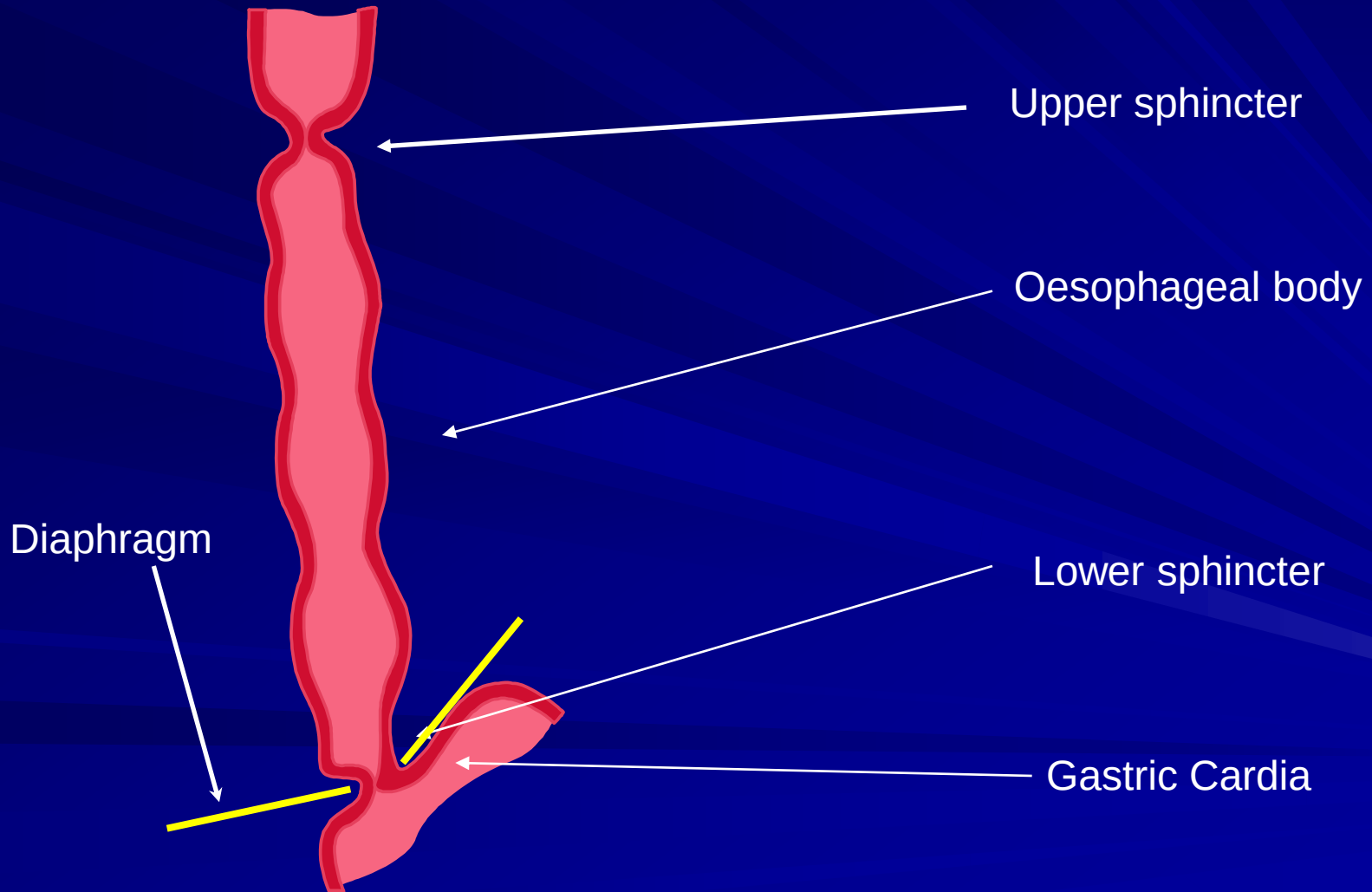


Oesophageal Disorders

Anatomy



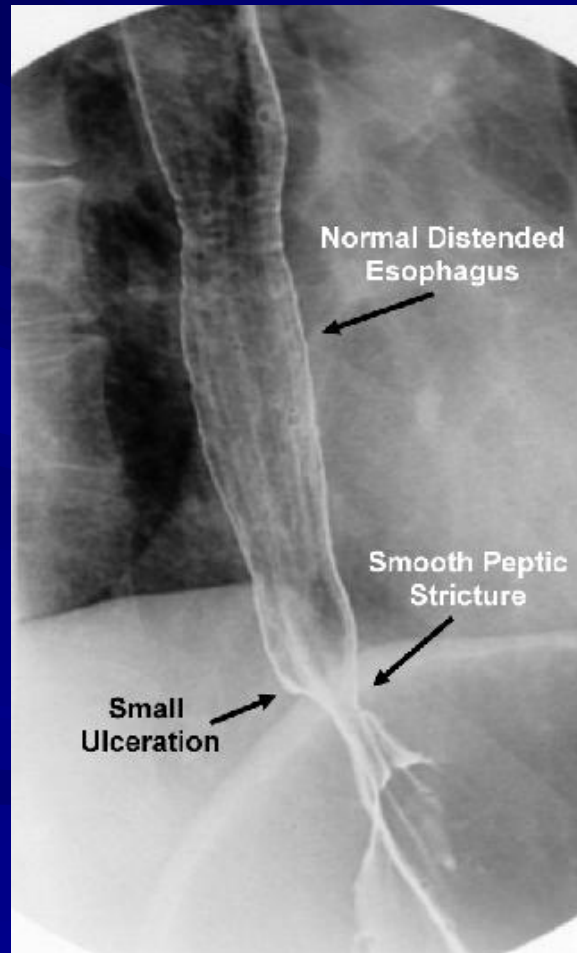
Symptoms Of Oesophageal Disorders

- Dysphagia
- Odynophagia
- Heartburn
- Atypical Chest Pain
- Regurgitation

Diagnostic Tools

- Barium Swallow
- Endoscopy
- Motility Studies
- Oesophageal pH monitoring
- Impedance

