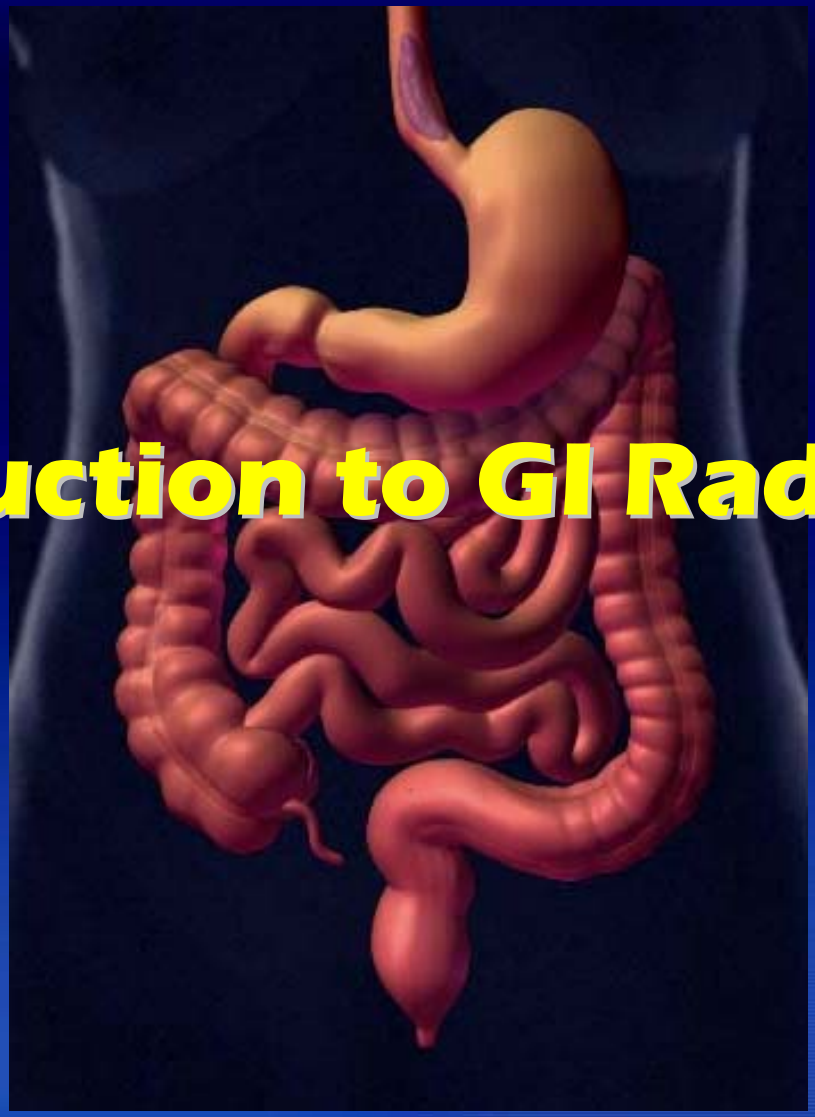
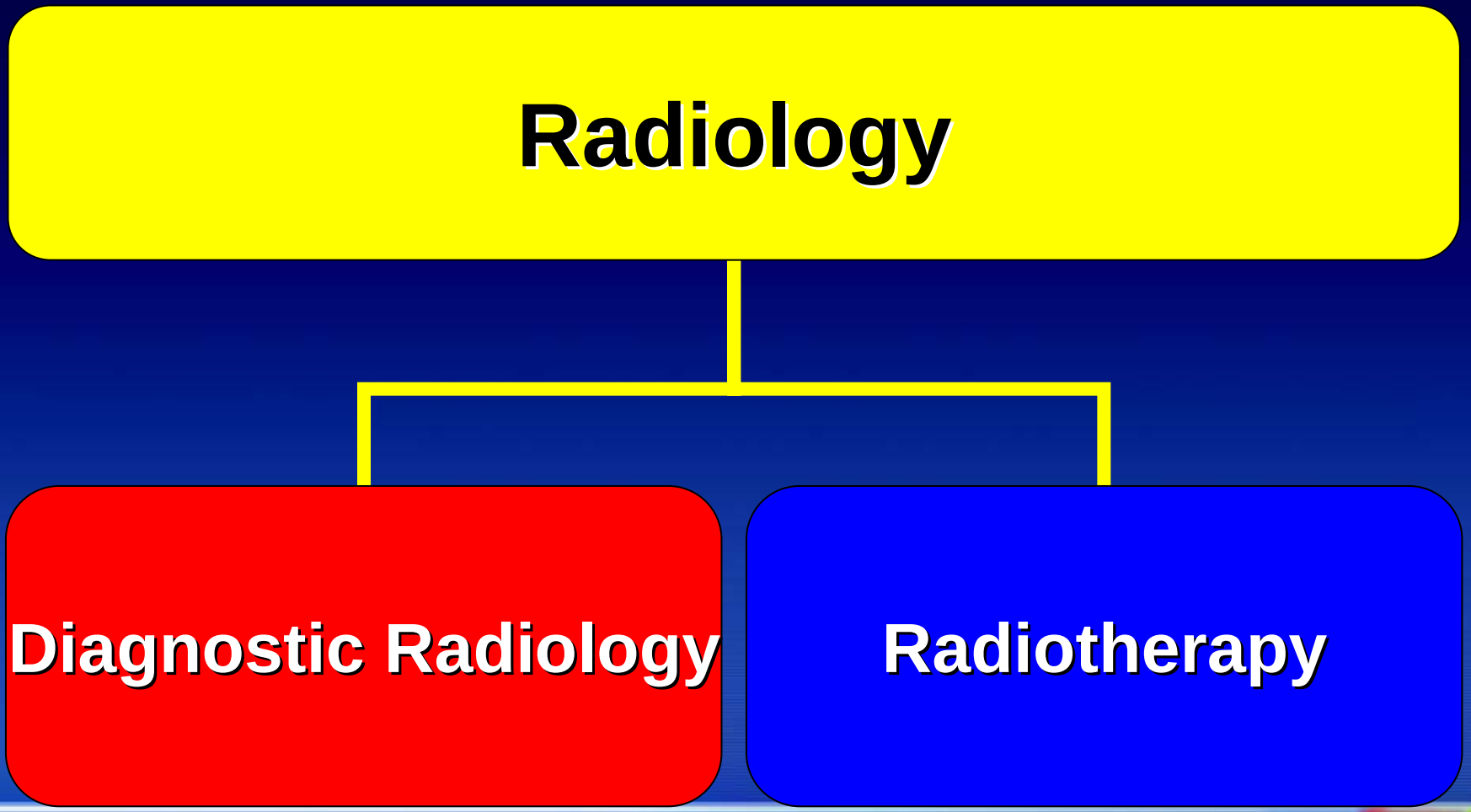

