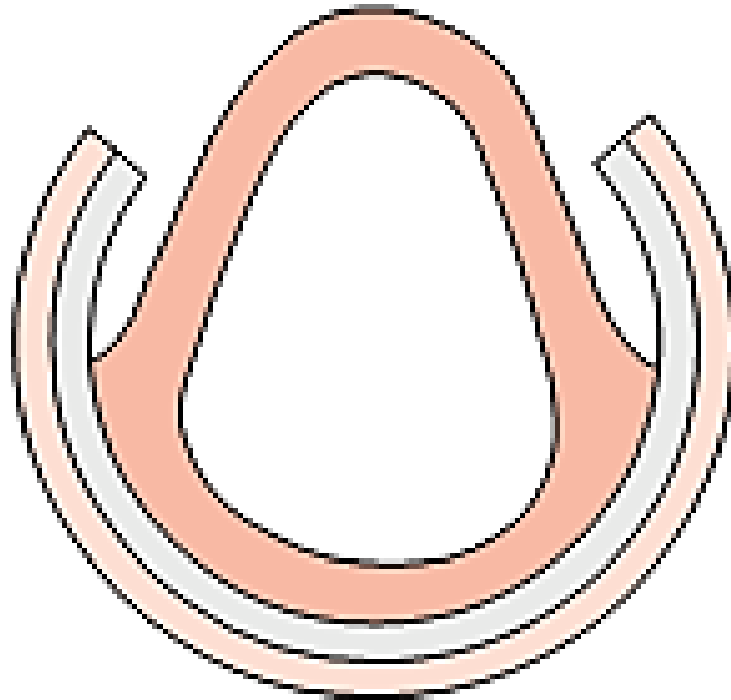
Treatment

- Medical: (Ca⁺C.B., Botulinum toxin).
- Endoscopic Pneumotic dilatation.
- Surgical: Heller's myotomy (open, laparoscopic or Endoscopic (POEM)





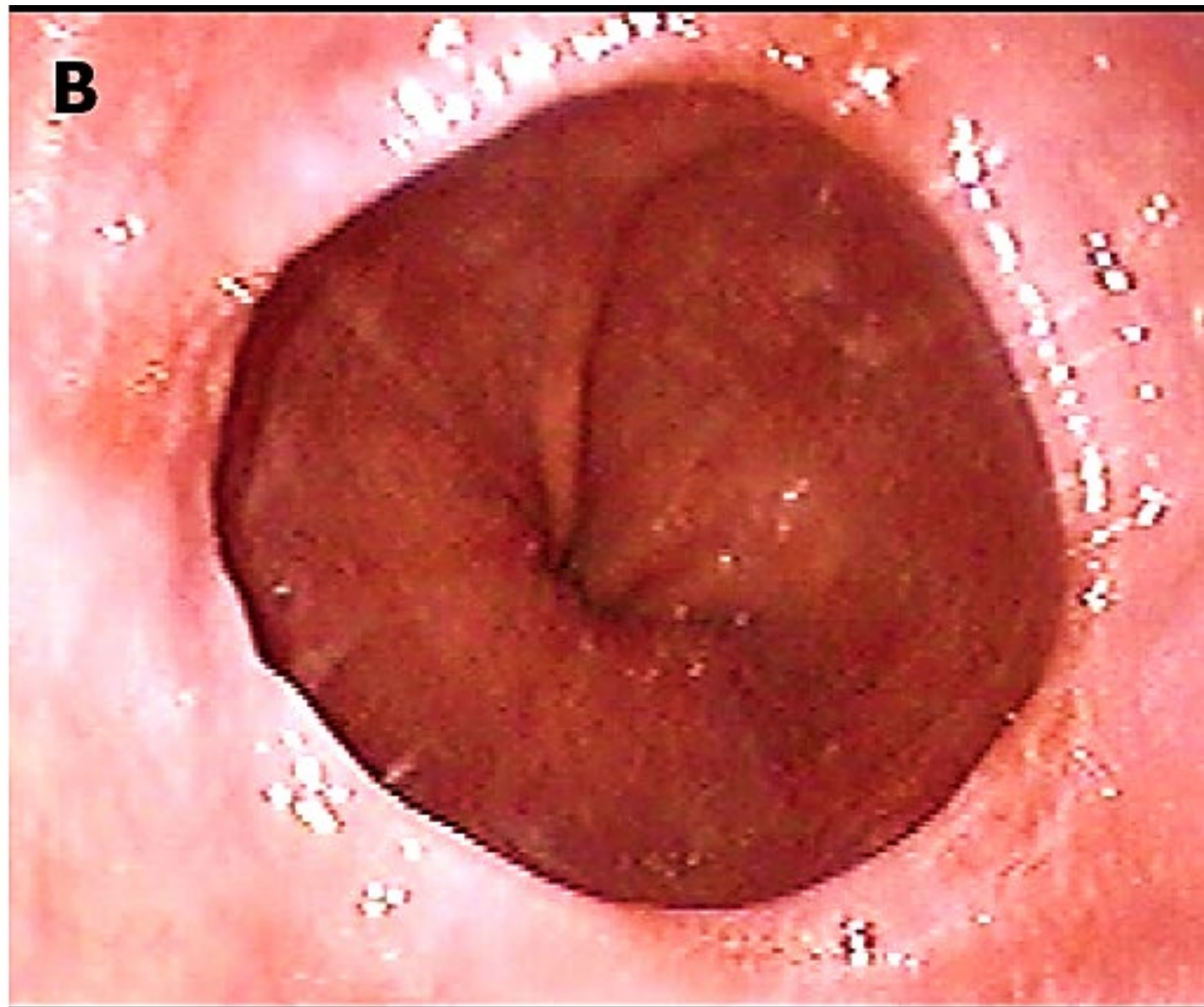
Heller – Dor Operation



Heller – Dor Operation

Schatzki's Ring

- Circular ring in the distal esophagus (S.C.J.).
- Fibrous tissue
- Incidental.
- In association with reflux disease.
- Dysphagea.
- Ix: Ba study (constriction), Endoscopy.
- Rx : dilitation with anti-reflux medication.



Name:

Mr. A. Net:

Calburts, G. Com:

24/05/2011

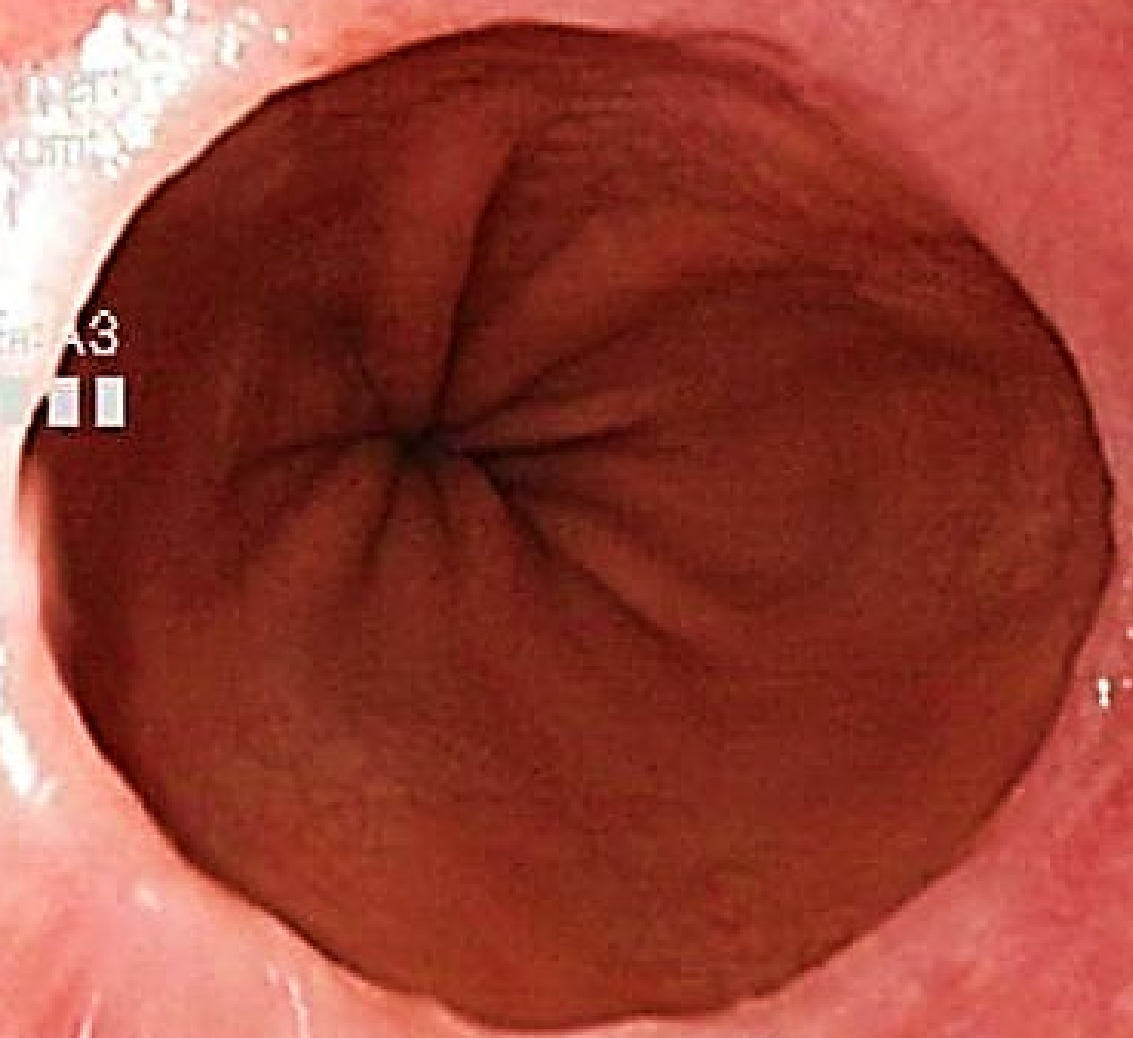
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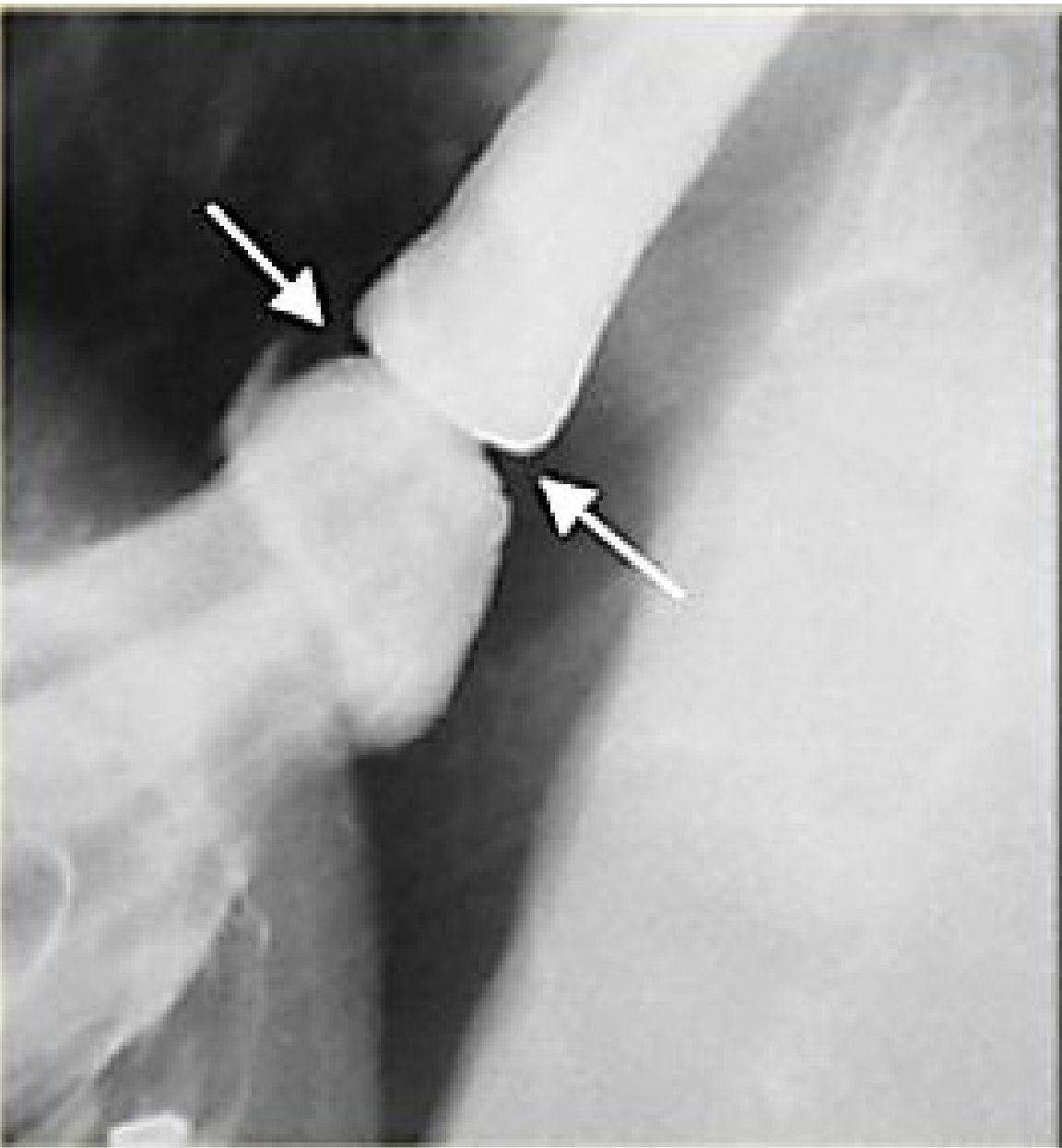
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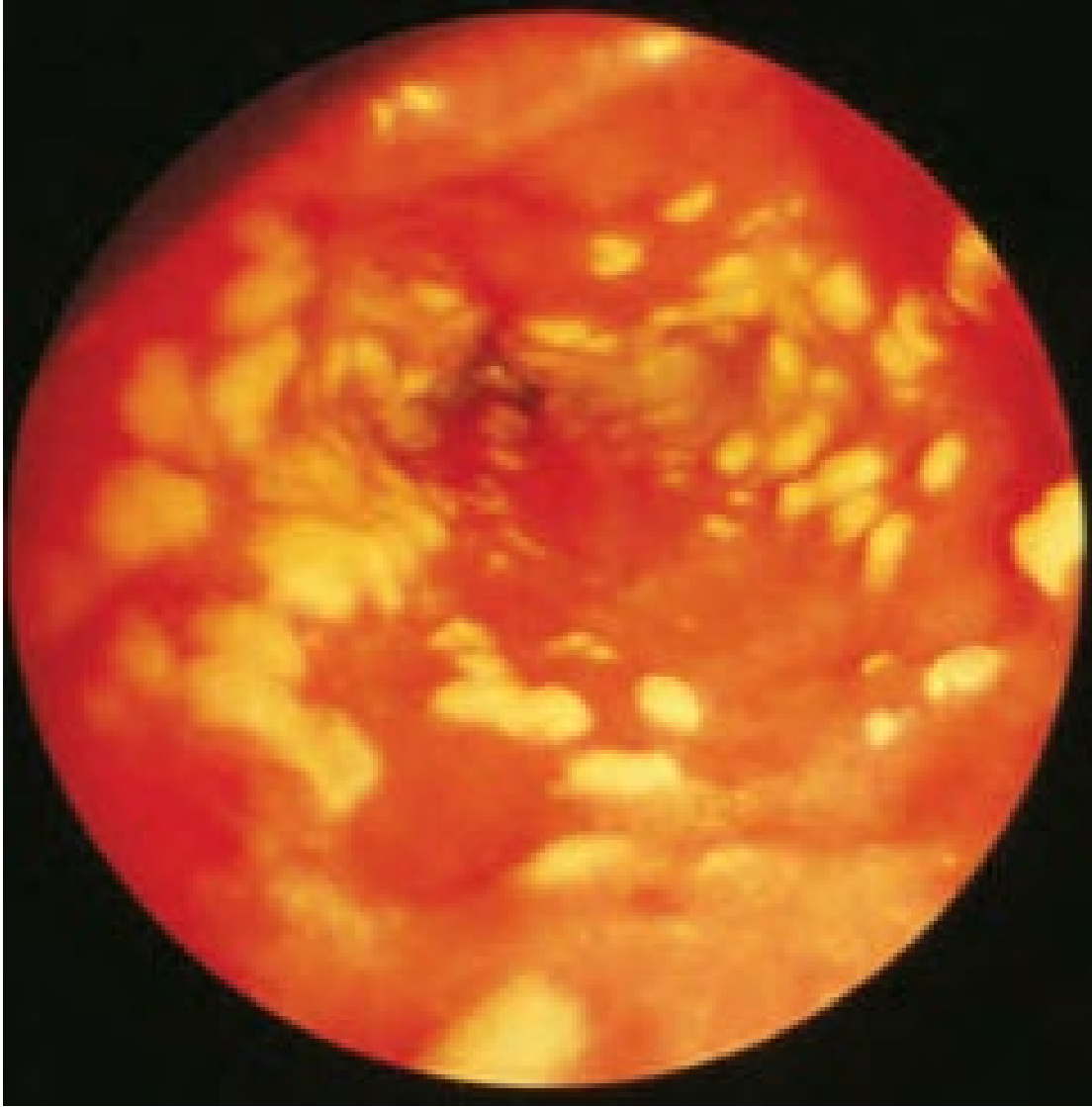