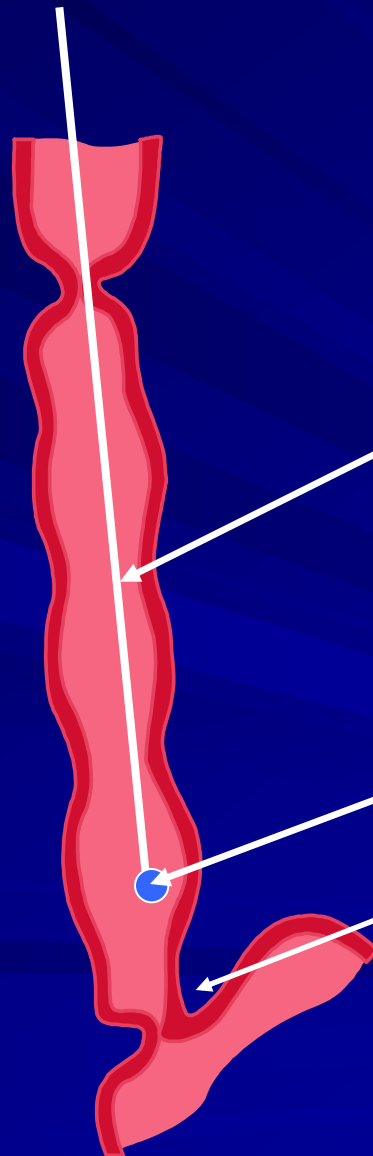
Barium Swallow



Endoscopy



24 hrs oesophageal
pH monitoring



pH probe

Sensor

Lower Oesophageal sphincter

Achalasia

- There is failure of relaxation of the lower oesophageal sphincter.
- There is **non peristaltic** contractions in the body of the oesophagus.
- There is loss of intramural inhibitory neurons (VIP, Nitric oxide)

Achalasia

- Psuedoachalasia or secondary causes of achalasia include:

Gastric carcinoma

lymphoma

chagas disease

eosinophilic gastroenteritis

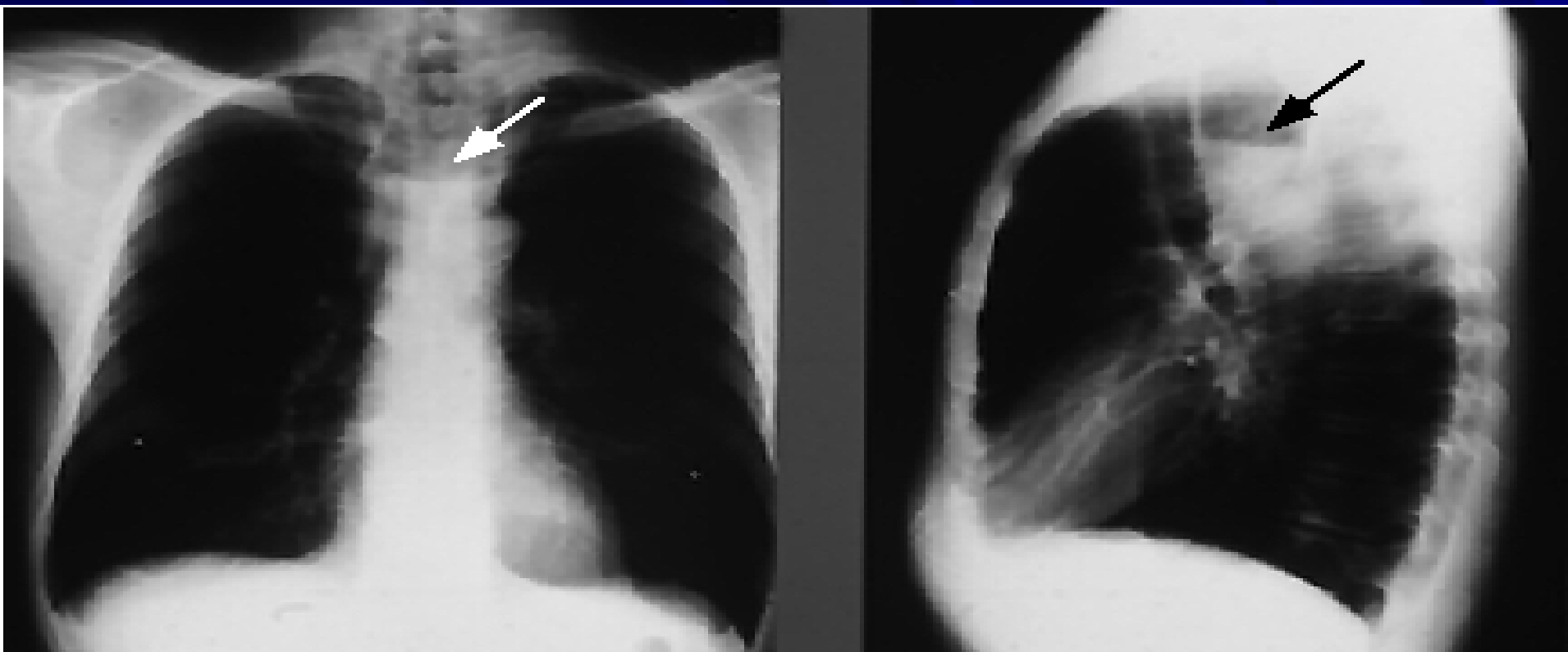
neurodegenerative disorders.

Clinical Features

- Dysphagia.
- Chest pain.
- Regurgitation.
- Difficulty in belching.

Diagnosis

- Symptoms and signs.
- CXR: absence of gastric bubble.
Air fluid level.
tubular mass in the mediastenum.
- Barium swallow:
Dilatation.
Beak-like narrowing in the lower end.
Abnormal peristalsis.



Achalasia PA and lateral chest x-rays from a patient with achalasia. The major findings are a widened mediastinum caused by the dilated esophagus, an air-fluid level in the upper chest due to retained fluid in the dilated esophagus (arrows), and absence of the gastric air bubble. Reproduced, courtesy of the Clinical Teaching Project of the American Gastroenterological Association®. This slide cannot be downloaded but may be purchased as part of a set from the AGA through Milner-Fenwick, Inc. at 1-800-432-8433.



Achalasia Barium swallow in a 62 year old man demonstrates a dilated barium-filled esophagus with a region of persistent narrowing (arrow) at the GE junction, producing the so-called birds beak appearance. Achalasia was confirmed with manometry and the patient underwent successful dilation of the esophagus. Courtesy of Jonathan Kruskal, MD.