بسم الله الرحمن الرحيم

Introduction to GI Radiology



Introduction



Introduction

Management of Any Disease

- **Clinical Examintion**
- **Investigations**

Introduction

- Investigations:
  - Radiological (X-ray – CT)
  - Medical Imaging (US-MRI)
  - Others (Lab.-Endoscopy- Biopsy)

Introduction

Good correlation between the clinical and radiological findings is a MUST

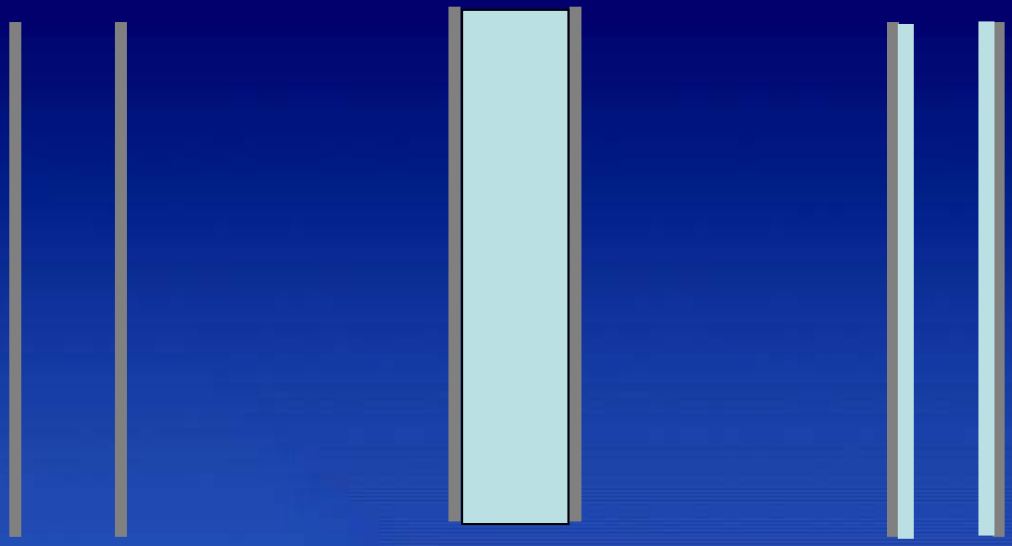
Introduction

- **GI Radiology:** Depended mainly on X-ray (Radiography) but now X-ray with other medical Imaging techniques are used for evaluation of GIT diseases

What is special in Imaging of the GIT diseases?