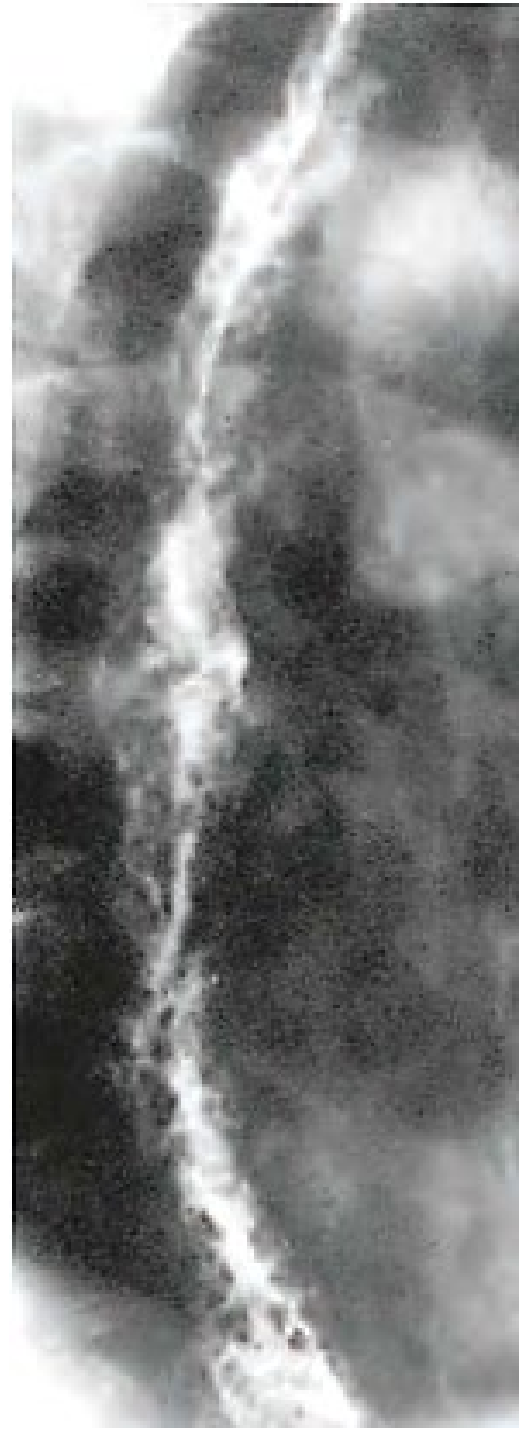
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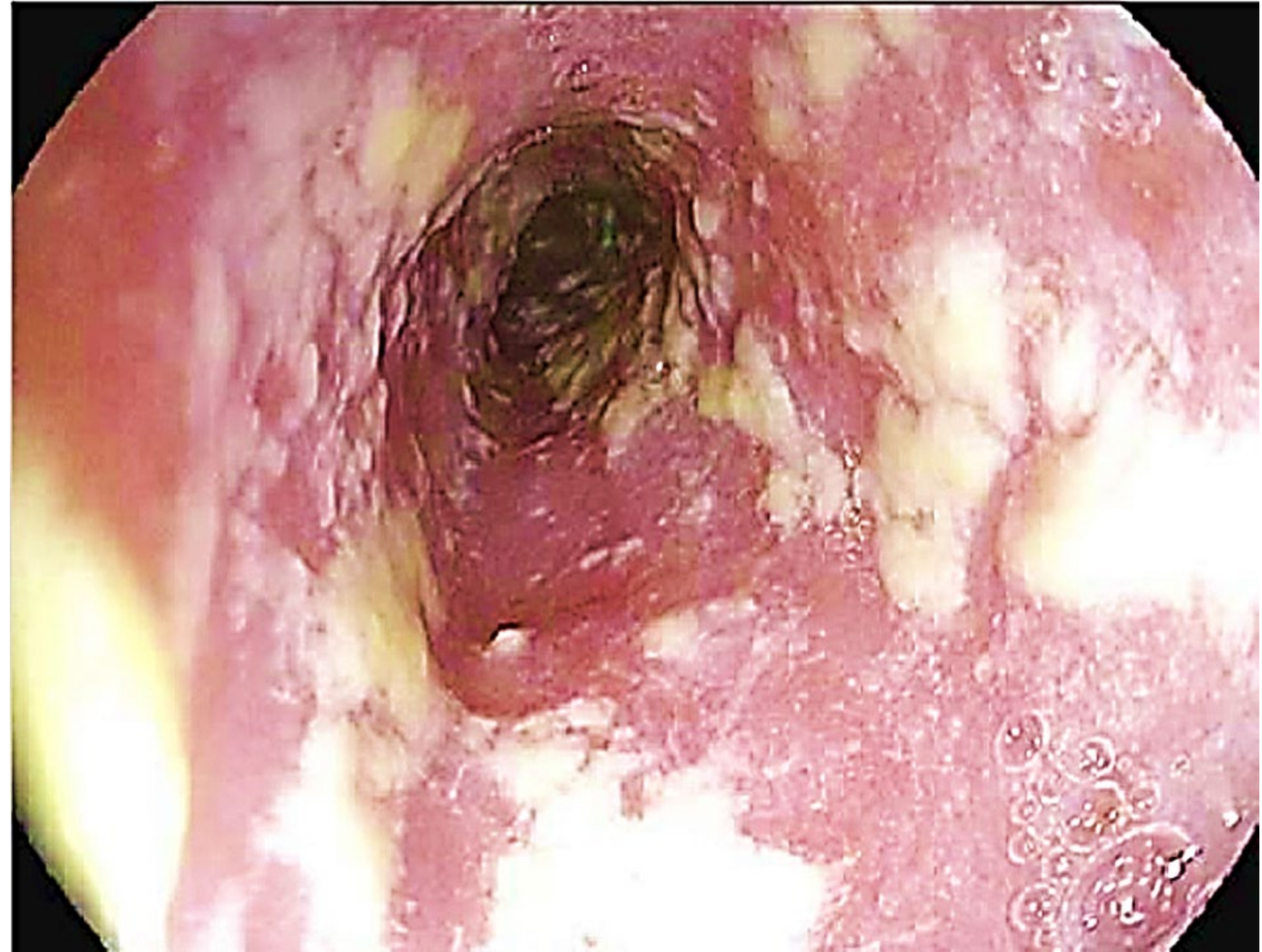
Oesophageal Candidiasis

- *Candida albicans* .
- Dysphagia or odynophagia with oral thrush.
- Immune compromised patients.
- .Endoscopy .
- Biopsies are diagnostic.
- In severe cases, a barium swallow may show dramatic mucosal ulceration and irregularity that is surprisingly similar to the appearance of oesophageal varices.
- Treatment is with an antifungal agent.



Numerous white plaques that cannot be moved, unlike food residues





- **Congenital abnormalities.**
- **Foreign bodies.**
- **Perforation(spontaneous Barotrauma),Pathological,Penetrating injury, Foreign body,Instrumental) (Chemical, Physical , mechanical and Ca.,.**
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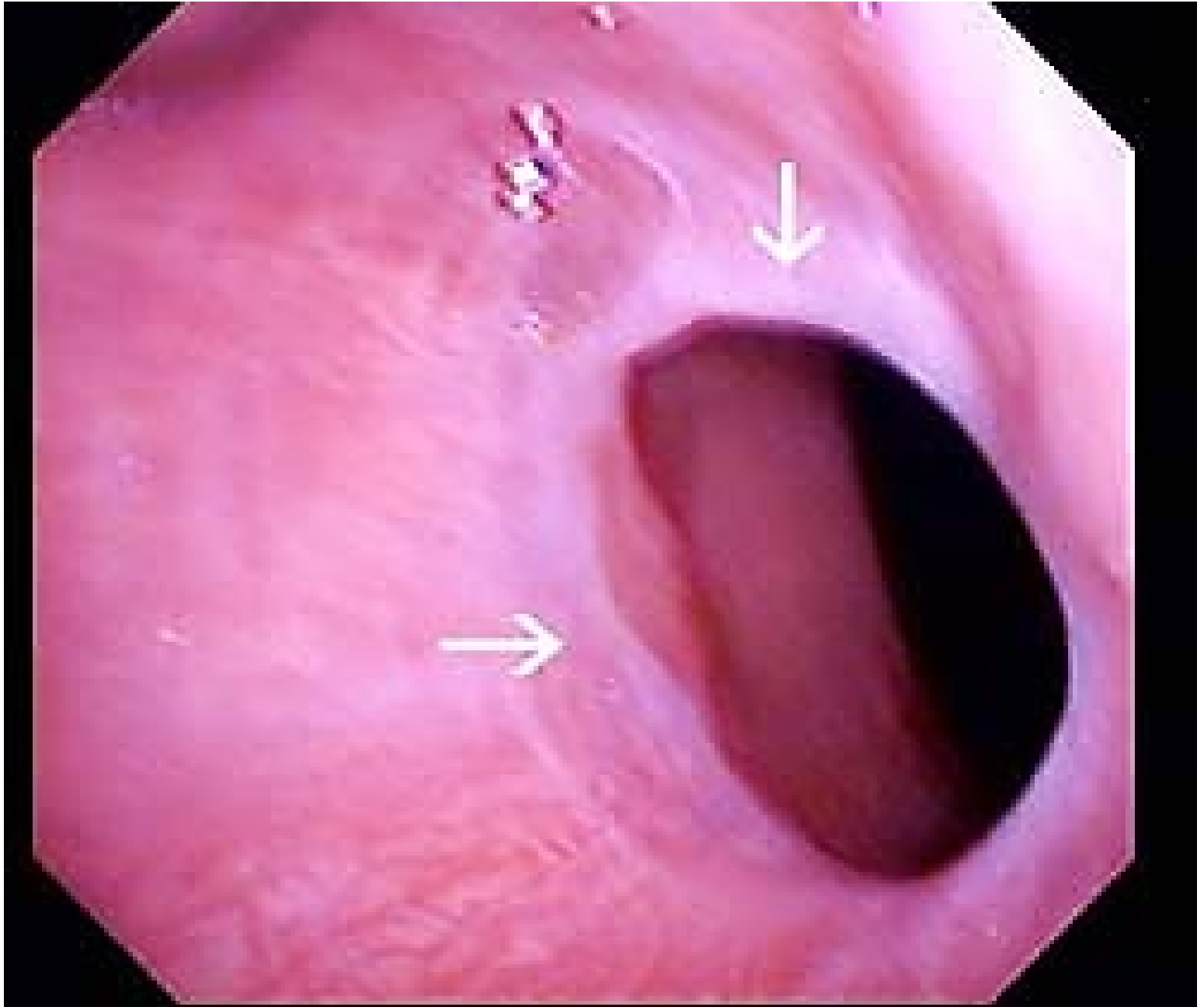
Crohn's disease.

- Is not common, asymptomatic 20%.
- Retrosternal pain and dysphagia.
- Endoscopy shows extensive oesophagitis .
- Biopsies may be diagnostic.
- In severe cases, deep sinuses occur, and fistulation .
- Respond poorly to medical treatment .
- Balloon dilatation of strictures .
- Surgical resection for multiple internal .

- **Congenital abnormalities.**
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Plummer Vinson Syndrome

- Sideropenic dysphagia.
- Postcricoid web.
- Iron def.An.
- Upper and middle esophagus.
- Precancerous.(postcricoid tumor).
- F > M.
- Ix: Endoscopy, Ba Study.
- Rx: Endoscopic dilitation.



