

# Pathology of the Gastrointestinal Tract

TOPIC: **Oesophagus**

Presented by –  
*MD ASHIK BILLA BAIDYA*

# Oesophagus

- **SUB TOPICS:**
- *Congenital Anomalies.*
- *Muscular Dysfunctions.*
- *Haematemesis of Oesophageal Origin.*
- *Inflammatory Lesions.*
- *Tumours of Oesophagus.*

## CONGENITAL ANOMALIES OF OESOPHAGUS:

- Congenital anomalies of the oesophagus are uncommon and are detected soon after birth.
- These include a few rare anomalies such as *agenesis (congenital absence of oesophagus)* which is incompatible with life, *duplication of oesophagus (double oesophagus)* and *congenital stenosis (i.e. fibrous thickening of the oesophageal wall and atrophy of the muscularis propria)*.

## OESOPHAGEAL ATRESIA AND TRACHEO-OESOPHAGEAL FISTULA-

- In about 85% of cases, congenital atresia of the oesophagus is associated with tracheo - oesophageal fistula , usually at the level of tracheal bifurcation.
- For survival, the condition must be recognised and corrected surgically within 48 hours of birth of the newborn.
- Morphologically, the condition is recognised by cord-like non - canalised segment of oesophagus having blind pouch at both ends.

# MUSCULAR DYSFUNCTIONS:

- These are disorders in which there is motor dysfunction of the oesophagus, manifested clinically by dysphagia.
- These include-
- **1.achalasia,**
- **2.hiatus hernia,**
- **3.oesophageal diverticula**
- **4.webs and rings.**
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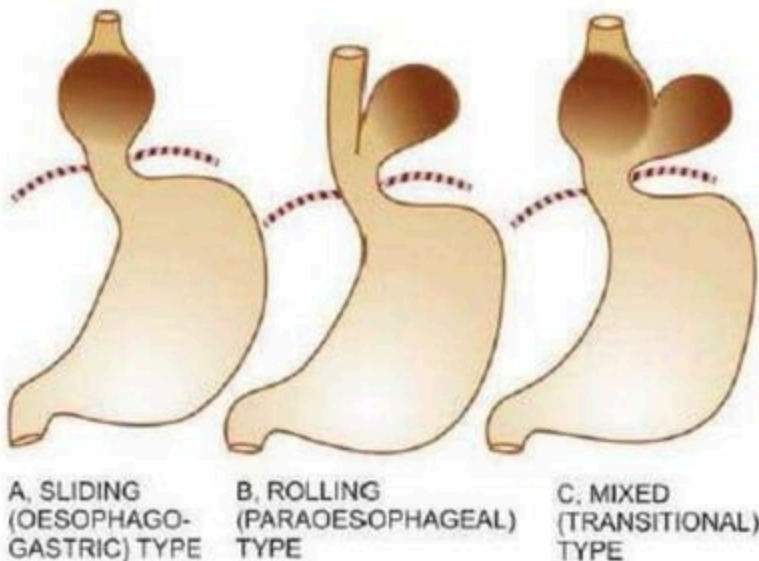
## ACHALASIA (CARDIOSPASM):

- Achalasia of the oesophagus is a neuromuscular dysfunction due to which the cardiac sphincter fails to relax during swallowing and results in progressive dysphagia and dilatation of the oesophagus (*mega-oesophagus*).
- **ETIOLOGY:**
- There is ***loss of intramural neurons in the wall of the oesophagus.***
- Most cases are of primary idiopathic achalasia i.e. ***congenital***. Secondary achalasia may occur from some other causes which includes: ***Chagas' disease*** (an epidemic parasitosis with *Trypanosoma cruzi*), ***infiltration into oesophagus by gastric carcinoma or lymphoma***, certain ***viral infections***, and ***neurodegenerative diseases***.

# HIATUS HERNIA:

- Hiatus hernia is the *herniation or protrusion of part of the stomach through the oesophageal hiatus of the diaphragm.*
- **ETIOLOGY:**
- Congenitally short oesophagus may be the cause of hiatus hernia in a small proportion of cases.
  - More commonly, it is **acquired due to secondary factors**
  - which cause fibrous scarring of the oesophagus as follows:
    - a) Degeneration of muscle due to ageing.
    - b) Increased intra-abdominal pressure such as in pregnancy, abdominal tumours etc.
    - c) Recurrent oesophageal regurgitation and spasm causing inflammation and fibrosis.
    - d) Increase in fatty tissue in obese people causing decreased muscular elasticity of diaphragm.