Contrast studies of the GIT

- Contrast Studies of the GIT
  - Technique (Movie Clip)
  - Films

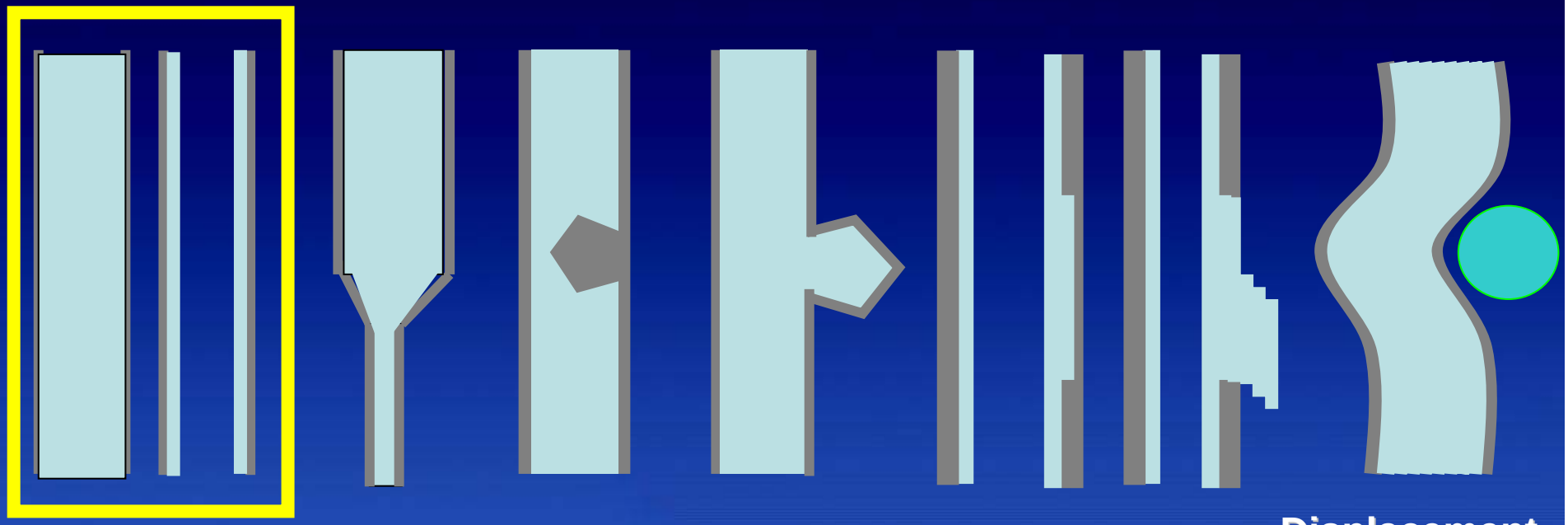


Contrast studies of the GIT

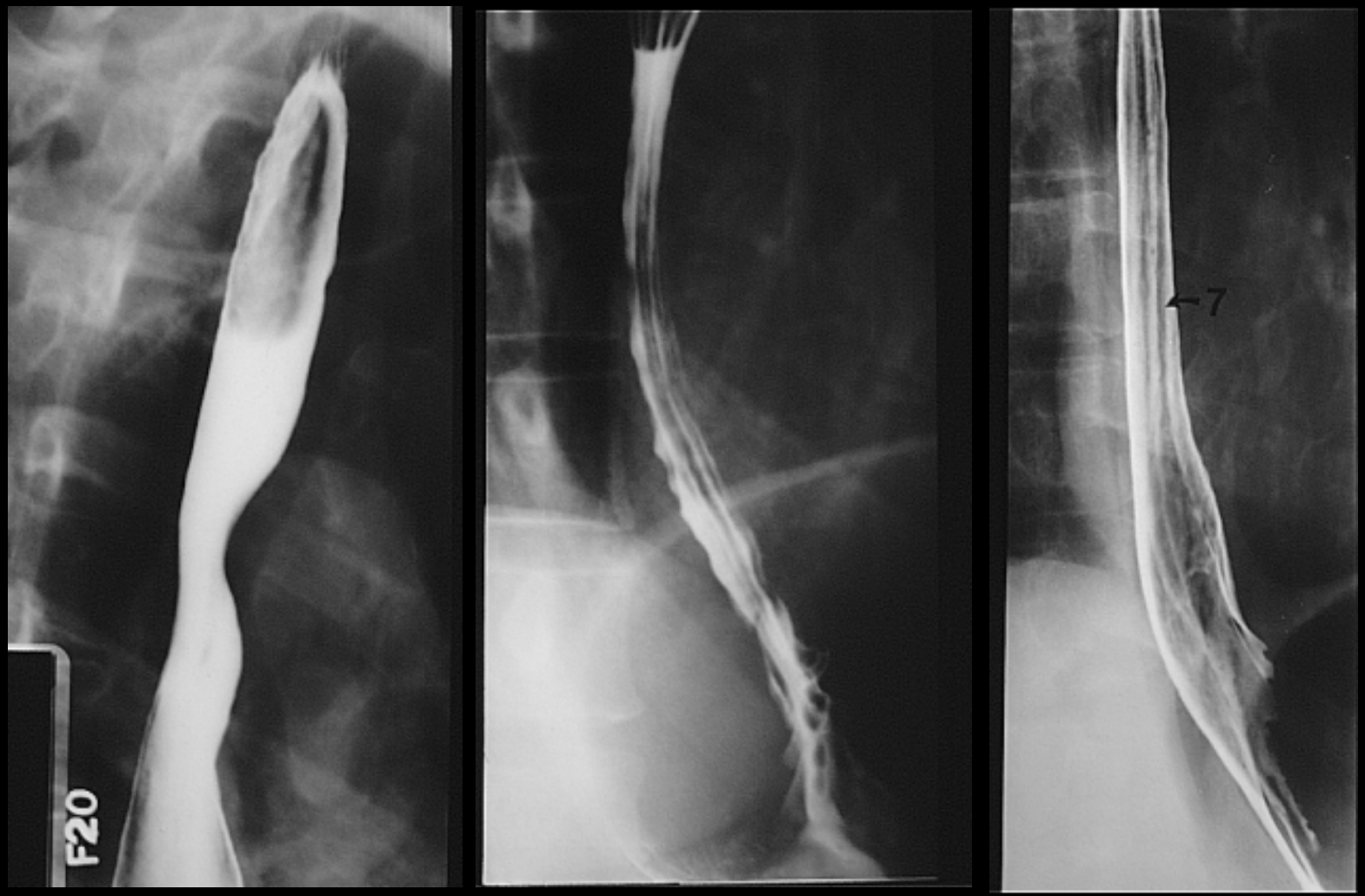
- We must comment on:
  - Course
  - Caliber
  - Contour
  - Filling and Evacuation
  - Mucosal Lining

Contrast studies of the GIT

- Abnormalities detected in Contrast Studies



Normal Oesophagus (Ba Swallow) (Single Contrast)



Techniques of Examination