- **Congenital abnormalities.**
- **Foreign bodies.**
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Portal Hypertention

1074

- Is defined as a hepatic venous pressure gradient equal to or greater than 6 mmHg.
- **Hepatic venous pressure gradient** (HVPG) is a clinical measurement of the pressure gradient between the WHVP and the free hepatic venous pressures.
- **Wedged hepatic venous pressure** (WHVP) : reflects not the actual hepatic portal vein pressure but the hepatic sinusoidal pressure.
- HVPG > 12 mmHg ► Variceal Haemorrhage.
- It is a medical emergency .
- Types : - Cirrhotic
- Non-cirrhotic portal hypertension

Causes

- **Pre-hepatic** causes : Portal vein thrombosis
- **Hepatic** causes : Cirrhosis
- **Post-hepatic** causes : Budd–Chiari syndrome (Hepatic vein thrombosis).

- Mostly esophageal bleeding.Hx of liver cirrhosis .It is a medical emergency
- Dx : Endoscopy .Liver colour dopplex.
- Tx :
- Ressuscitation.
- Endoscopy : Sclerotherapy
 - Band ligation
 - Clipping
 - Argon plasma coagulation
 - Tissue adhesives injection, forming a solid cast of the injected vessel.
- Balloon tamponad (Sangstaken – Blackmore tube).
- Drug : Octreotide → ▼ Portal presuure.
 - Vasopressin, B-blocker
- Acute Shunt : (TIPS): (Transjugular Intrahepatic Portosystemic Shunt)

Management of bleeding oesophageal varices

- Blood transfusion
- Correct coagulopathy
- Oesophageal balloon tamponade (Sengstaken–Blakemore tube)
- Drug therapy (vasopressin/octreotide)
- Endoscopic sclerotherapy or banding
- Assess portal vein patency (Doppler ultrasound or CT)
- Transjugular intrahepatic portosystemic stent shunts (TIPSS)
- Surgery
 - Portosystemic shunts
 - Oesophageal transection
 - Splenectomy and gastric devascularisation

Grading of Esophageal Varices

- Grade I : Small , straight varices.
- Grade II : Enlarged , tortious varices occupying $< 1/3^{\text{rd}}$ of lumen.
- Grade III: Large, coiled varices occupying $> 1/3^{\text{rd}}$ of lumen.

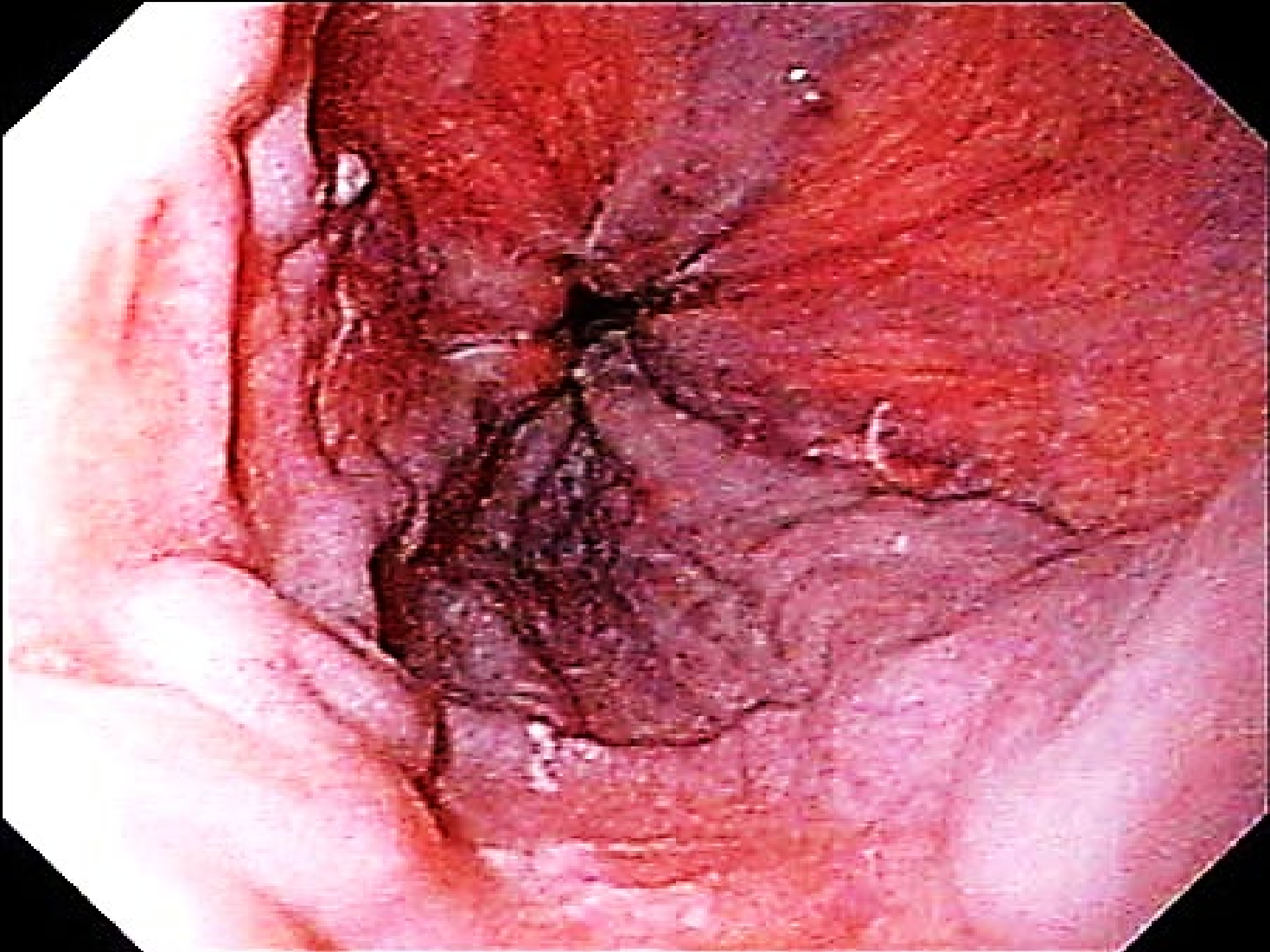
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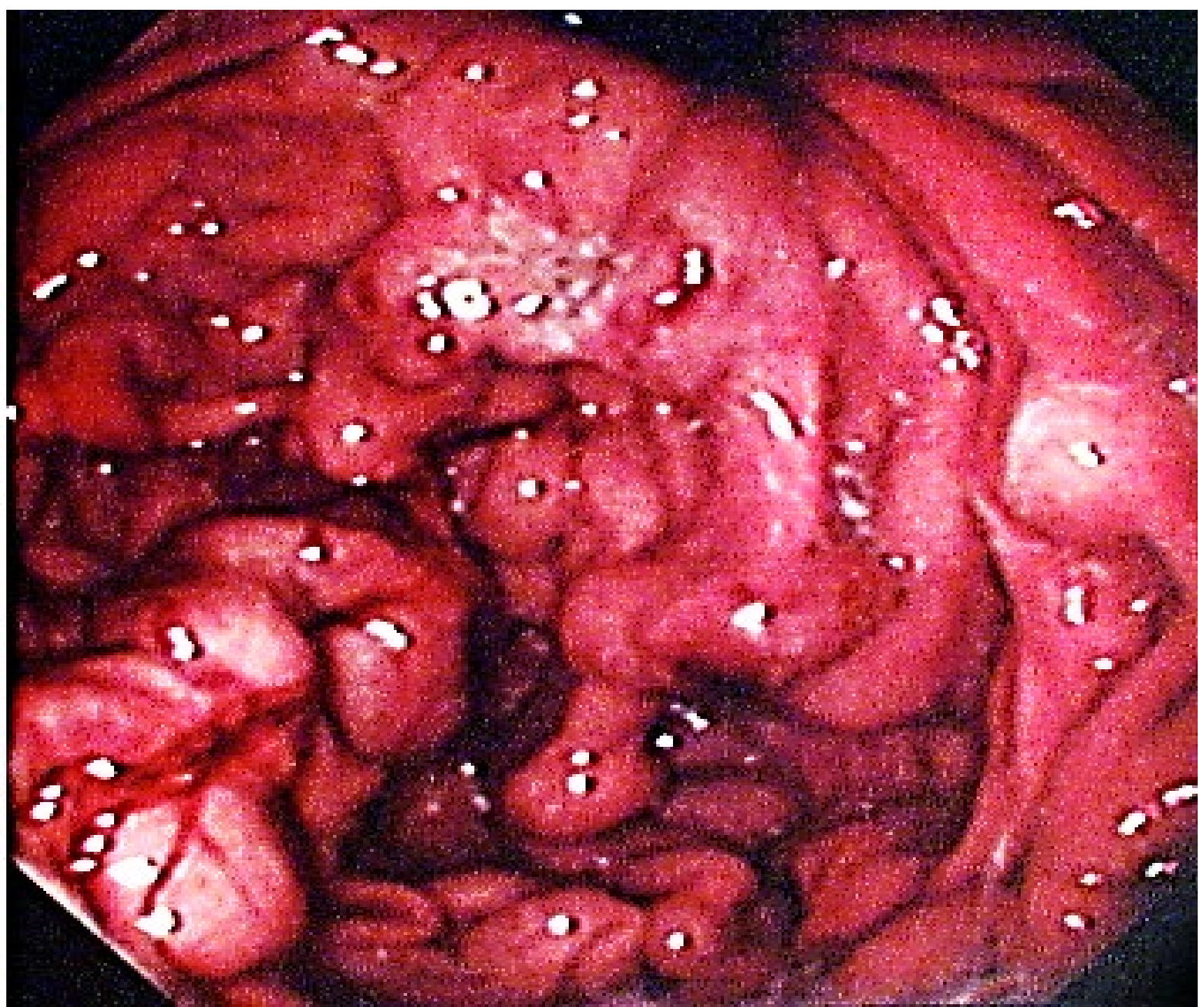
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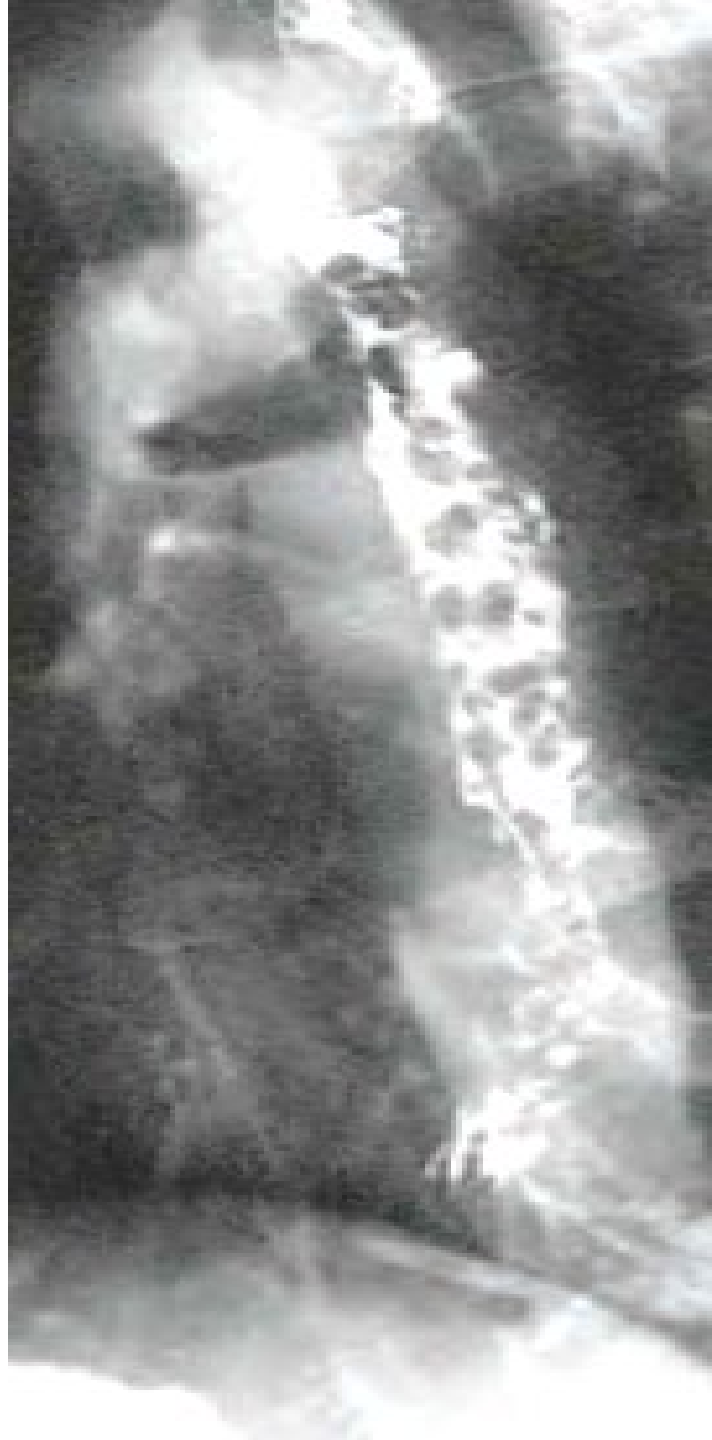
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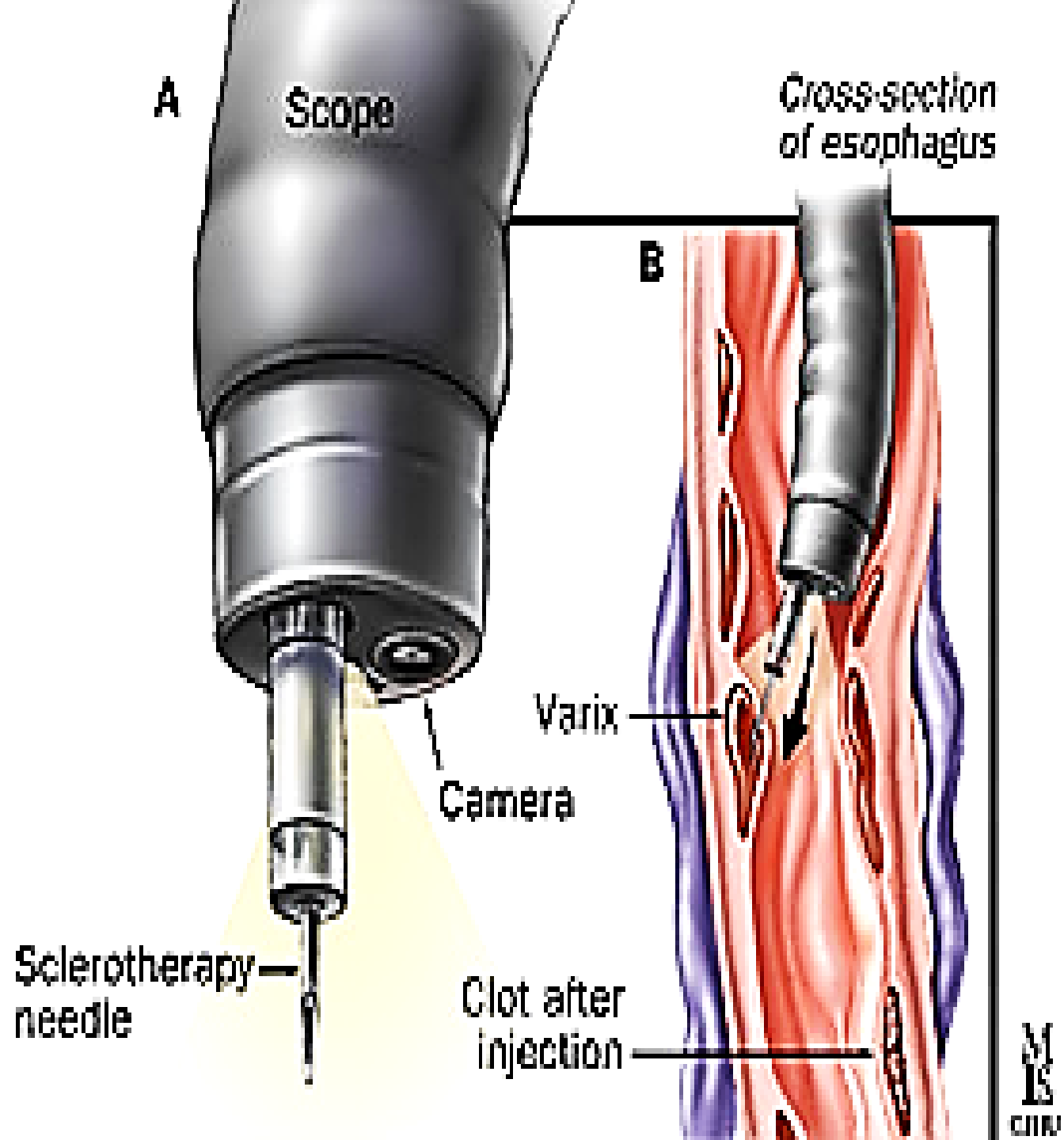
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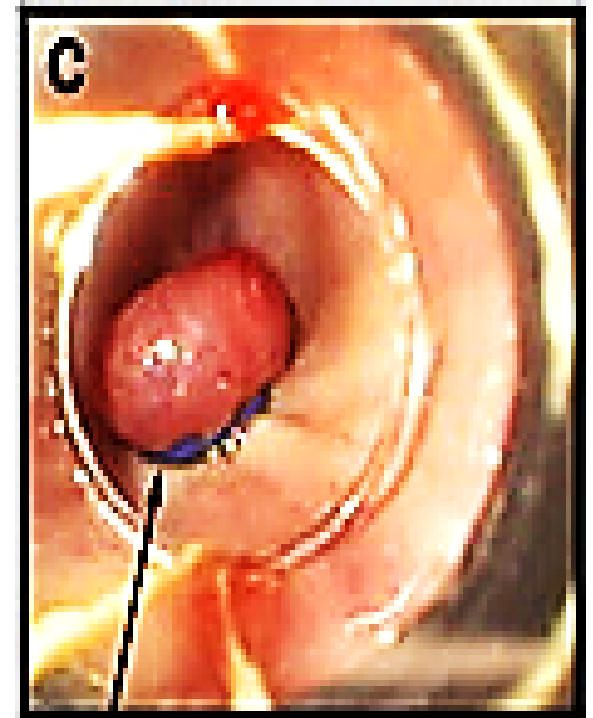
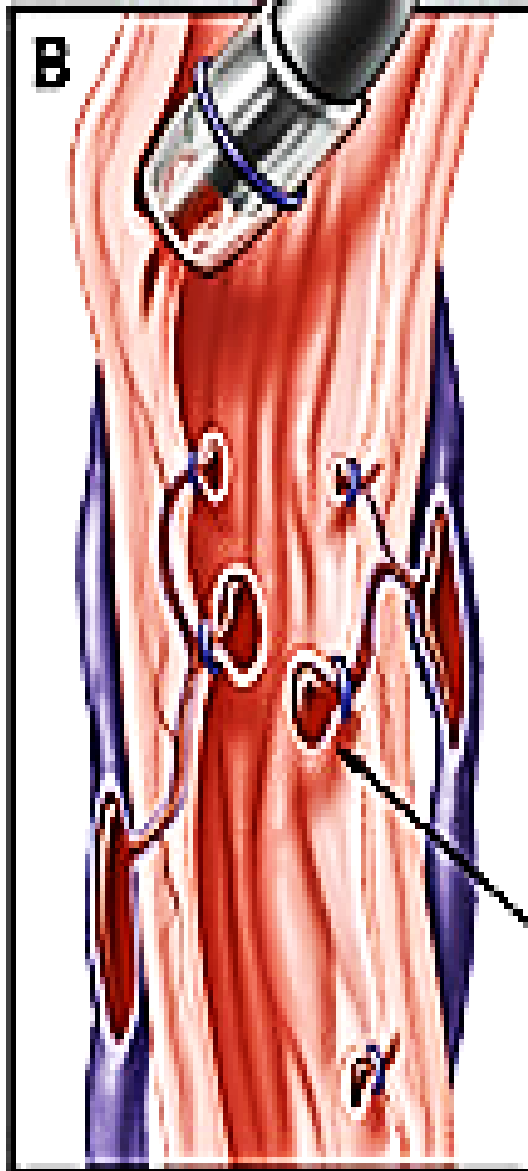