Barium Swallow



Diagnosis

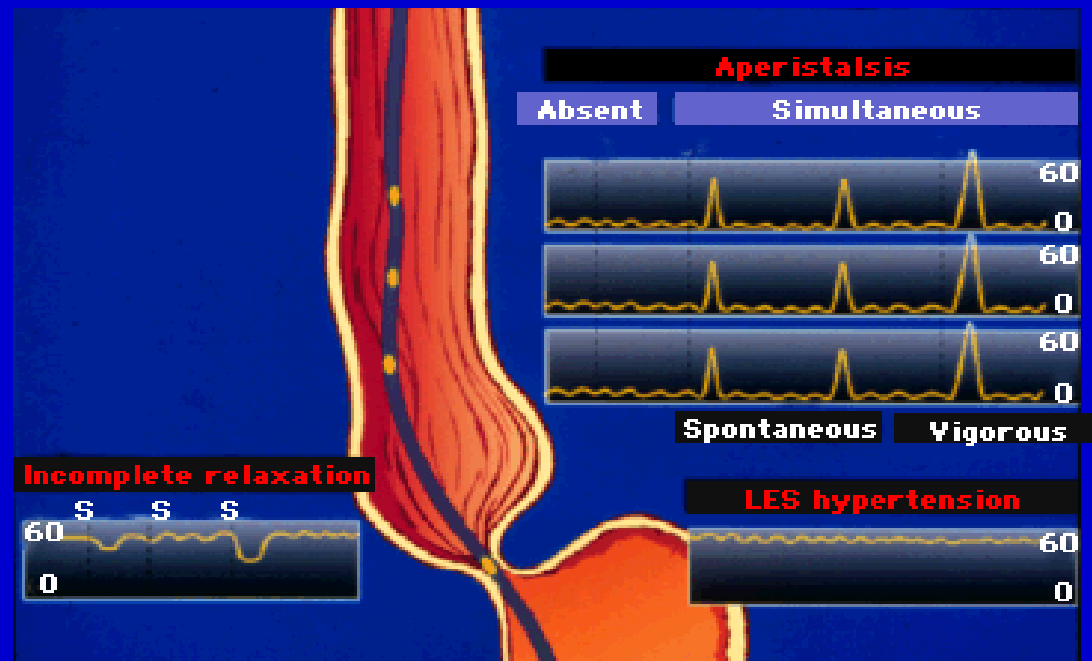
■ Manometry:

Normal or elevated LOS pressure.

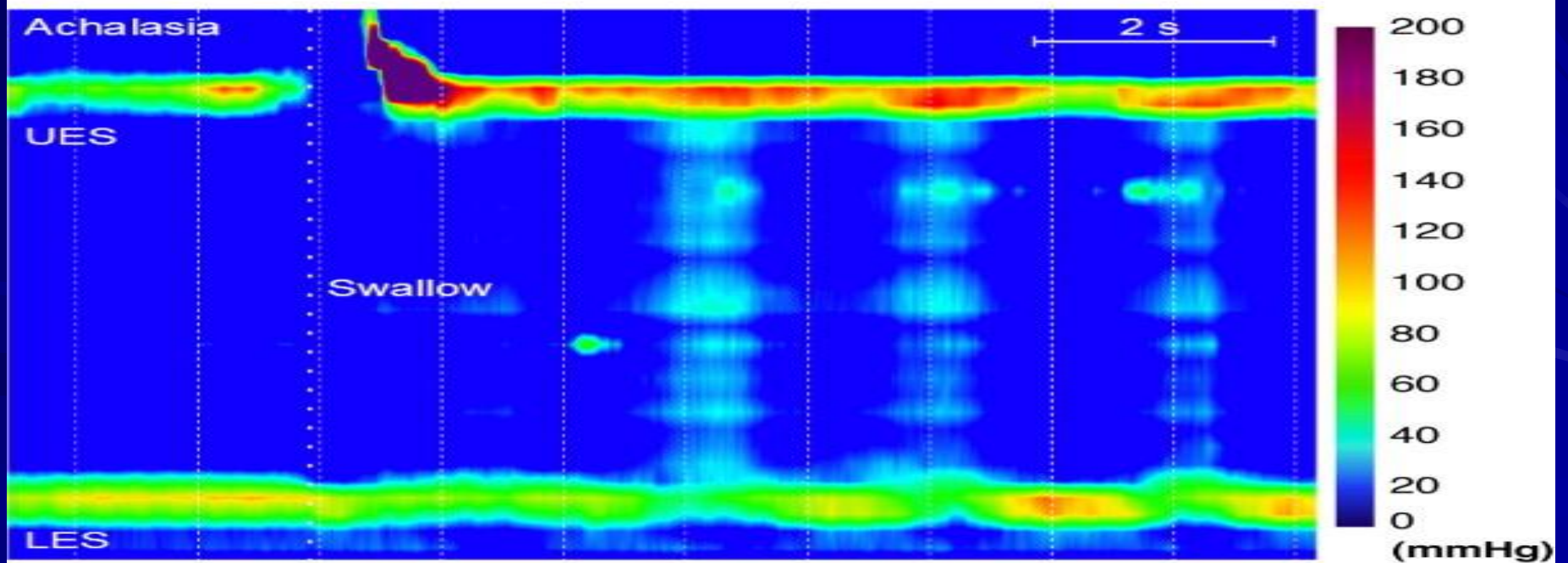
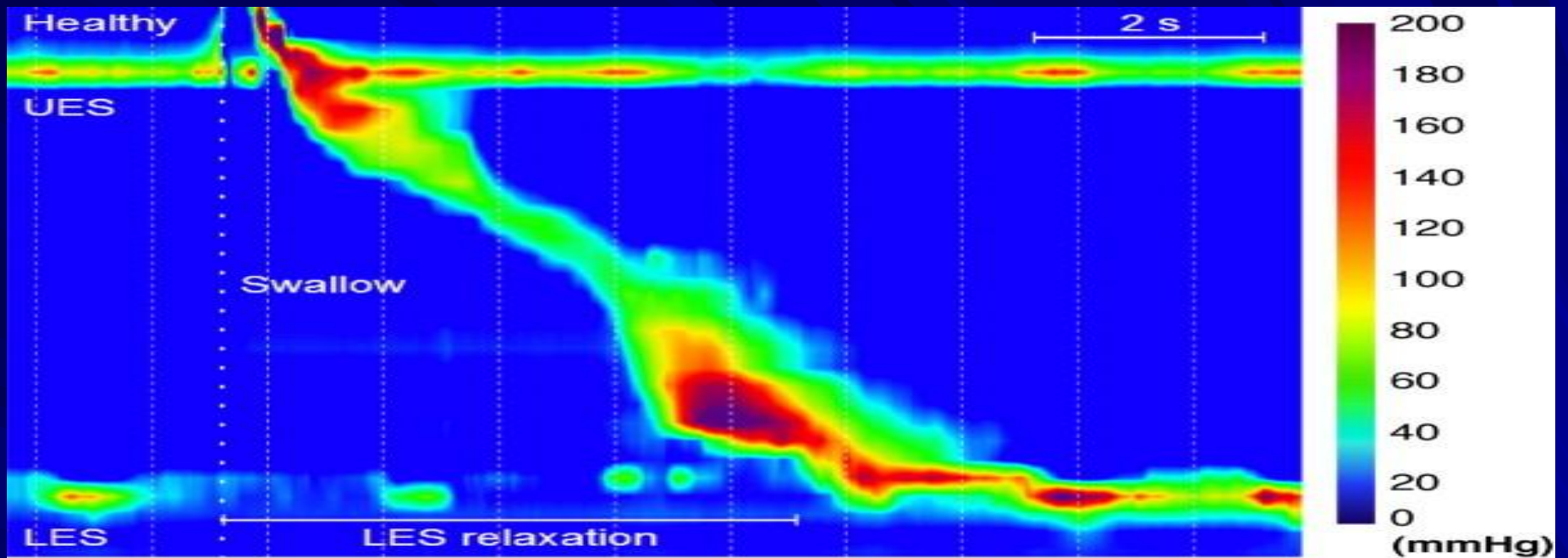
Failure of relaxation of the LOS during swallowing.