- **Plain Radiography**
  - Plain x-ray of the Abdomen (KUB – Erect)
- **Contrast Studies**
  - Ba Swallow
  - Ba Meal
  - Ba Follow through
  - Ba Enema
- **Abdominal & Pelvic Ultrasound**
- **CT of the Abdomen & Pelvis**

Techniques of Examination

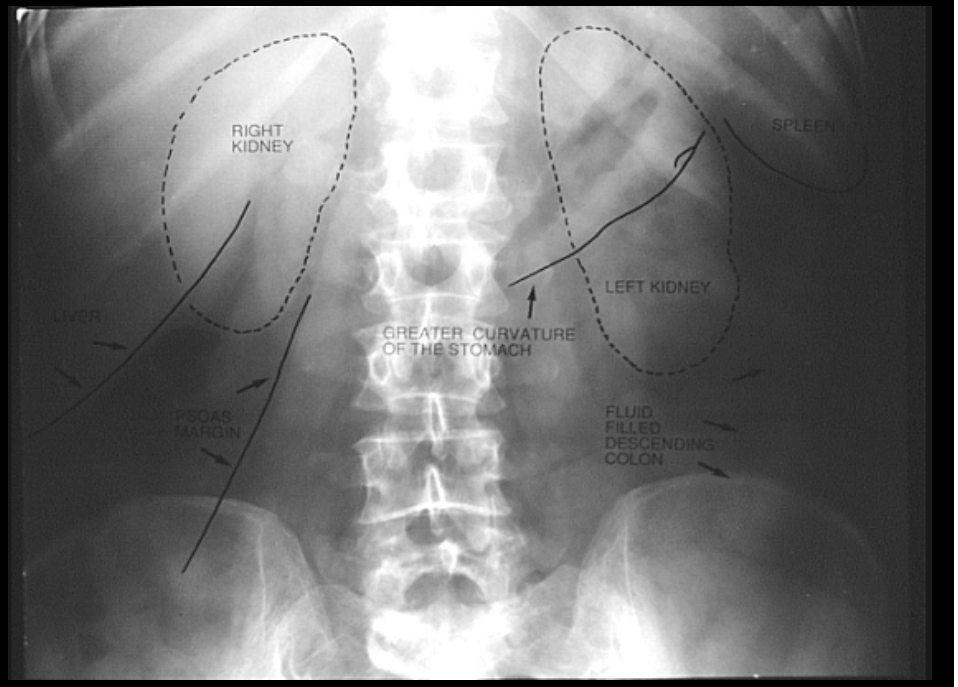
- **Rules of GIT imaging:**
- Select the simplest and most appropriate method for exam. (e.g. Dysphagia → Ba Swallow)
- Refer to more complex studies if the initial assessment is not satisfactory