Scope

A Rubber Band Ligation System[®]



Banded varices

VE 55820031

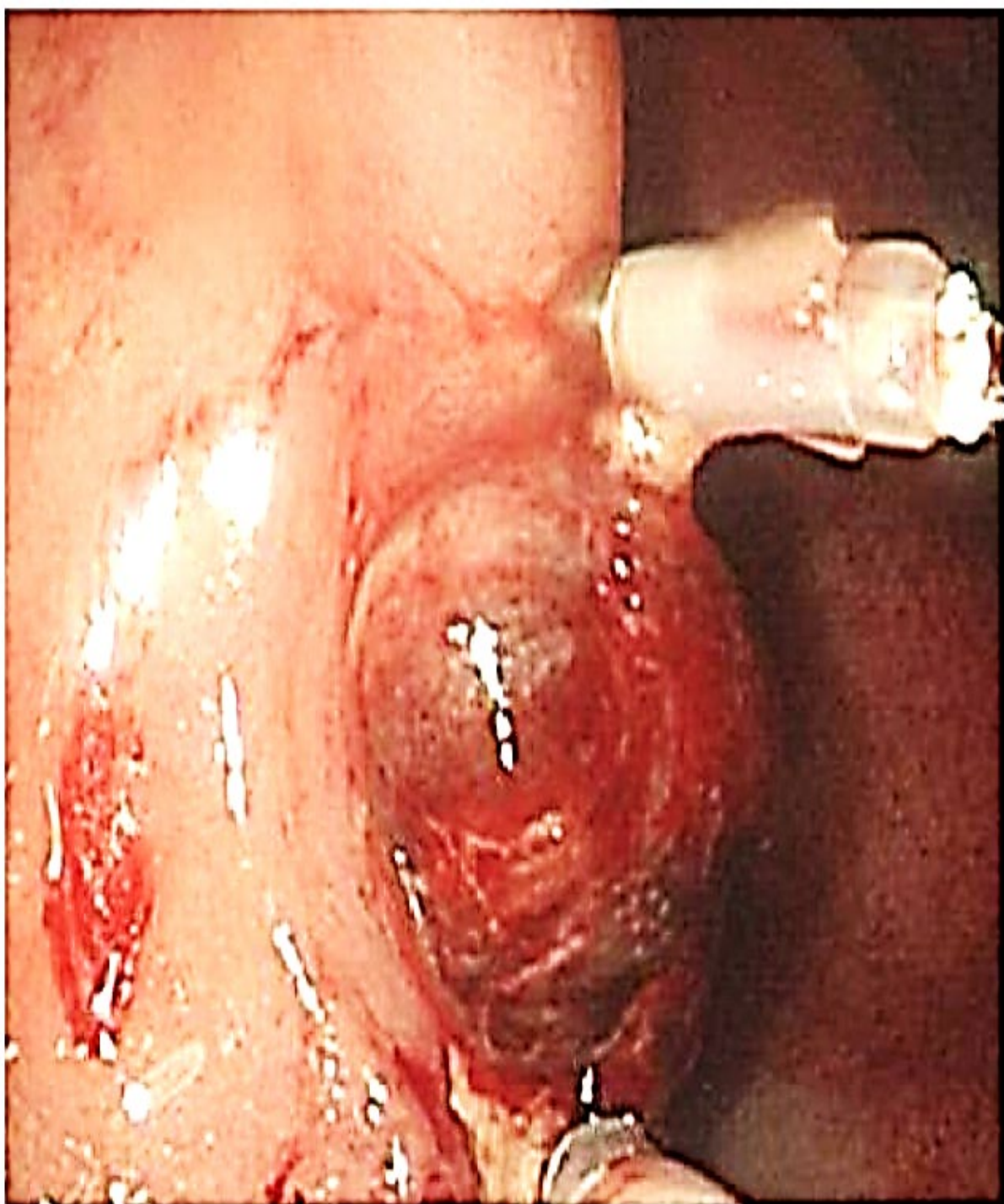
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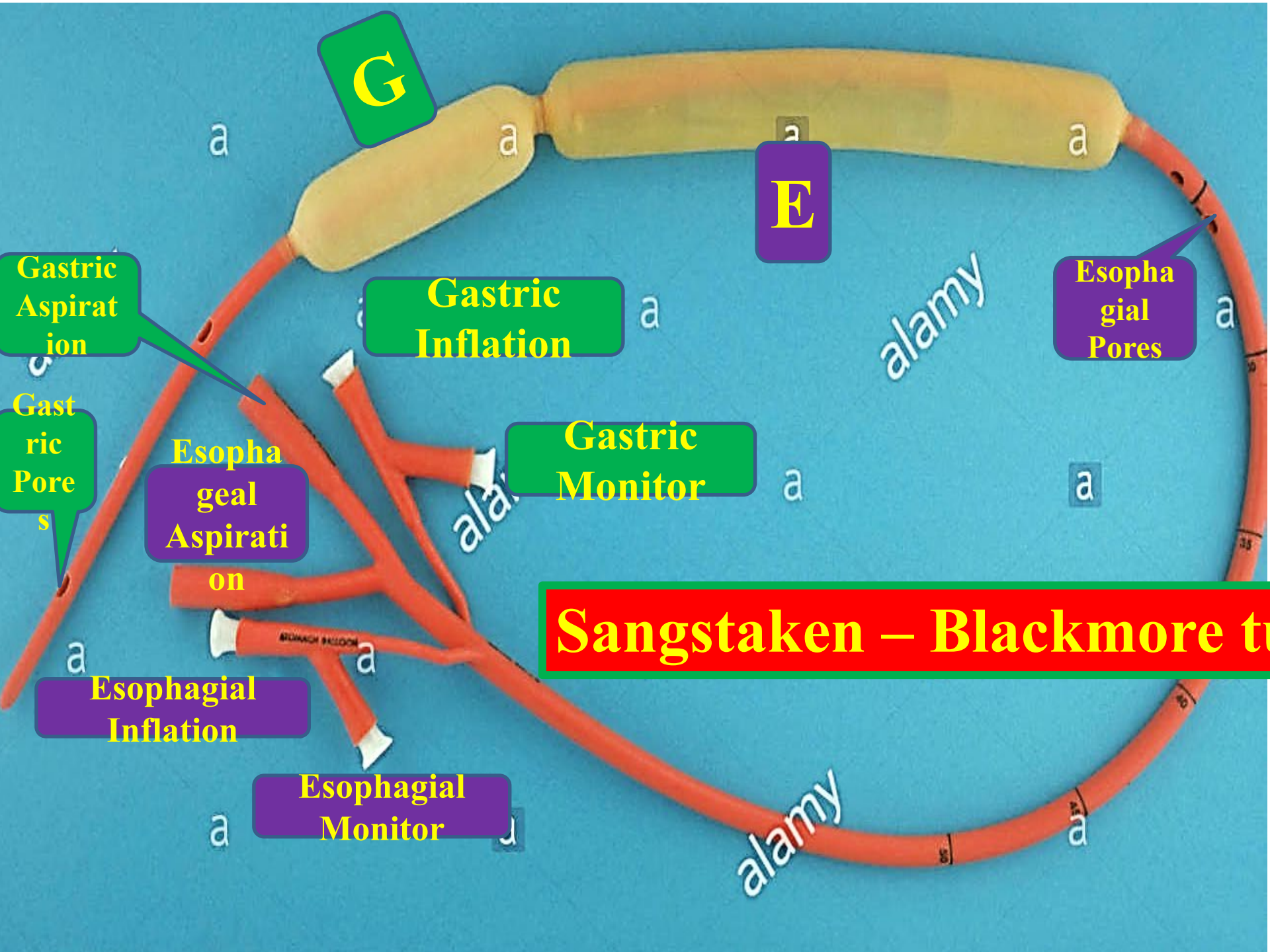
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D.F:
E:8 G:H



DR. MURRA SACA.