Elevated pressure in the body of oesophagus.

Waves are non peristaltic.



Manometric features of achalasia There are three characteristic manometric features of achalasia: elevated resting lower esophageal sphincter (LES) pressure (above 45 mmHg); incomplete LES relaxation after a swallow (S); aperistalsis in the smooth muscle portion of the body of the esophagus. Swallows may elicit no esophageal contraction or may be followed by simultaneous contractions. The esophagus may also contract spontaneously in a simultaneous fashion. In some cases, the simultaneous esophageal contractions have amplitudes >60 mmHg, a condition known as "vigorous" achalasia. Reprinted, courtesy of the Clinical Teaching Project of the American Gastroenterological Association®. This slide cannot be downloaded but may be purchased as part of a set from the AGA through Milner-Fenwick, Inc. at 1-800-432-8433.



Endoscopy

- Dilated lumen contains food and fluids
- Narrow sphincter with resistance to the passage of the endoscope.
- Important to exclude secondary causes.

Age :
Birth :
/ 2006
: 33

an :
t :

Treatment

- Soft food, sedatives and anticholinergic drugs.
- Nitrate and calcium channel blockers.
- Botulinum toxins injection.
- Balloon dilatation.
- Hellers extra mucosal myotomy.

Hypertensive LES

- Increase resting pressure >40 mmHg of LES
- Normal peristalsis and normal LES relaxation with wet swallows

Diffuse oesophageal spasm

- Simultaneous pressure wave in the smooth muscle > 30 % swallows
- Periods of normal peristalsis
- Prolonged duration of some pressure wave

Nutcracker oesophagus

- Mean amplitude peristaltic pressures by wet swallows >180 mmHg

Other disorders

- CERST: atrophy of smooth muscle
- Eosinophilic esophagitis: Rx with steroids inhaled (swallowed)

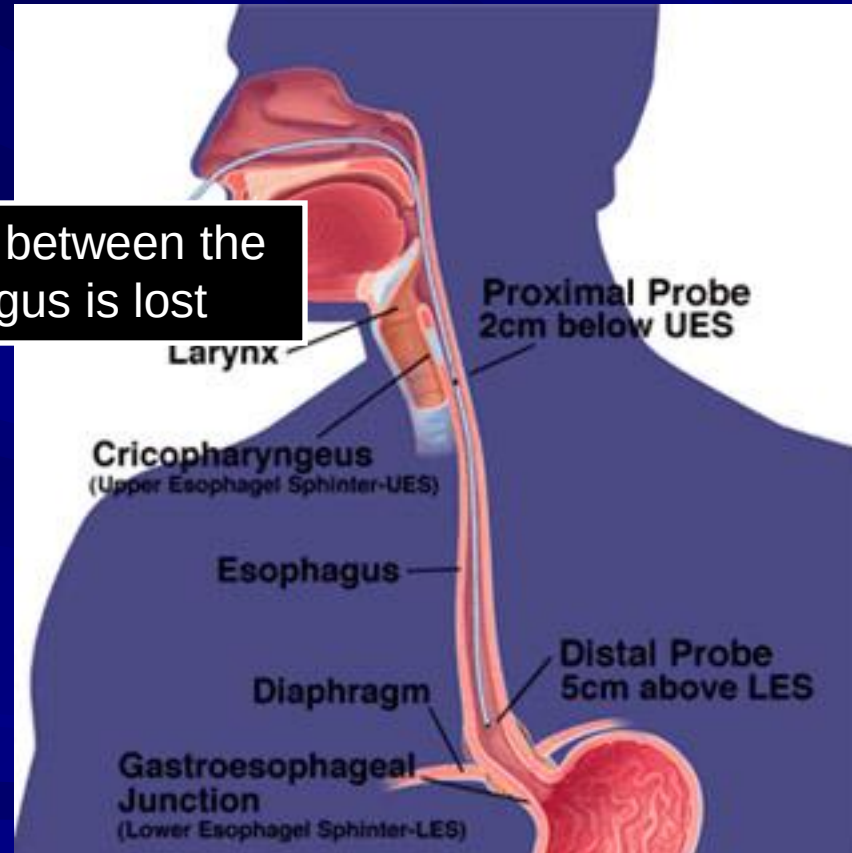


Gastro-oesophageal Reflux disease

- The flow back of the gastric content to the oesophagus at a rate more than the physiological one .
- High prevalence in the general population.
- There is failure of anti-reflux mechanism.

Anti Reflux Mechanism

The gradient pressure between the stomach and oesophagus is lost



Causes OF Reflux

- Decrease in LOS tone, and or peristalsis:
 - Muscle weakness.
 - Scleroderma.
 - Pregnancy.
 - Smoking.
 - Anticholenergics
 - Nitrate, aminophylins, B agonists
 - Surgical cause.
 - Oesophagitis

Causes OF Reflux

- Increased Gastric Volume.
Stasis
Pyloric stenosis.
- Hiatus Hernia.
- Increase gastric pressure (preg,Asci)
- Incompetence of the crural muscles.