Plain Radiography

- Technique (Movie Clip)
- Preparation
- Indications
- Findings

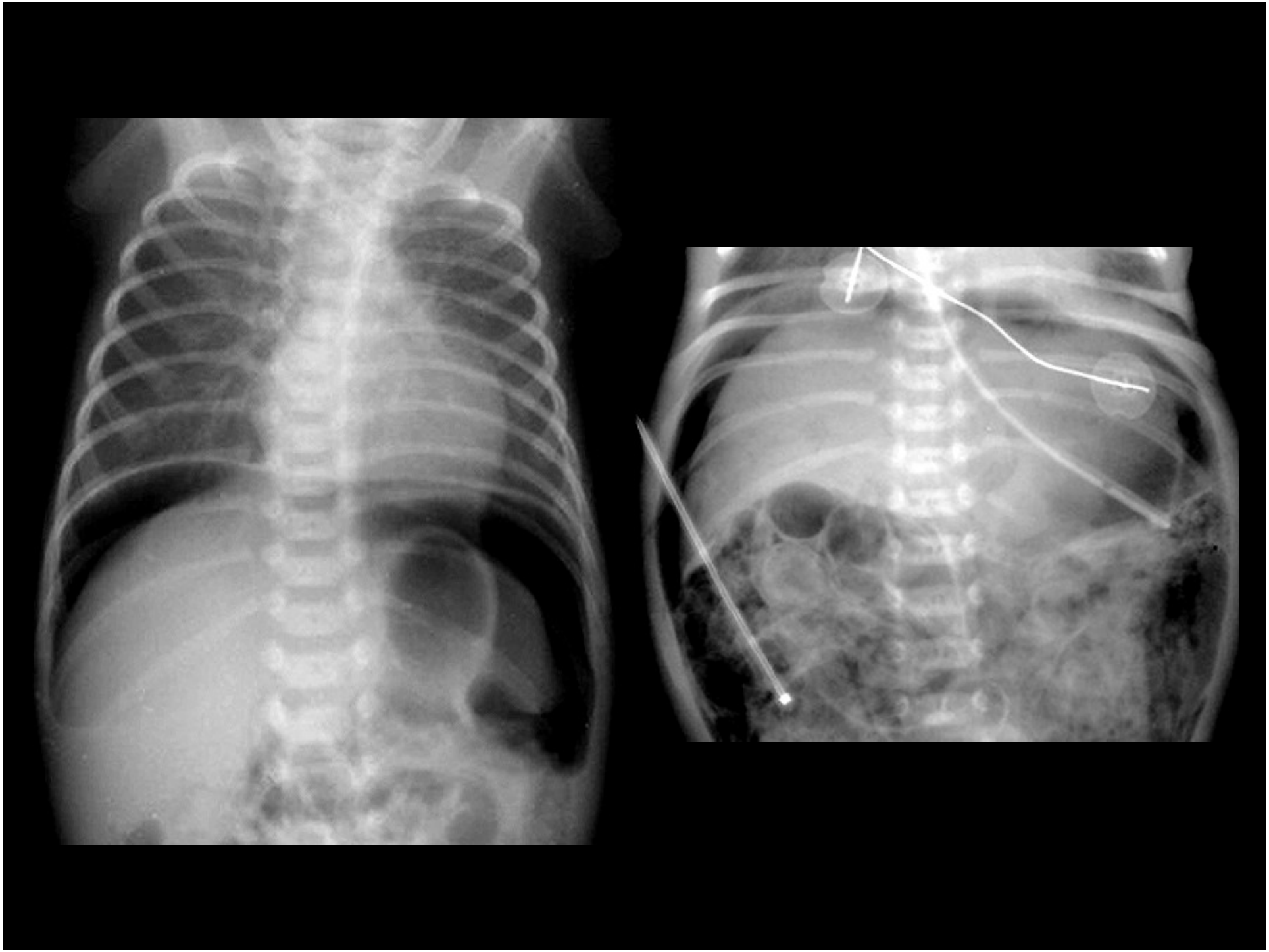
Normal X-ray of the Abdomen