G

E

Gastric Aspirator

Gastric Pores

Esophageal Aspirator

Gastric Inflation

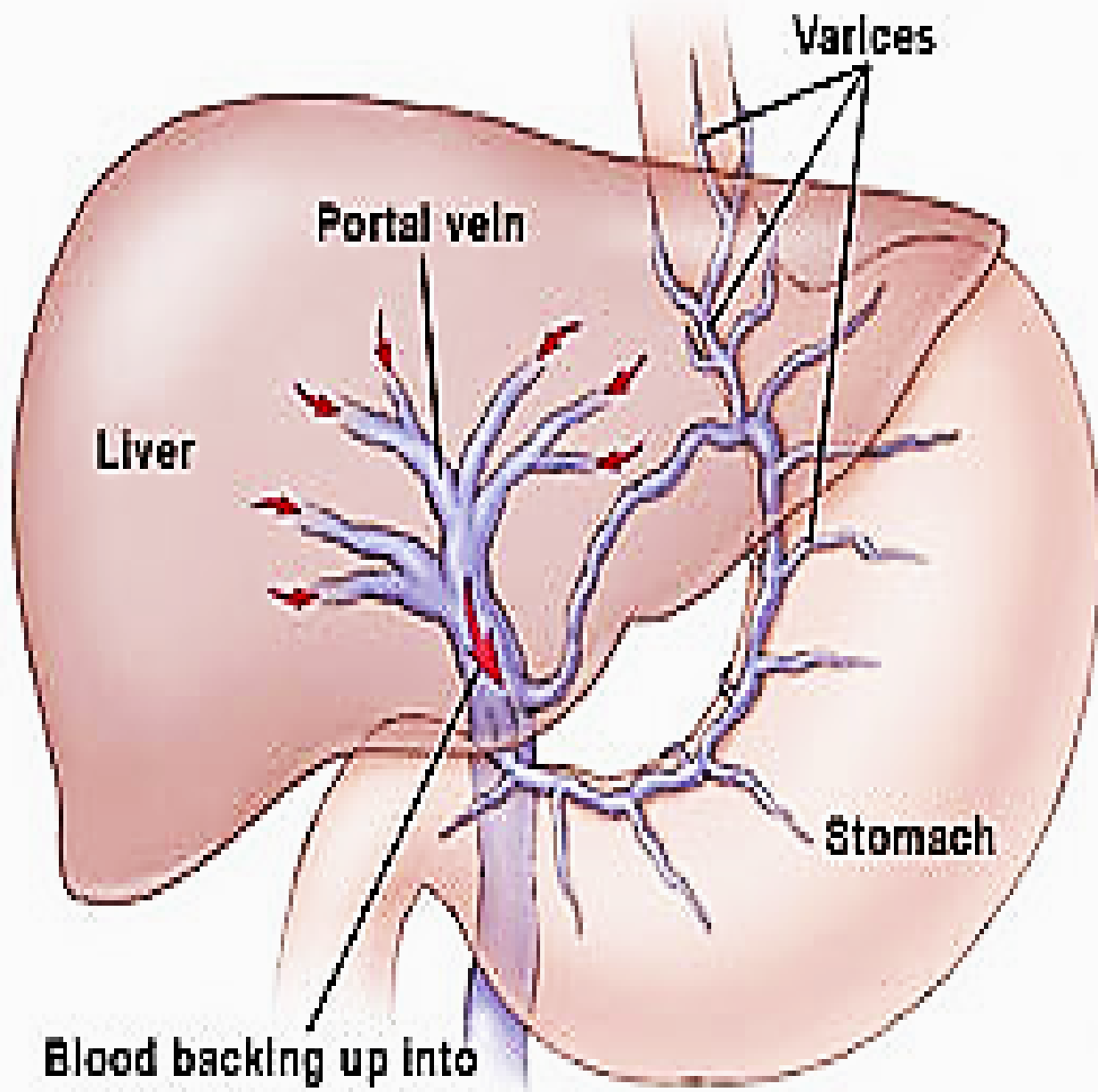
Gastric Monitor

Esophageal Pores

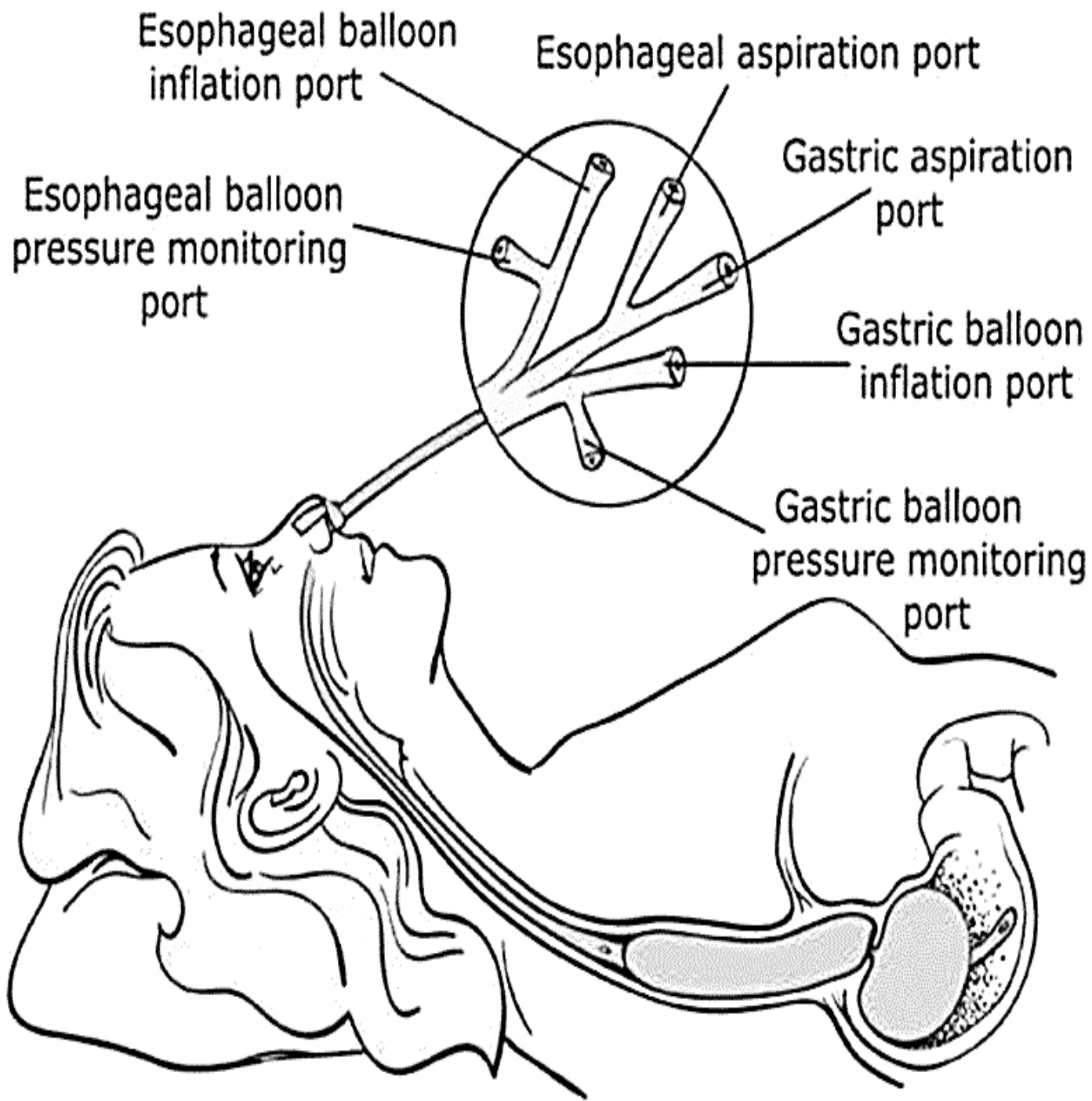
Esophageal Inflation

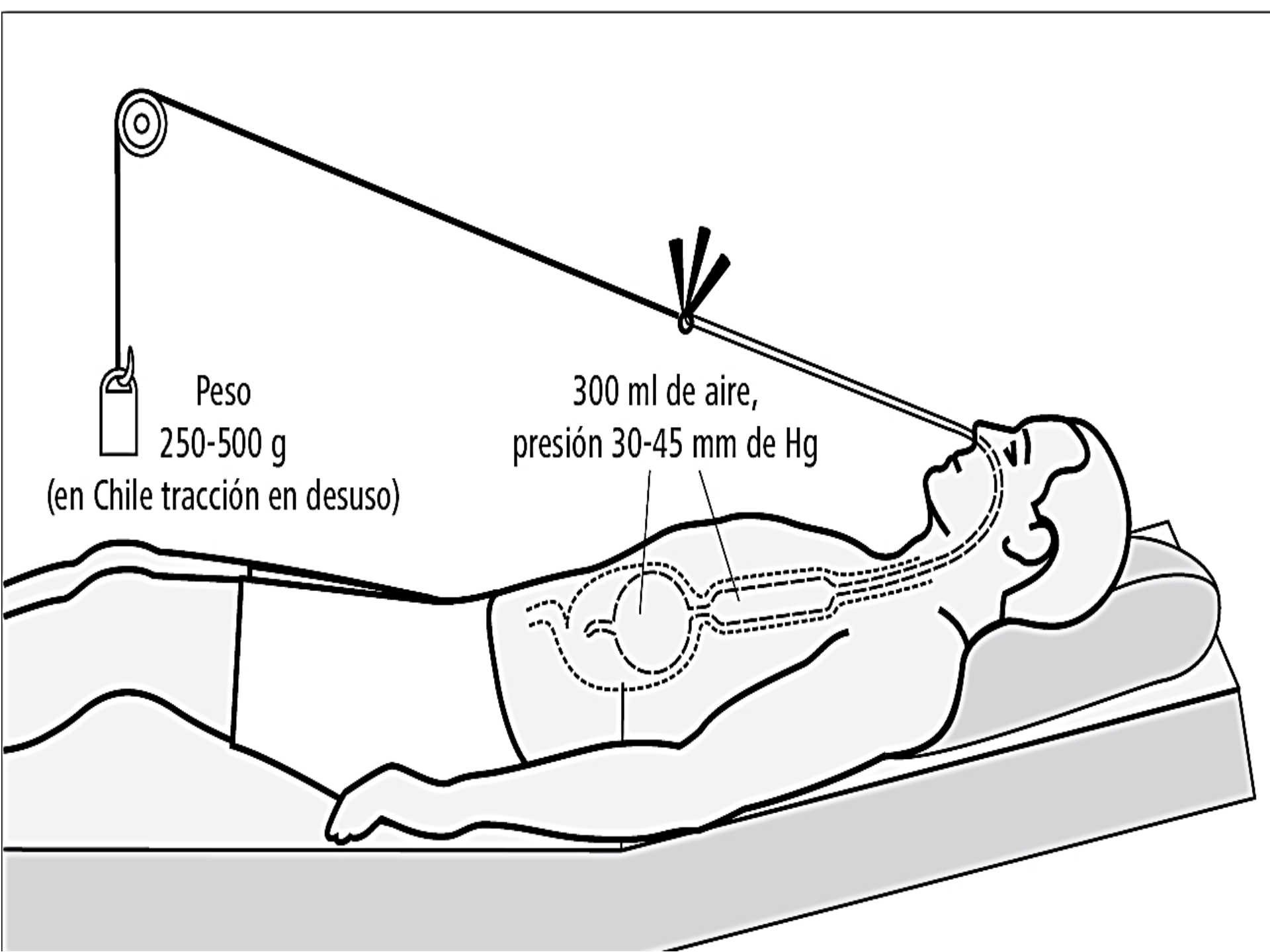
Esophageal Monitor

Sangstaken – Blackmore tube



**Blood backing up into
the portal vein leading
to varices**





Peso
250-500 g
(en Chile tracción en desuso)