## Patterns of hiatus hernia:



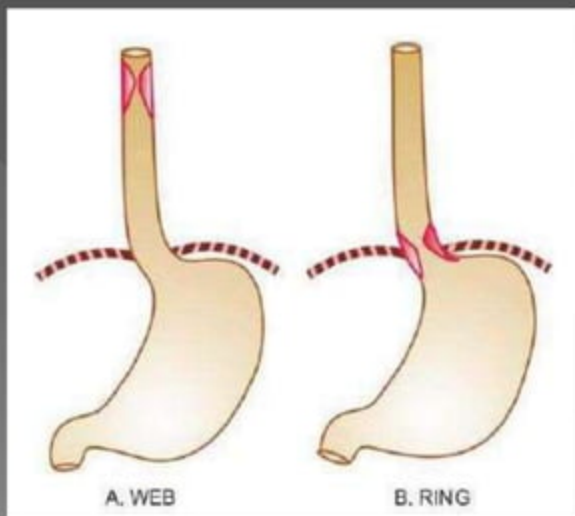


# OESOPHAGEAL DIVERTICULA:

- Diverticula are the outpouchings of oesophageal wall at the point of weakness. They may be congenital or acquired.
- **ETIOLOGY:**
- ***Congenital diverticula*** occur either at the upper end of the oesophagus or at the bifurcation of trachea.
- **Acquired diverticula may be of 2 types:**
- a) *Pulsion (Zenker's) type*
- b) *Traction type*

# OESOPHAGEAL WEBS AND RINGS:

- Radiological shadows in the oesophagus resembling 'webs' and 'rings' are observed in some patients complaining of dysphagia
- **WEBS:** These are located in the upper oesophagus, seen more in adult women, and associated with dysphagia, iron deficiency anaemia and chronic atrophic glossitis (Plummer-Vinson syndrome).
- **RINGS:** Those located in the lower oesophagus, not associated with iron-deficiency anaemia, nor occurring in women alone, are referred to as 'Schatzki's rings'



# HAEMATEMESIS OF OESOPHAGEAL ORIGIN:

- **Massive haematemesis** (vomiting of blood) may occur due to vascular lesions in the oesophagus. These lesions are as under:
- **1. OESOPHAGEAL VARICES**
- **2. MALLORY-WEISS SYNDROME**
- **3. RUPTURE OF THE OESOPHAGUS**
- **4. OTHER CAUSES:**
- **Oesophageal haematemesis may also occur in the following conditions:**
  - i) Bursting of aortic aneurysm into the lumen of oesophagus
  - ii) Vascular erosion by malignant growth in the vicinity
  - iii) Hiatus hernia
  - iv) Oesophageal cancer
  - v) Purpuras
  - vi) Haemophilia

# INFLAMMATORY LESIONS:

- Inflammation of the oesophagus, *oesophagitis*, occurs most commonly from reflux, although a number of other clinical conditions and infections may also cause oesophagitis discussed below:
- **1.REFLUX (PEPTIC) OESOPHAGITIS:**
- **2.BARRETT'S OESOPHAGUS**

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# 1.REFLUX (PEPTIC) OESOPHAGITIS:

- ***Reflux of the gastric juice*** is the commonest cause of oesophagitis.
- **PATHOGENESIS:**
- Gastro-oesophageal reflux, to an extent , may occur in normal healthy individuals after meals and in early pregnancy. These conditions are as under:
- i) Sliding hiatus hernia
- ii) Chronic gastric and duodenal ulcers
- iii) Nasogastric intubation
- iv) Persistent vomiting
- v) Surgical vagotomy
- vi) Neuropathy in alcoholics, diabetics
- vii) Oesophagogastrostomy.

# BARRETT'S OESOPHAGUS:

- This is a condition in which, following reflux oesophagitis, stratified squamous epithelium of the lower oesophagus is replaced by columnar epithelium (columnar metaplasia).
- The condition is seen more commonly in later age and is caused by factors producing gastro-oesophageal reflux disease.
- Barrett's oesophagus is a premalignant condition evolving sequentially—from Barrett's epithelium (columnar metaplasia with goblet cells) to dysplasia to carcinoma *in situ* and finally to oesophageal adenocarcinoma.