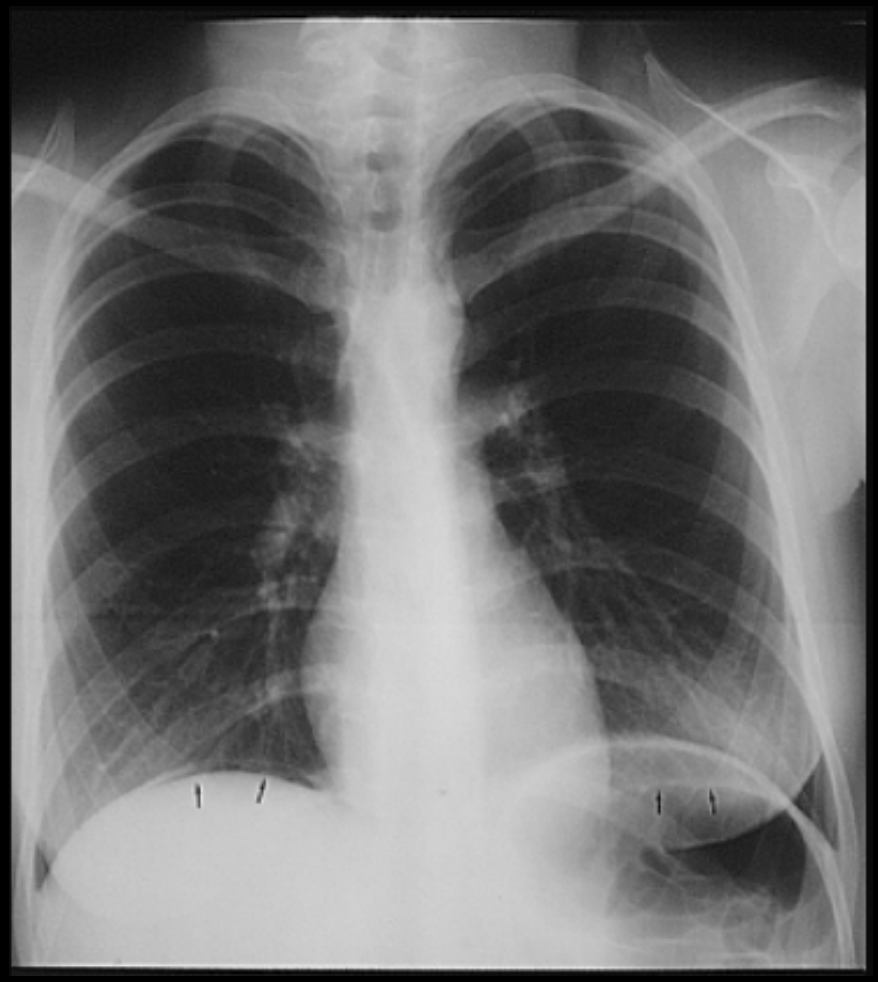
KUB - PUT

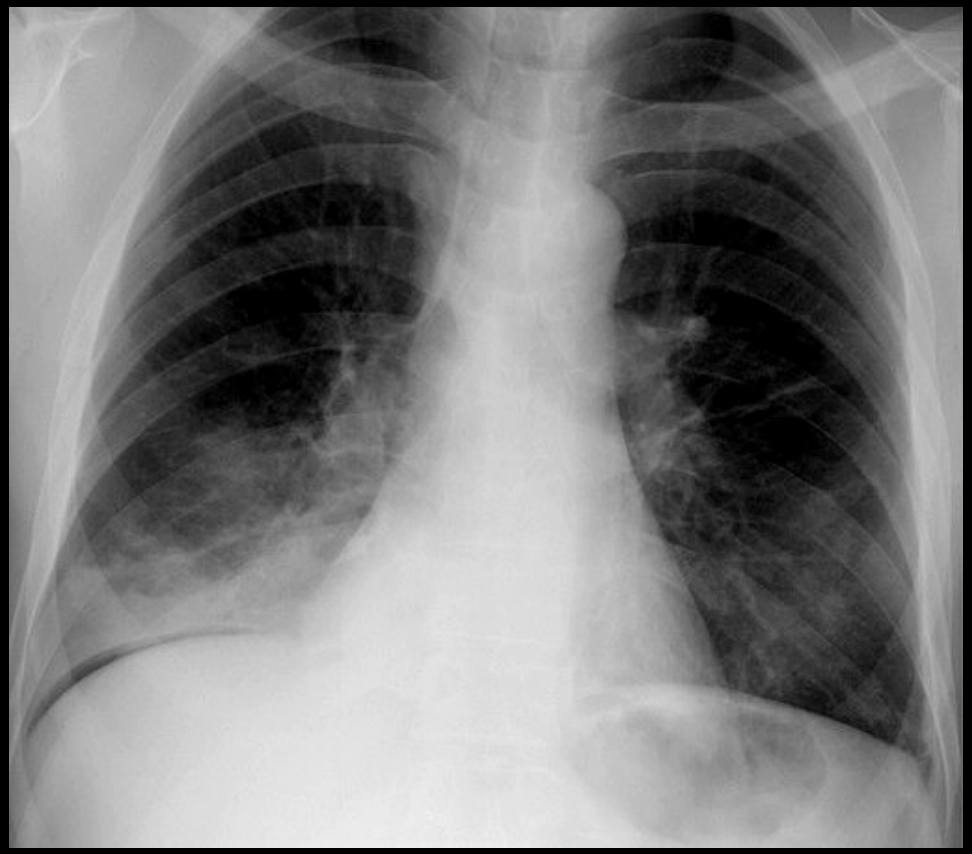


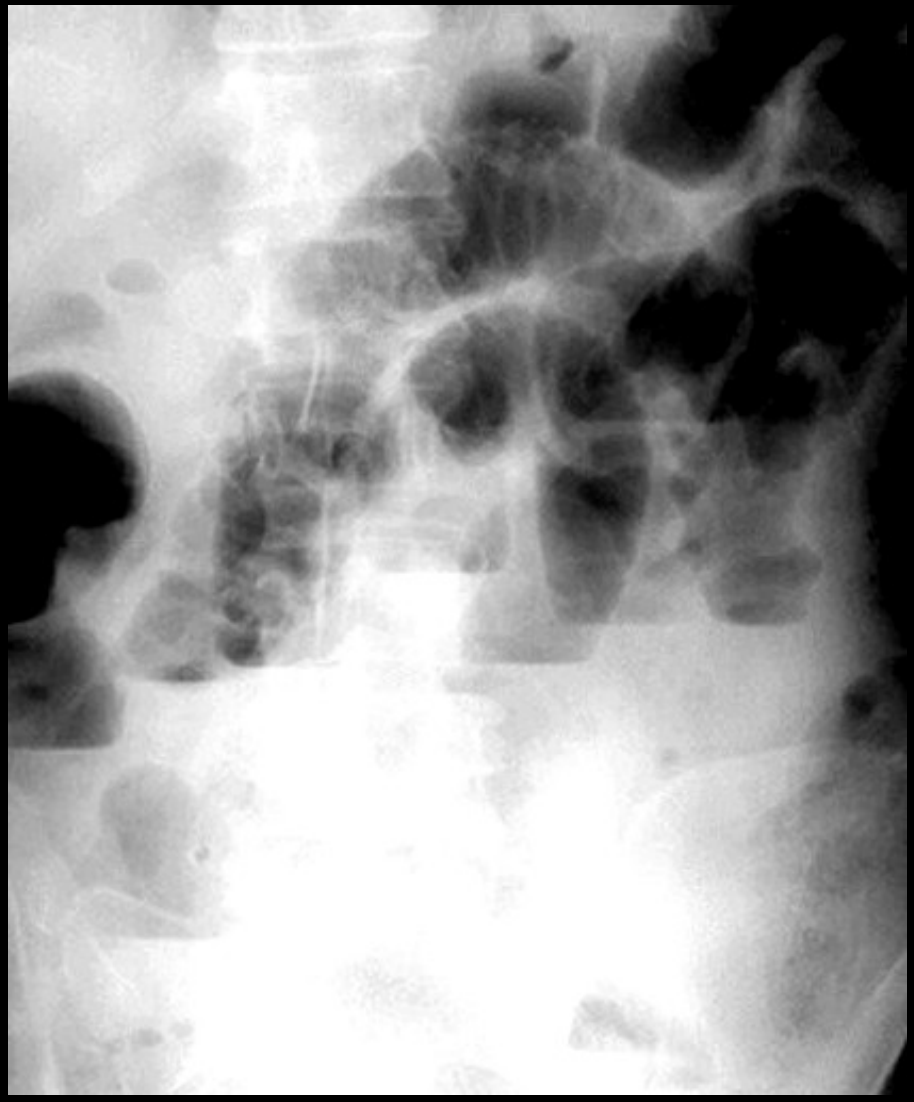