300 ml de aire,
presión 30-45 mm de Hg

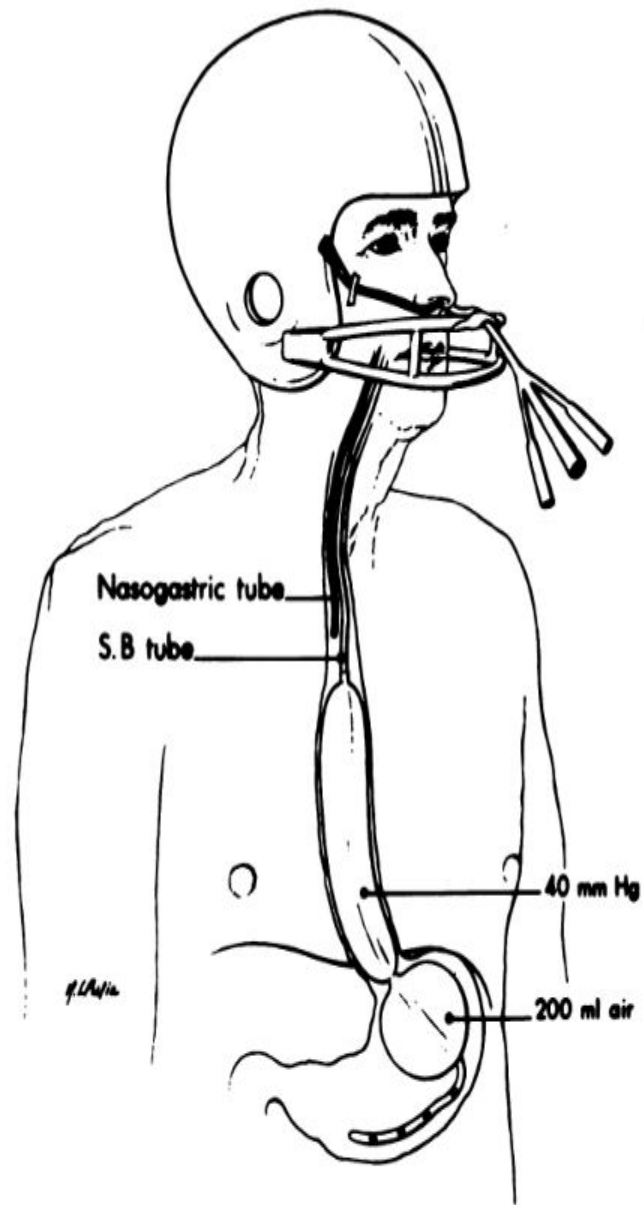
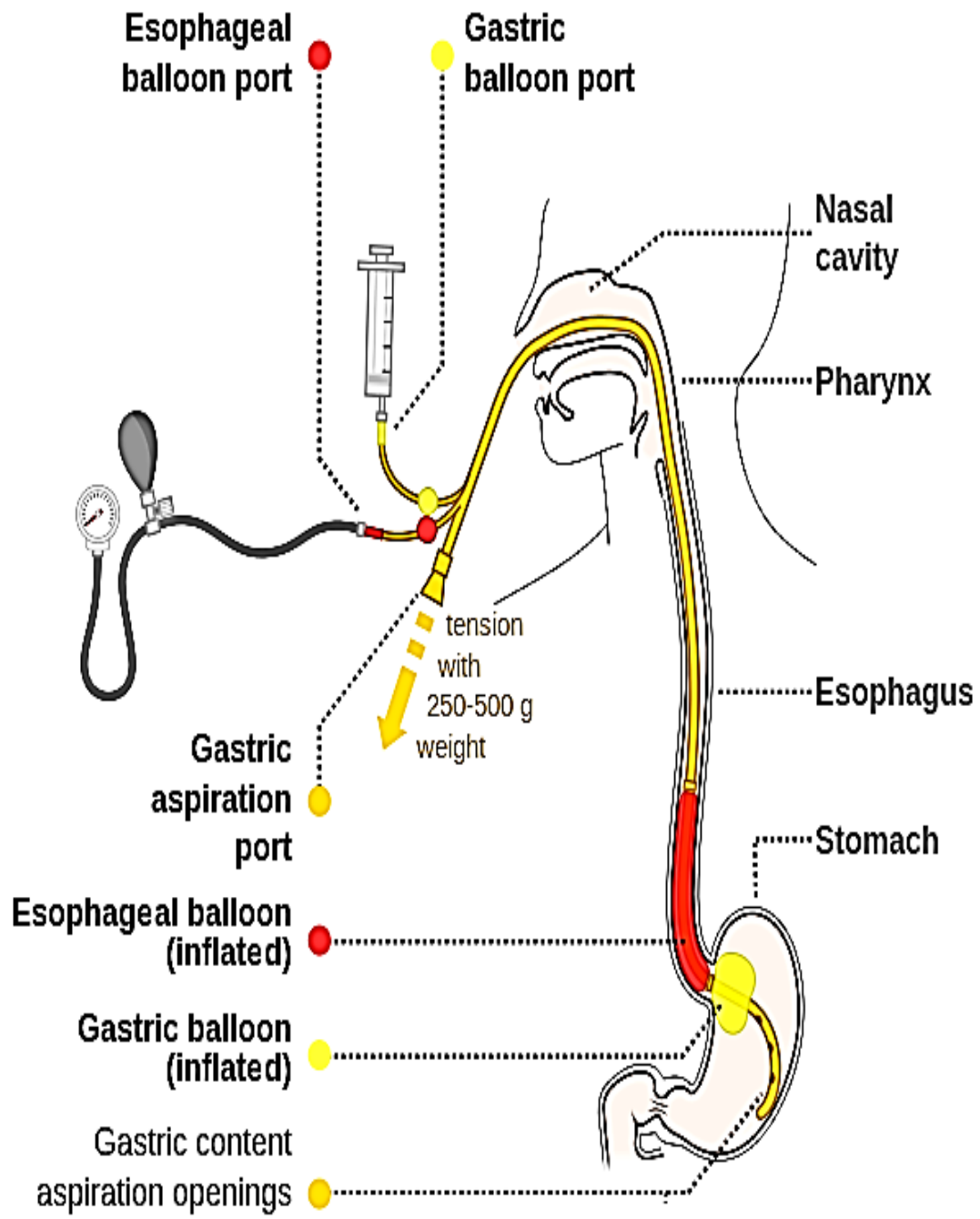
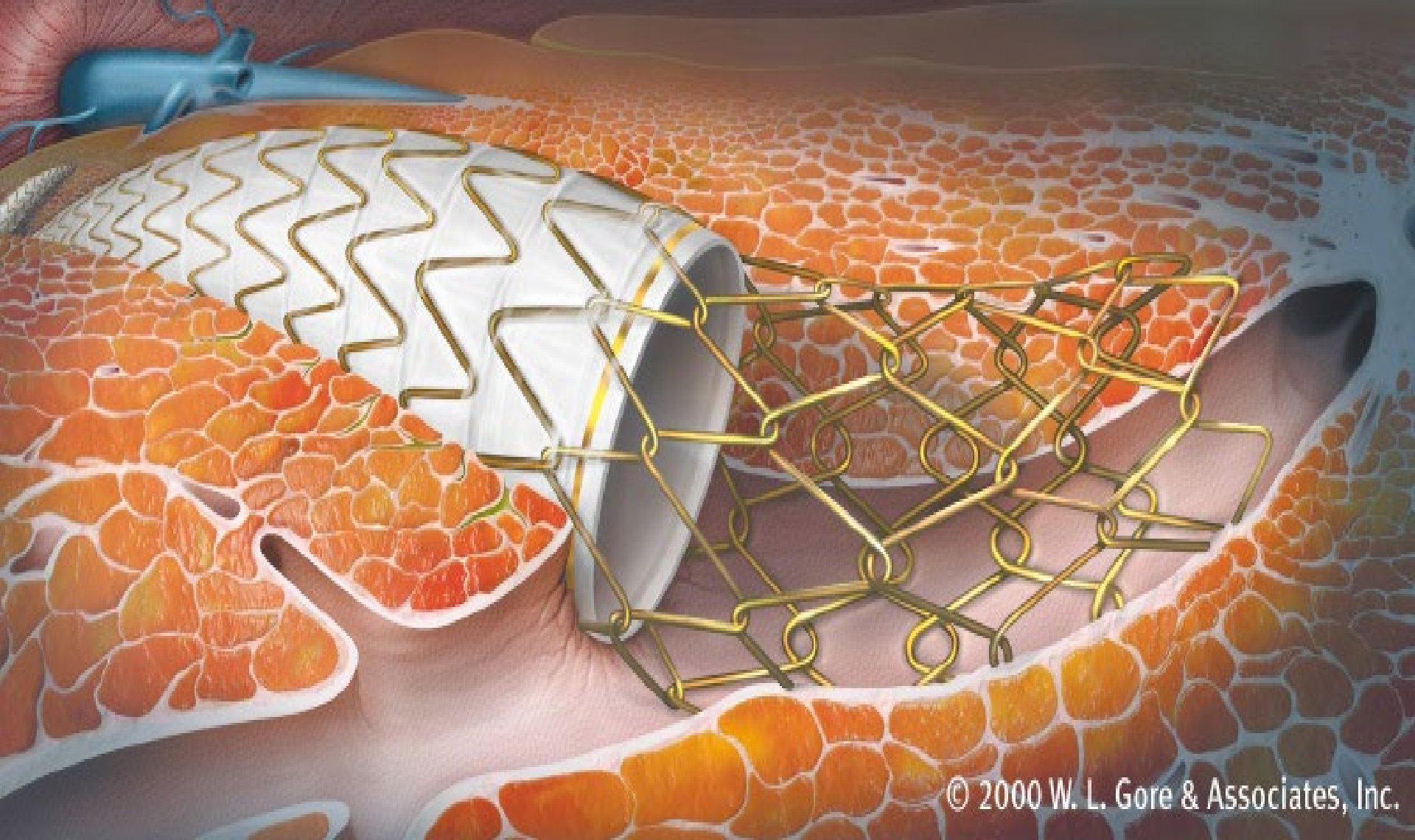
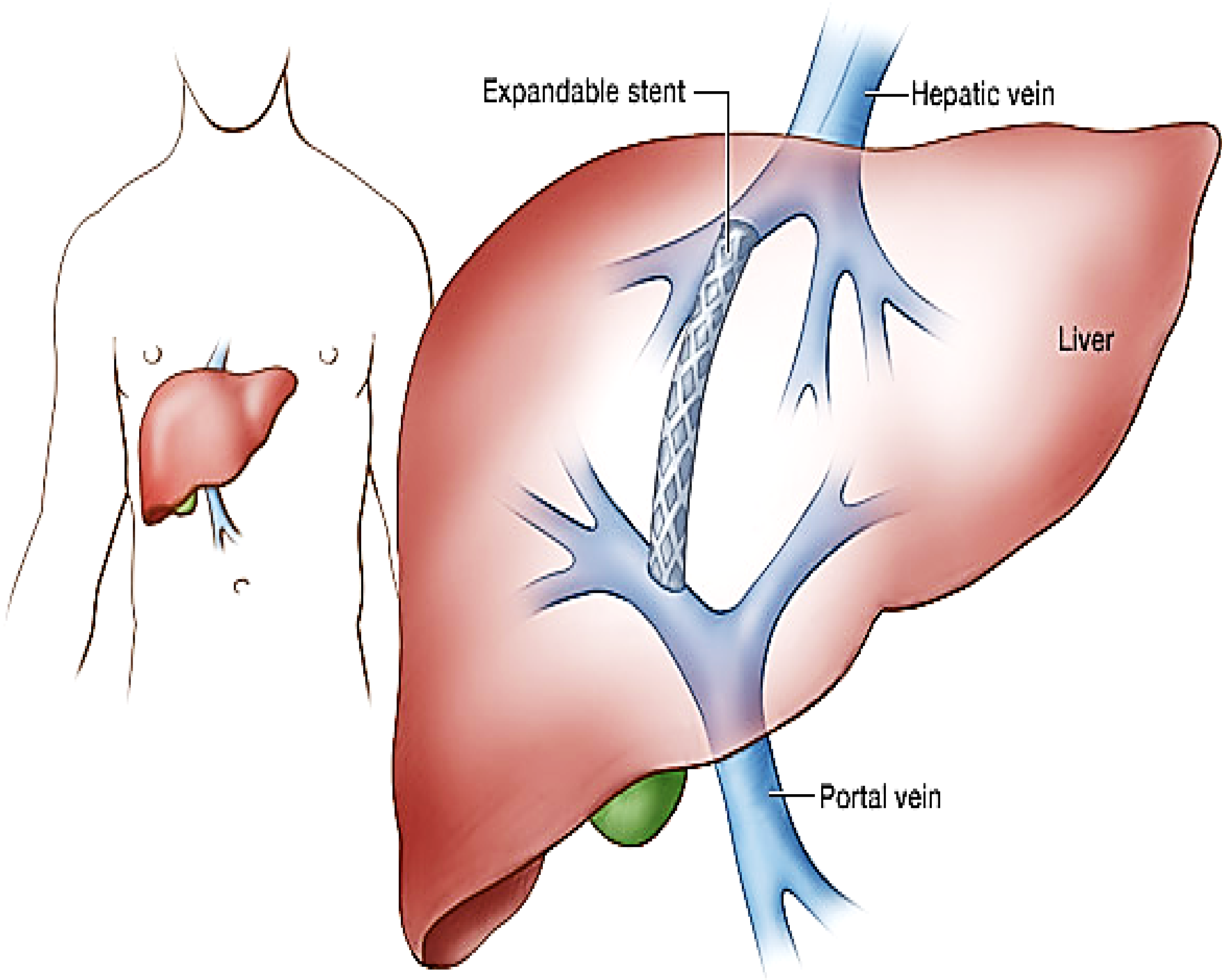


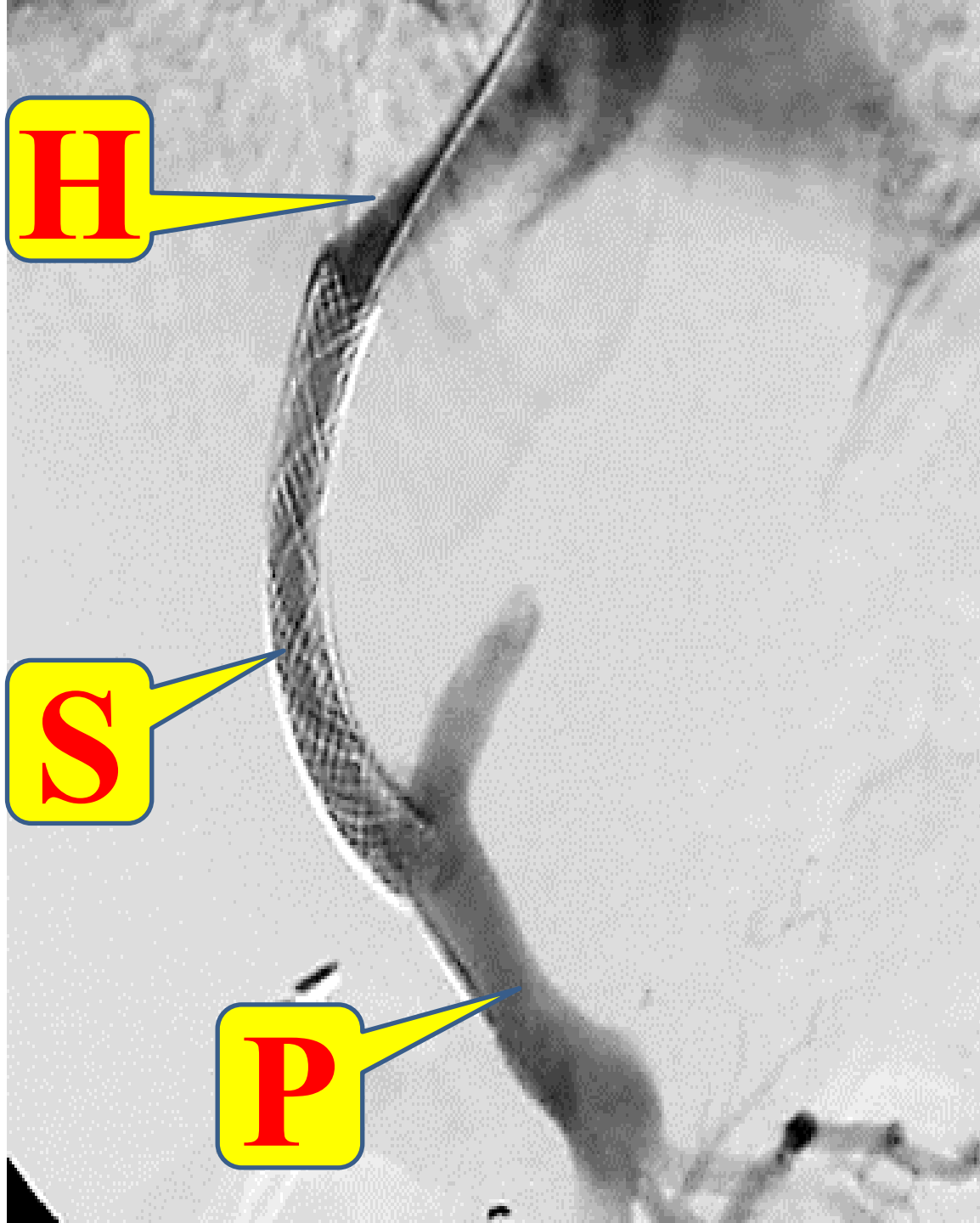
FIG. 1. The Sengstaken-Blakemore tube is in place with both balloons inflated. A nasogastric tube is placed through the contra-lateral external nares into a position just above the esophageal balloon.