Patho-Physiology

- Percent of time oesophageal $\text{pH} < 4$ correlate with degree of damage.
- Oesphagitis is the result of persistent reflux which can be mild to sever (ulceration).
- Fibrosis and stricture can result from server reflux.

Clinical Features

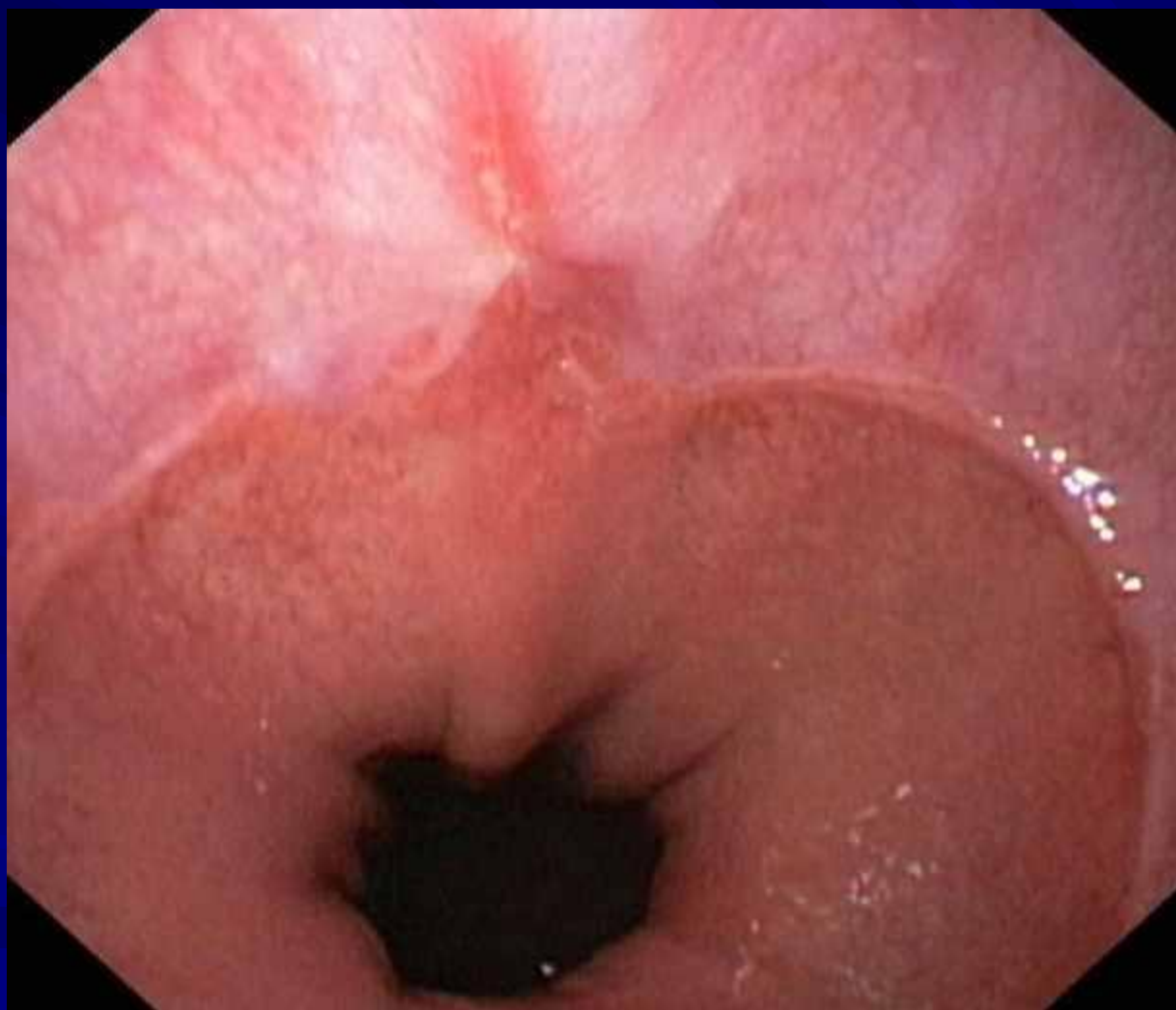
- Asymptomatic.
- **Regurgitation.**
- **Heart burn.**
- Chest pain.
- Dysphagia
- Hoarseness, cough, Aspiration pneumonia, asthma.

Diagnosis

- Barium Swallow.
- Endoscopy.
- 24hrs ph monitoring.
- Bernstein test.
- Laryngoscopy.
- High resolution Manometry & Impedence.