# TUMOURS OF OESOPHAGUS:

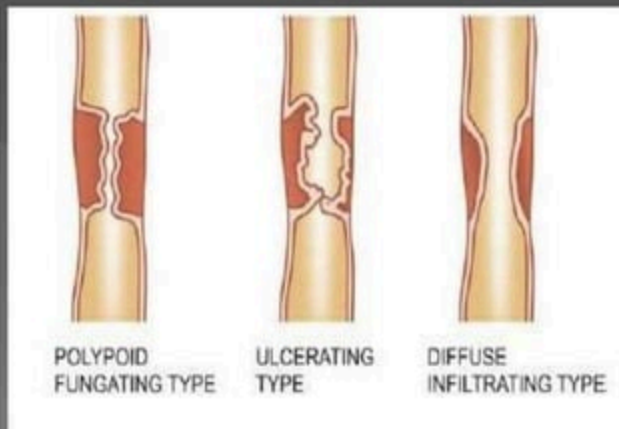
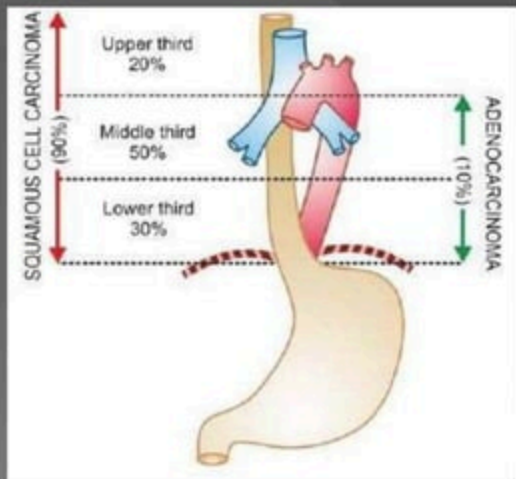
- **Benign tumours** of the oesophagus are uncommon and small in size (less than 3 cm). The **epithelial benign tumours** project as intraluminal masses arising from squamous epithelium (squamous cell papilloma), or from columnar epithelium(adenoma). **The stromal or mesenchymal benign tumours** are intramural masses such as **leiomyoma** and others like **lipoma, fibroma, neurofibroma, rhabdomyoma, lymphangioma and haemangioma**.

# CARCINOMA OF OESOPHAGUS:

- Carcinoma of the oesophagus is **diagnosed late**, after **symptomatic oesophageal obstruction** (dysphagia) has developed and the tumour has transgressed the anatomical limits of the organ.
- The tumour occurs more commonly in men **over 50 years** of age.
- **ETIOLOGY** : Not known, a number of conditions and factors have been implicated as under:
- **1. Diet and personal habits:**
  - i) Heavy smoking
  - ii) Alcohol consumption
  - iii) Intake of foods contaminated with fungus
  - iv) Nutritional deficiency of vitamins and trace elements
- **2. Oesophageal disorders:**
  - i) Oesophagitis (especially Barrett's oesophagus in adenocarcinoma)
  - ii) Achalasia
  - iii) Hiatus hernia
  - iv) Diverticula
  - v) Plummer-Vinson syndrome
- **3. Other factors**
  - i) *Race*
  - ii) *Family history*
  - iii) *Genetic factors*
  - iv) *HPV infection*



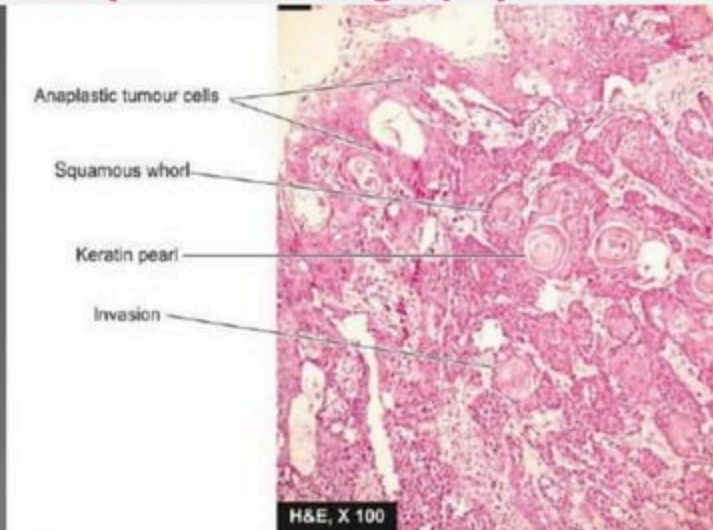
# Carcinoma oesophagus: sites of predilection for squamous cell carcinoma and adenocarcinoma & Gross patterns of squamous cell carcinoma of the oesophagus



## Gross appearance of squamous cell carcinoma oesophagus:



# Anaplastic squamous cells invading the underlying soft tissues(Photomicrograph):



**THANK YOU**



# **Transomental hernia causing obstruction**

Dr.K.C.SOMAN M.S

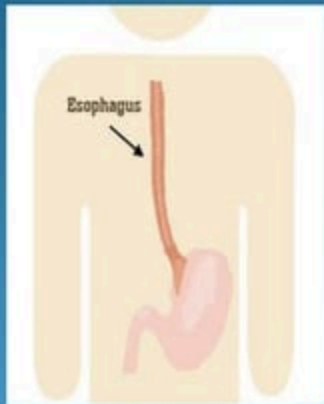


# ***Radiological imaging of esophageal lesions.***



***Dr/ ABD ALLAH NAZEER. MD.***

# Disorders of the Esophagus



BY SURAJ DHARA  
(MMCH)

# RECTAL DISEASES



# ACUTE ABDOMEN

DR PRAFULL

# RIGHT ILLIAC FOSSA LUMP

Sandipan Bhattacharya

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Malda Medical College



# GIT ANOMALIES

Dr Varun Bansal  
Dept of Radio-Diagnosis

# Internal hernia

Dr. Asif Mian Ansari

DNB resident

Dept. of General Surgery

Max hospital, Mohali