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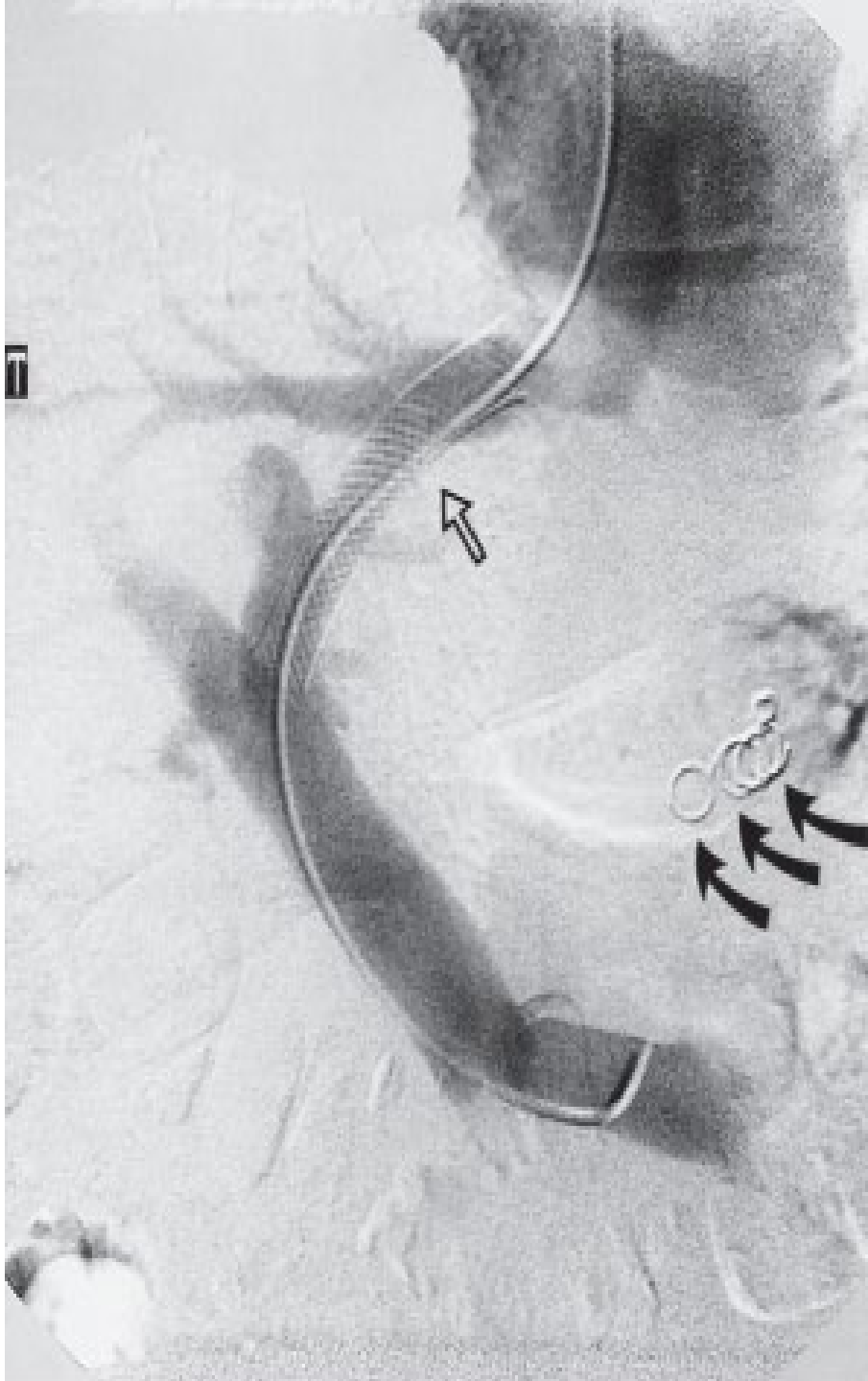




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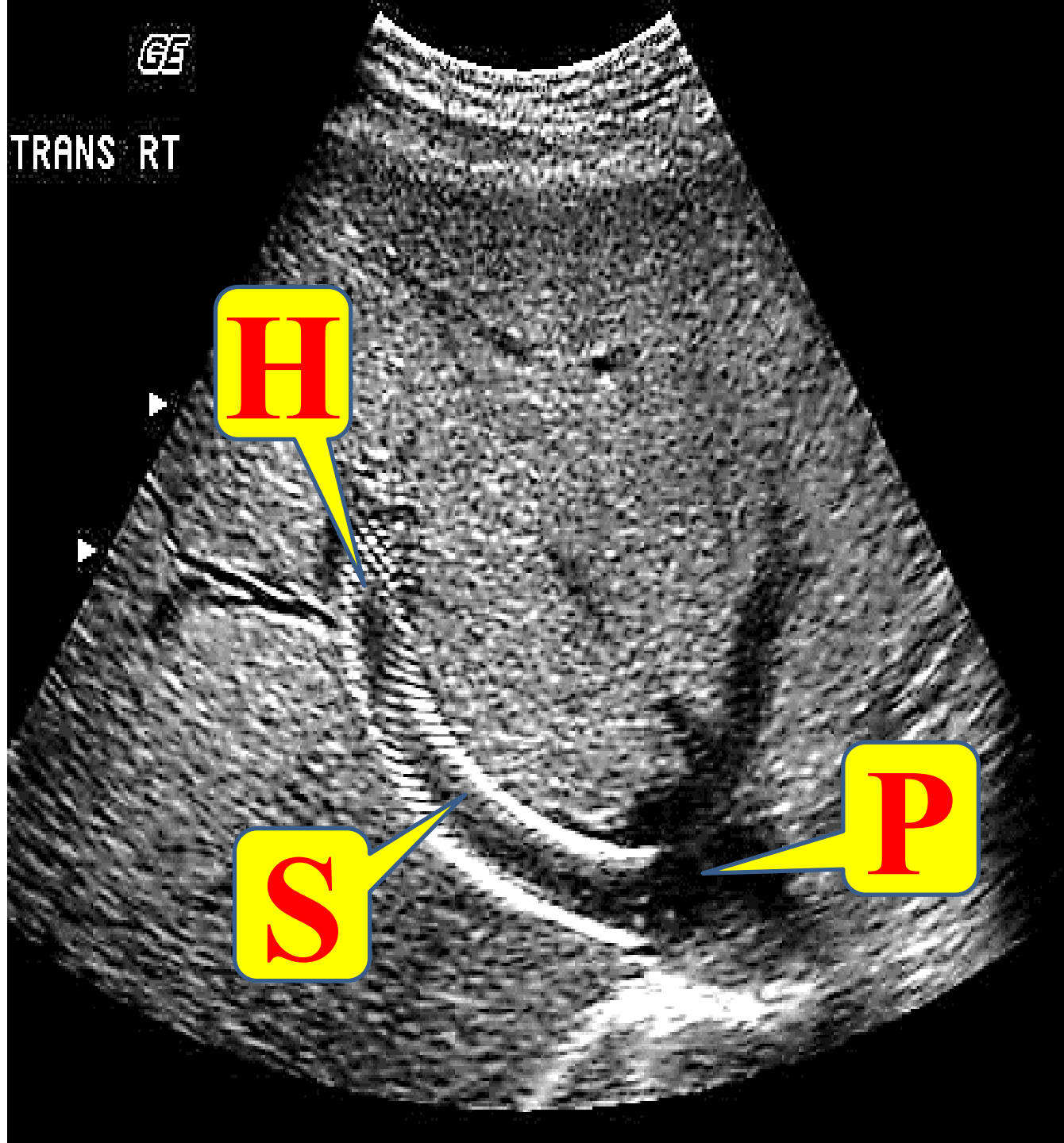
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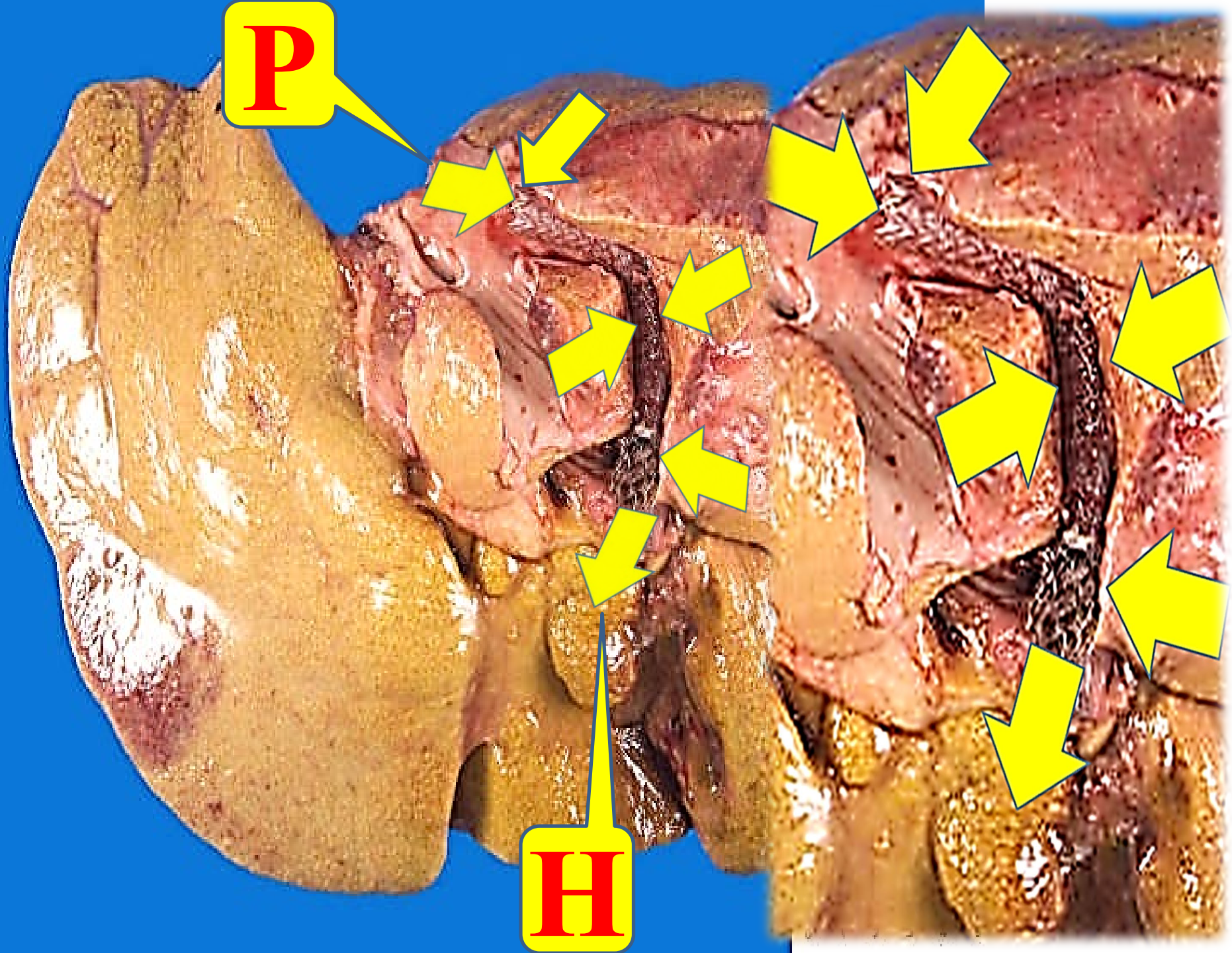
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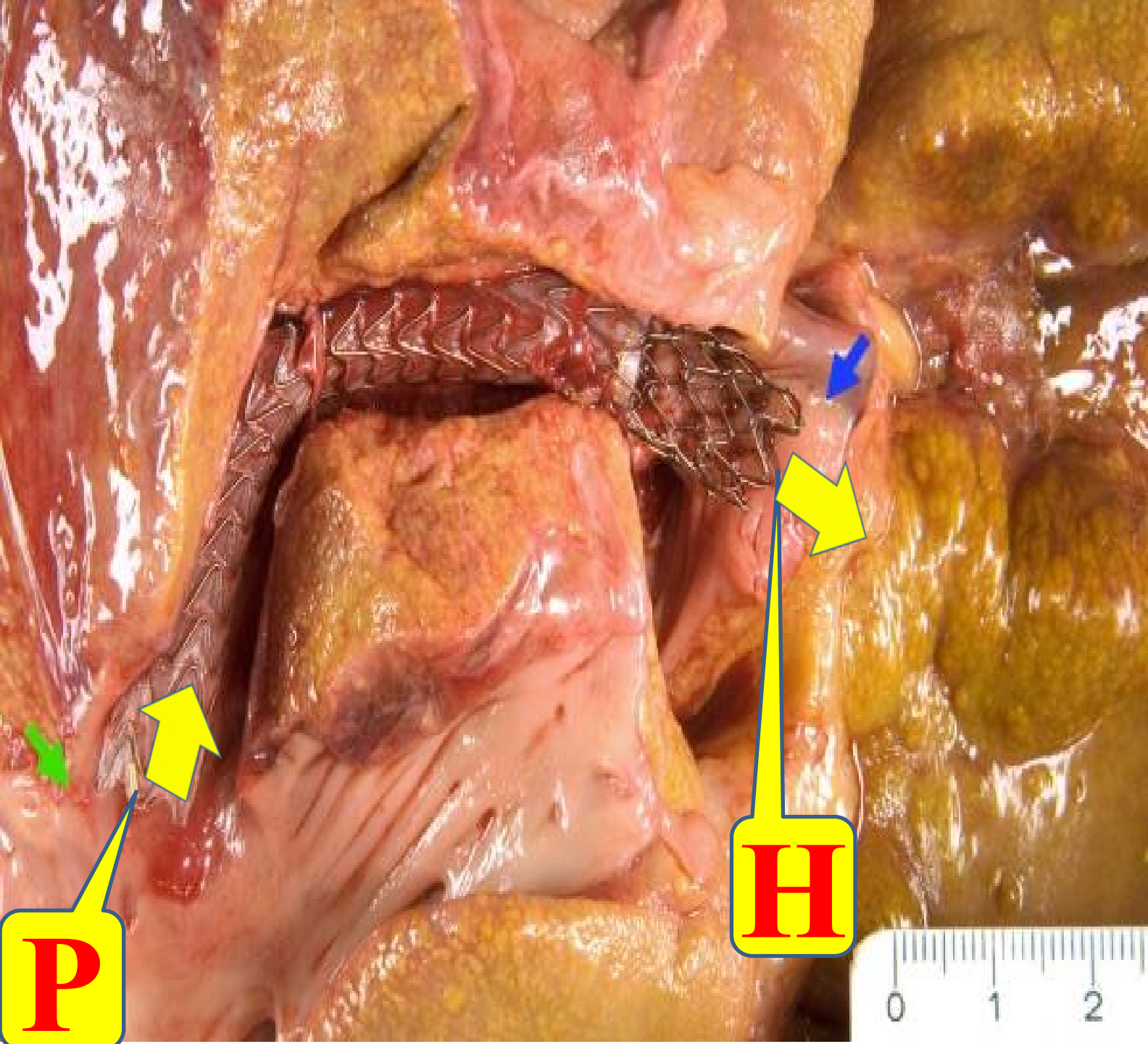
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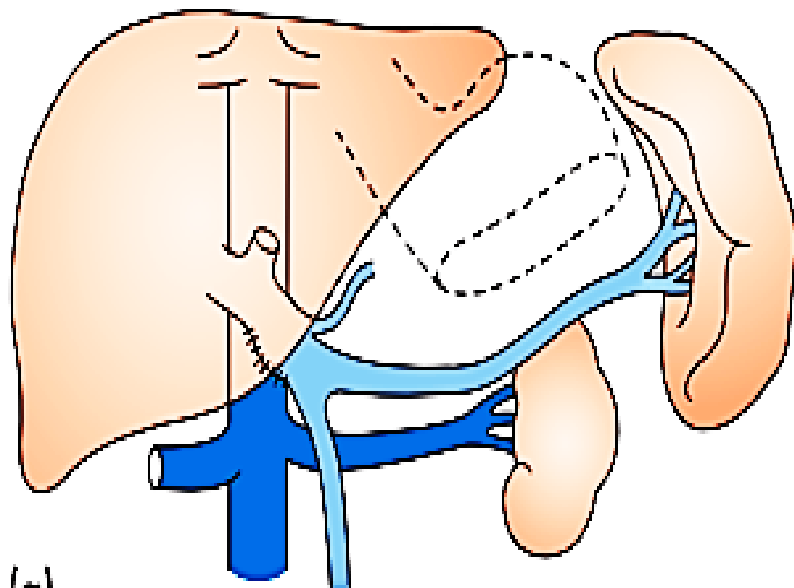
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Elective Surgery

- Porto-Systemic Shunt.
- Esophageal Transection (obsolete).
- Splenectomy and gastro-oesophageal devascularisation.
- Orthotopic liver transplantation.