Treatment

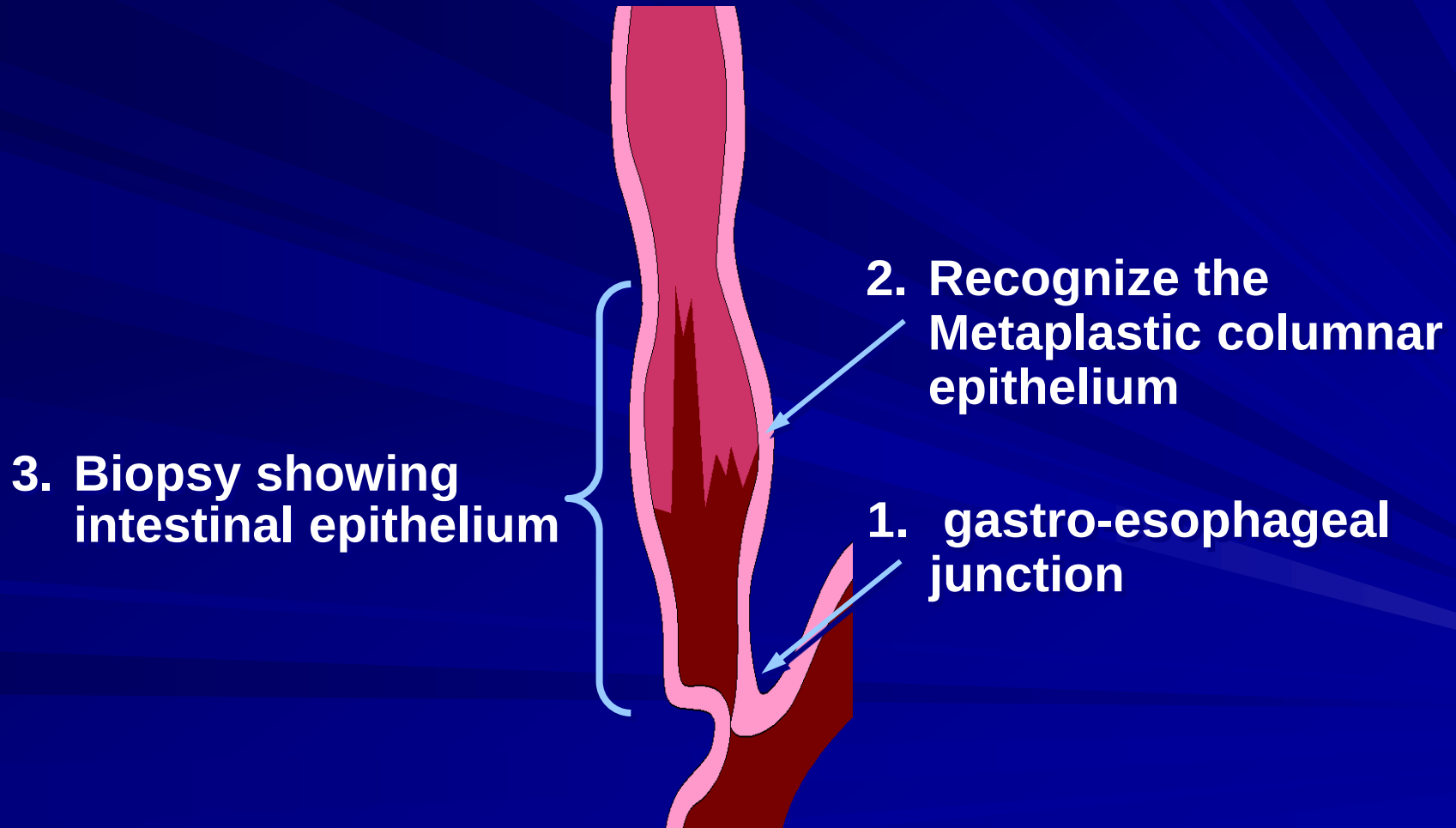
- Life style adjustment.
- H2 receptors blockers
- PPI.
- Fundoplication.



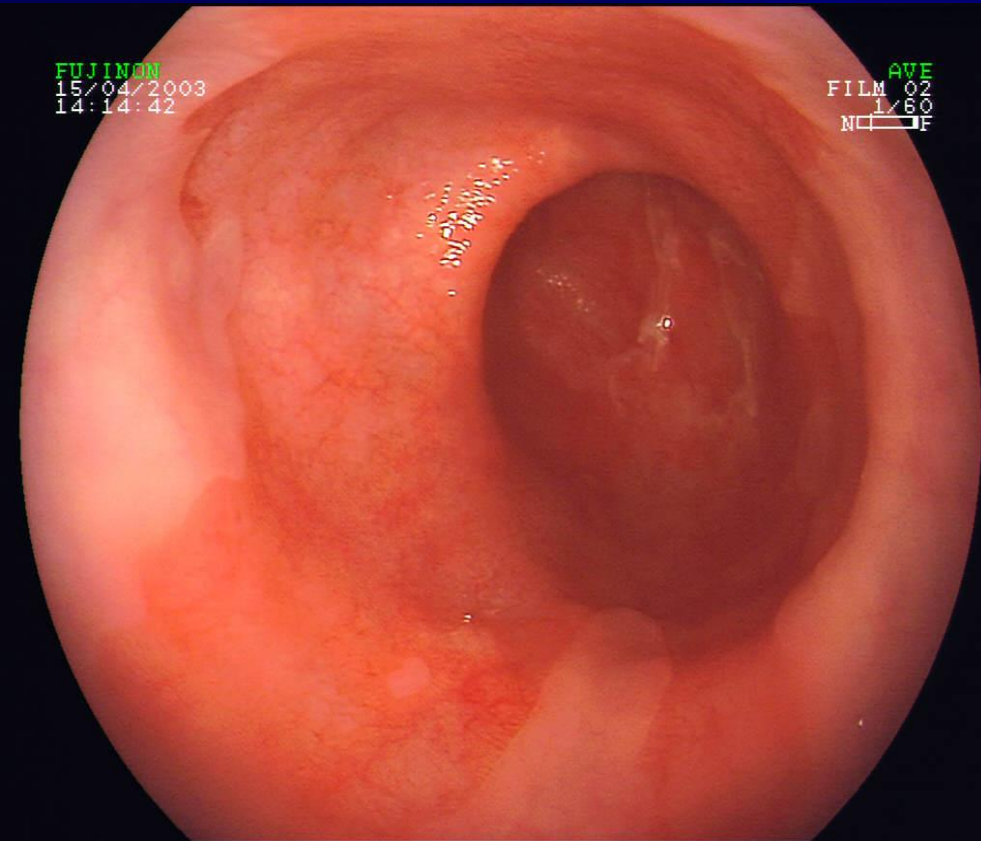
Barrett's Oesophagus

- As a result of long standing reflux.
- There is transformation of normal squamous to columnar type epithelium in the lower part of oesophagus.
- There is increased risk of adenocarcinoma which is 30-125 times than the general population.

Diagnosis



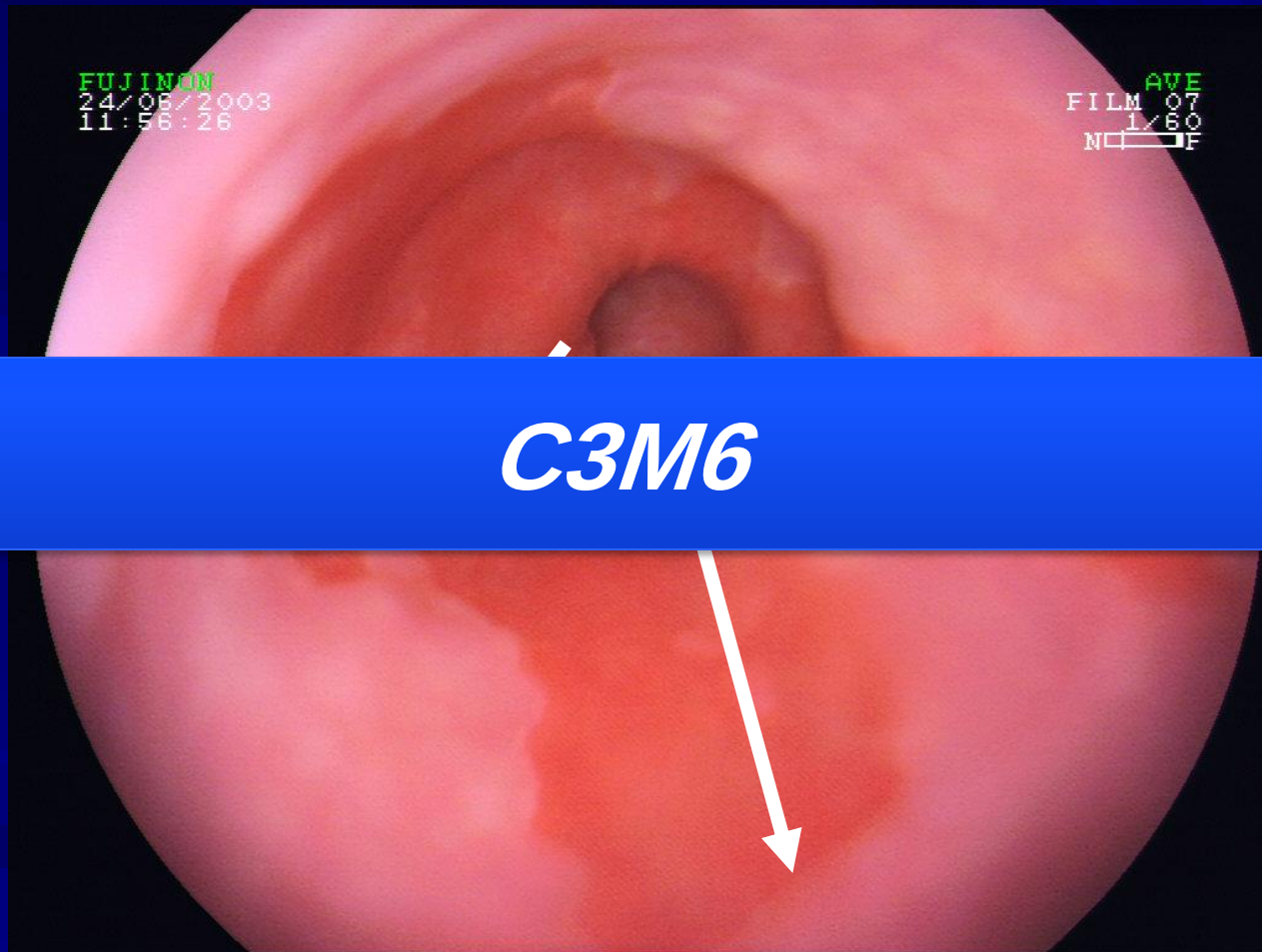
Gastro-Esophageal Junction and Barrett's Esophagus



Normal Gastro-oesophageal Junction



Prague Classification

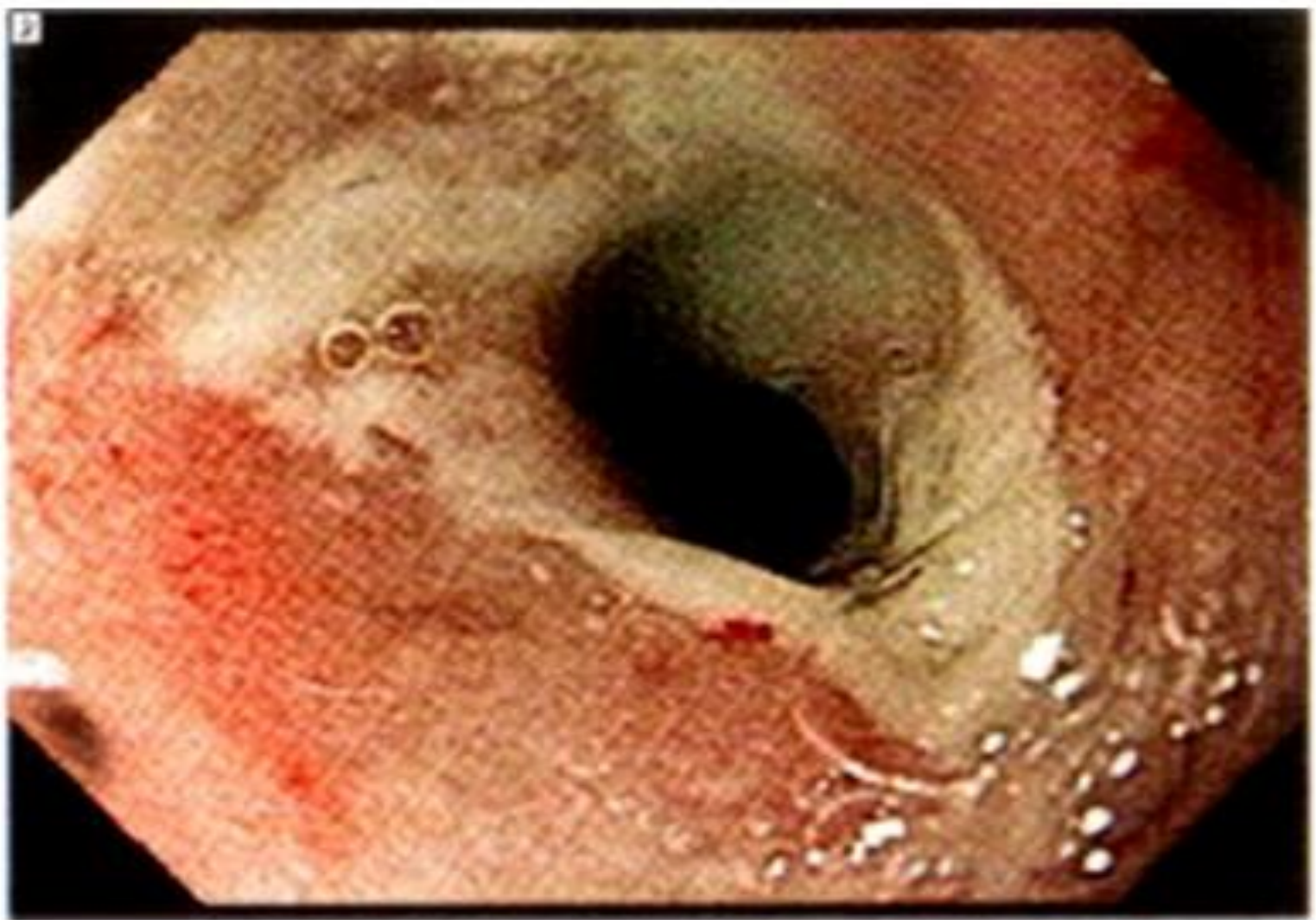


Treatment

- Treat GORD
- Surveillance for dysplasia
- Endoscopic therapy for dysplasia
- Surgery

Corrosive oesophagitis

- Caused by ingestion of strong alkali or acid.
- May cause severe ulceration and end up in fibrosis and stricture formation.