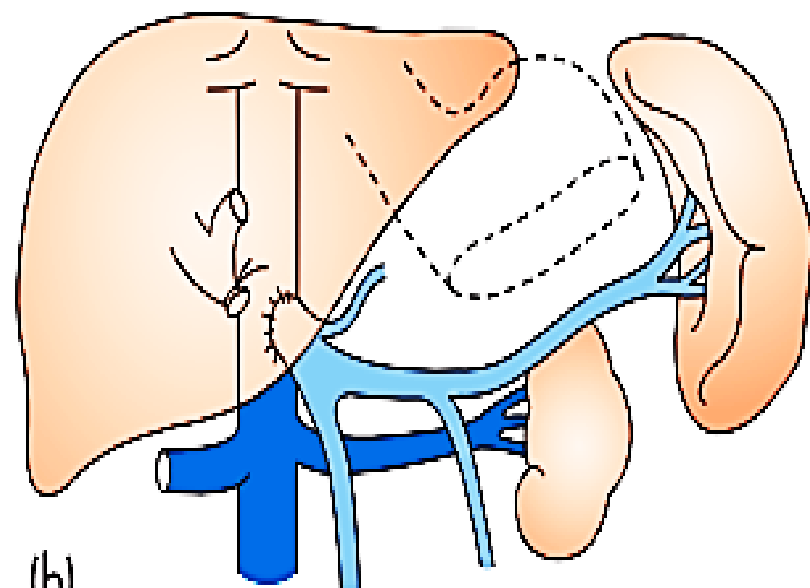
Porto-Systemic Shunt.

- Surgical shunts are an effective method of preventing rebleeding from oesophageal or gastric varices, as they reduce the pressure in the portal circulation by diverting the blood into the low-pressure systemic circulation.
- Shunts may be divided into
- selective (e.g. splenorenal) and non-selective (e.g. portocaval).



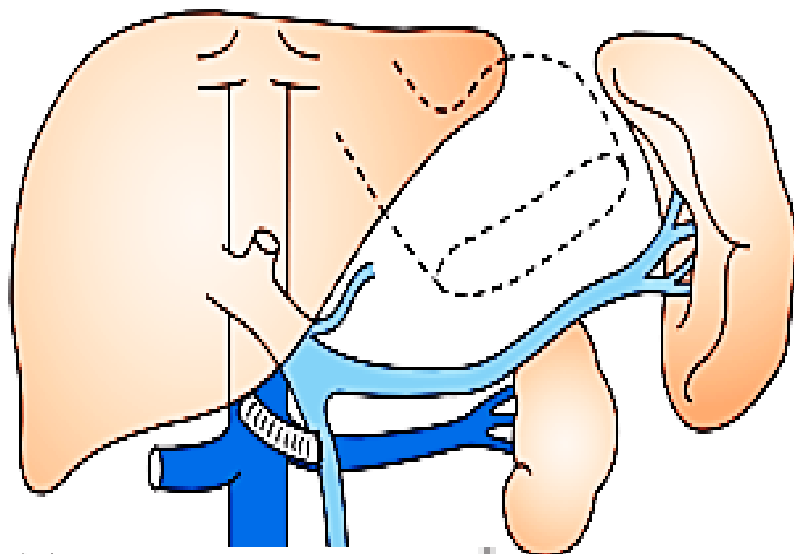
(a)

side-to-side



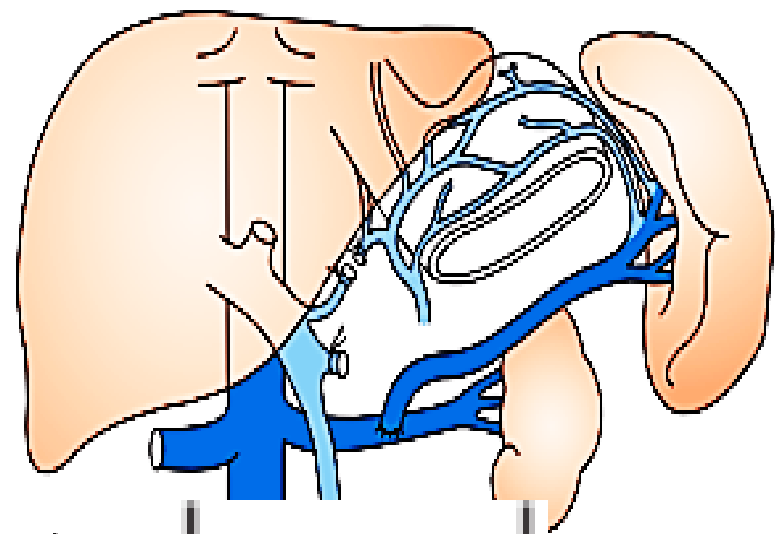
(b)

end-to-side



(c)

mesocaval

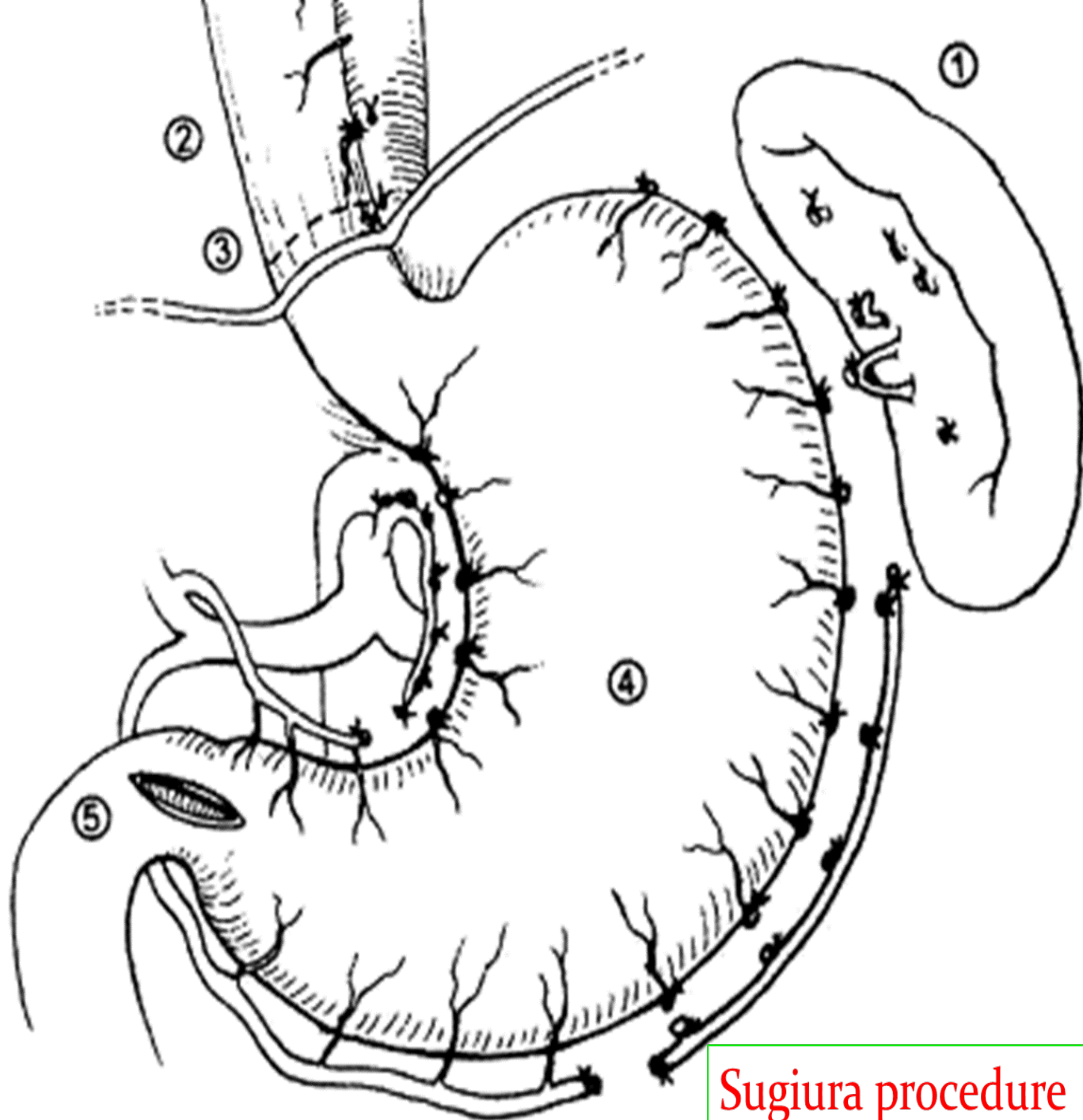


(d)

splenorenal

Splenectomy and gastro-oesophageal devascularisation.

- **Sugiura's Operation.**
- **Splenic vein thrombosis may be seen secondary to chronic pancreatitis,**
- **and portal vein thrombosis is a common late complication of**
- **liver cirrhosis.**
- **It consists of a splenectomy, devascularization of the abdominal esophagus and cardia, and a selective vagotomy with pyloroplasty**

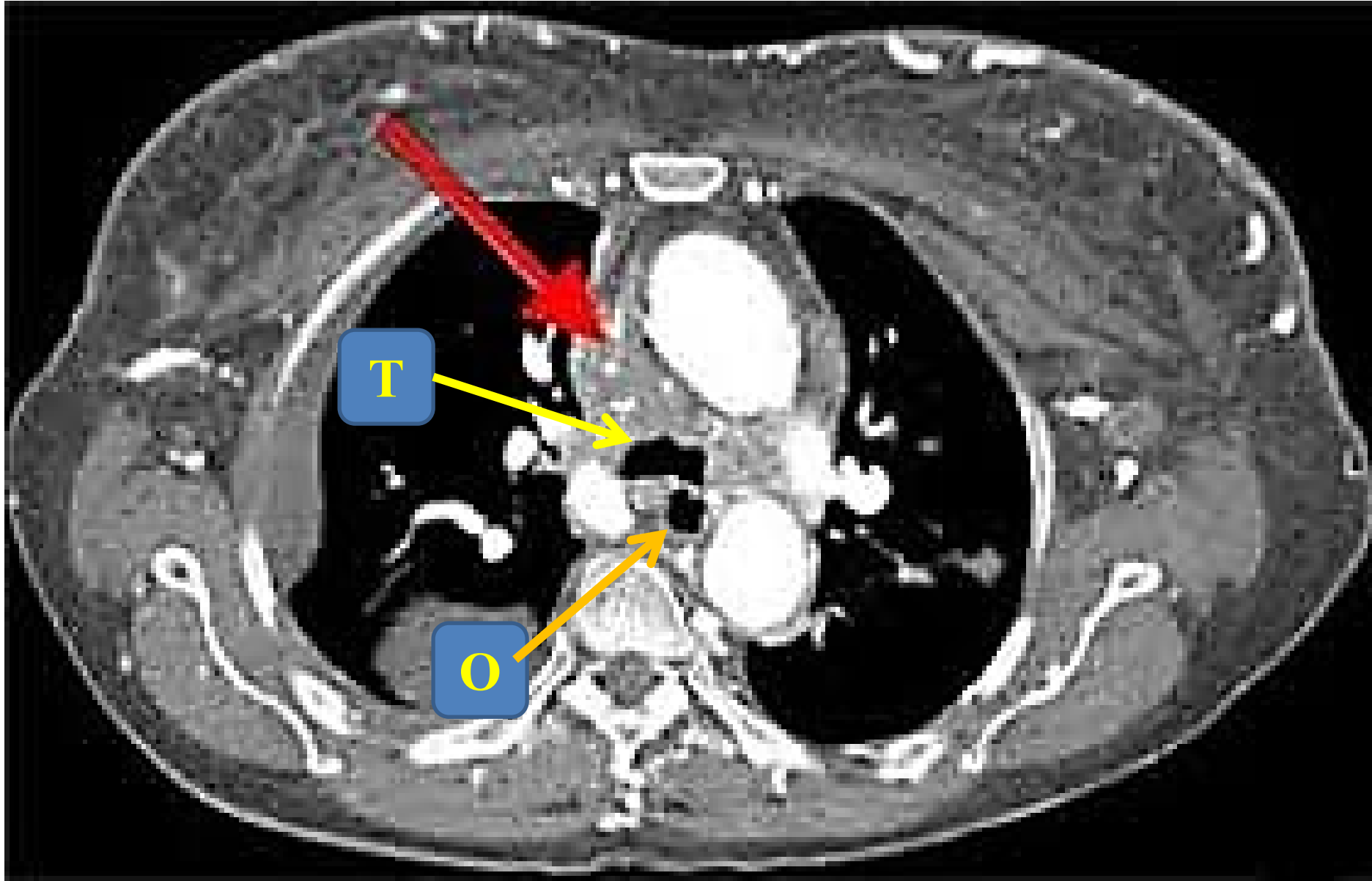


Sugiura procedure

- **Congenital abnormalities.**
- **Foreign bodies.**
- **Perforation(spontaneous Barotrauma),Pathological,Penetrating injury, Foreign body,Instrumental) (Chemical, Physical , mechanical and Ca.,.**
- **Mallory Weiss Syndrome.**
- **Corrosive Injury.**
- **Drug induced Injury.**
- **G.O.R.D.**
- **Barrett's Oesophagus.**
- **Hiatus Hernia.**
- **Neoplasm (Benign and Malignant).& post cricoid tumor.**
- **Motility disorders .**
- **Infections (candida)**
- **Crohn's disease.**
- **Plummer vinson disease (Sideropenic Dysphagea).**
- **Varicose vein.**
- **Mediastinal fibrosis.**

Mediastinal fibrosis

- This rare condition can occur alone or together with retroperitoneal fibrosis.
- The cause is unknown .
- It causes slow progressive and dense fibrosis of the mediastinum.
- Result of caval compression, dysphagia can occur.
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