Zinker Diverticula

- Occurs in the posterior hypopharyngeal wall.
- Halitosis and food regurgitation
- Cricopharyngeal myotomy

Oesophageal Webs

- Congenital or inflammatory constrictions usually in the hypopharynx .
- May cause dysphagia.
- May be associated with Iron deficiency anemia.
- Treatment by dilatation.

Schatzki Ring

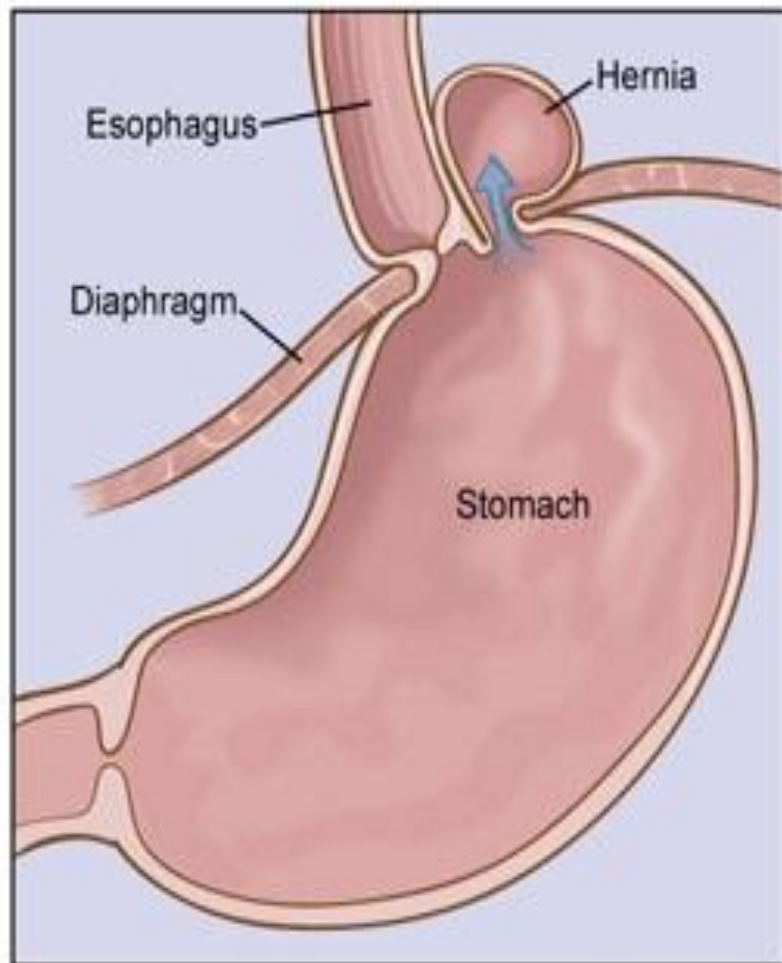
- Thin constriction at the Squamo-columinar junction.
- Common cause for dysphagia and underlies food bolus obstruction.
- Treated by dilatation.



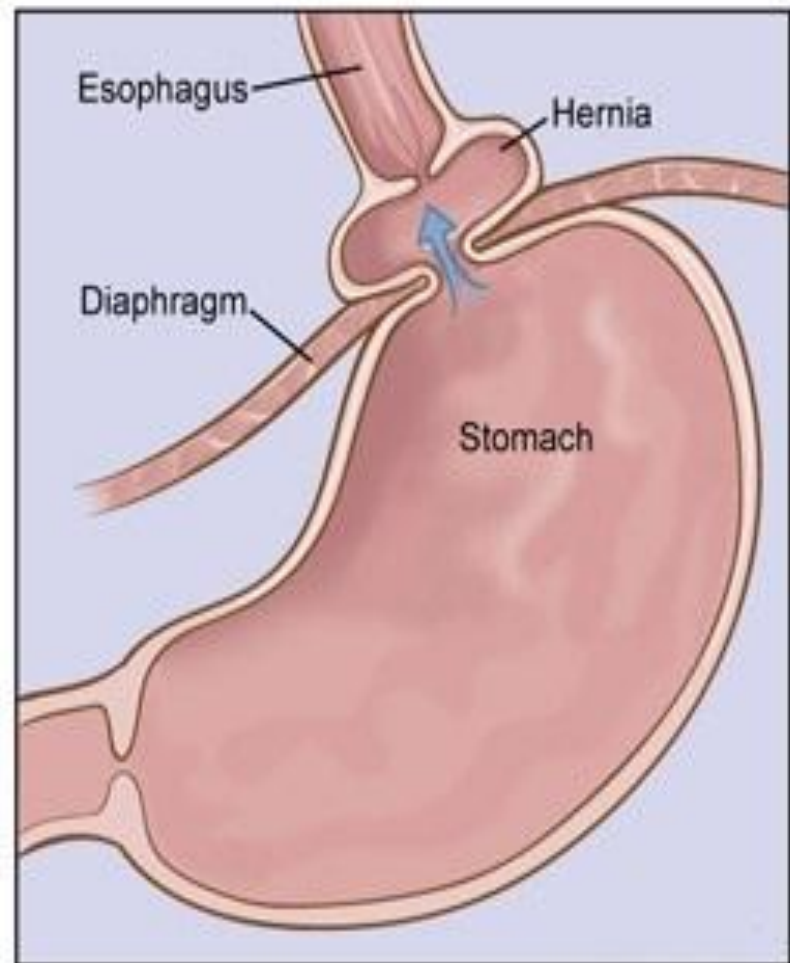
Hiatus Hernia

- Sliding : the gastro-oesophageal junction and part of the fundus lies in the thoracic cavity.
- May contribute to GORD
- Para-Oesophageal hernia: part of the stomach is herniated beside the G/O junction which is normally located.
- May incarcerate ulcerate or cause dysphagia.

Paraesophageal Hernia



Sliding Hernia



Mallory-Weiss Syndrome

- Usually preceded by vomiting and retching.
- Tear at the gastro-oesophageal junction.
- Patients presents with upper GI bleed
- Most cases resolves spontaneously.