Plain Radiography

- Indications:
  - Abdominal Calcification
  - The Acute Abdomen
  - Pneumoperitoneum
  - Inflammatory conditions *(Acute cholecystitis – pancreatitis)*
  - Others (Renal Colic – Foreign body)







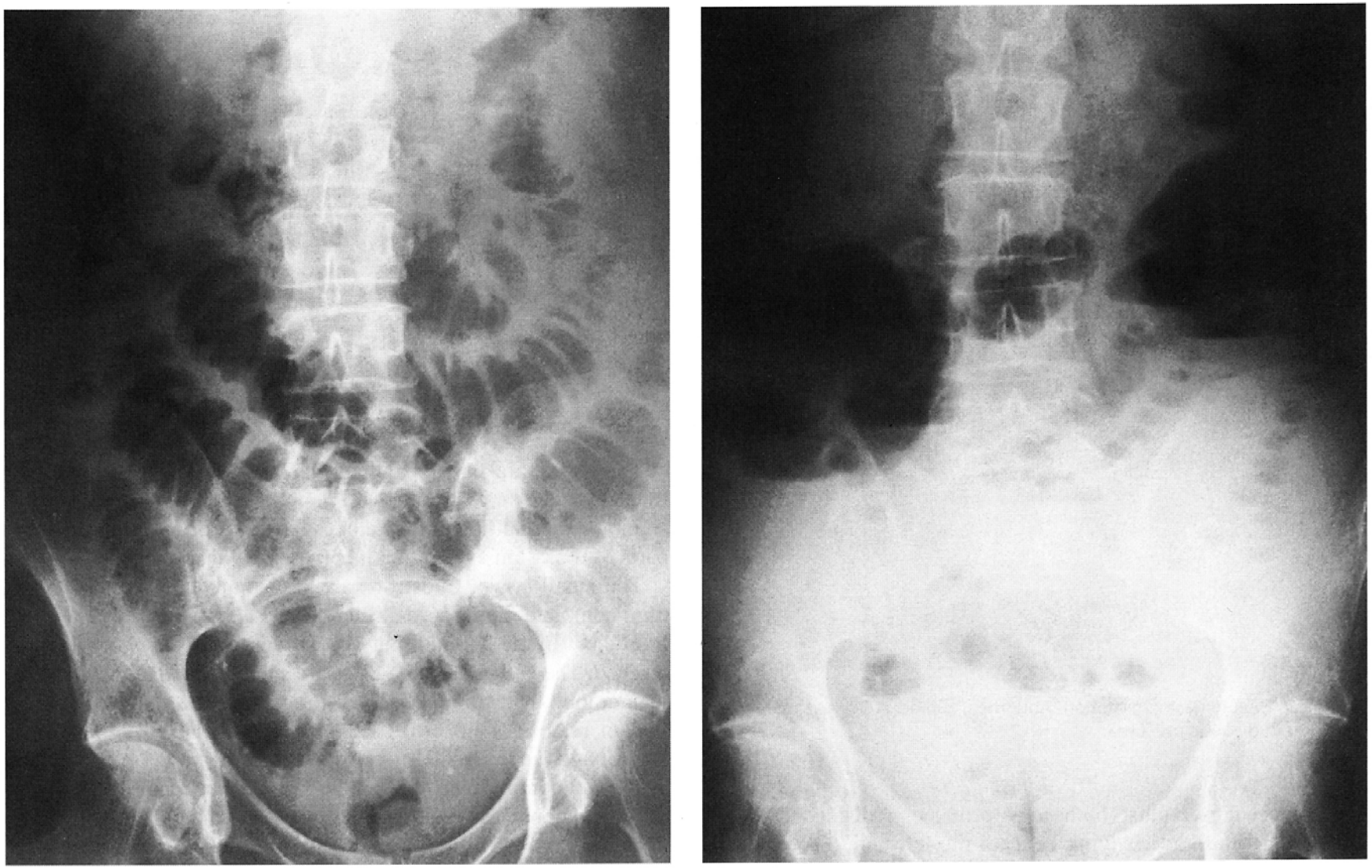


Erect

Supine

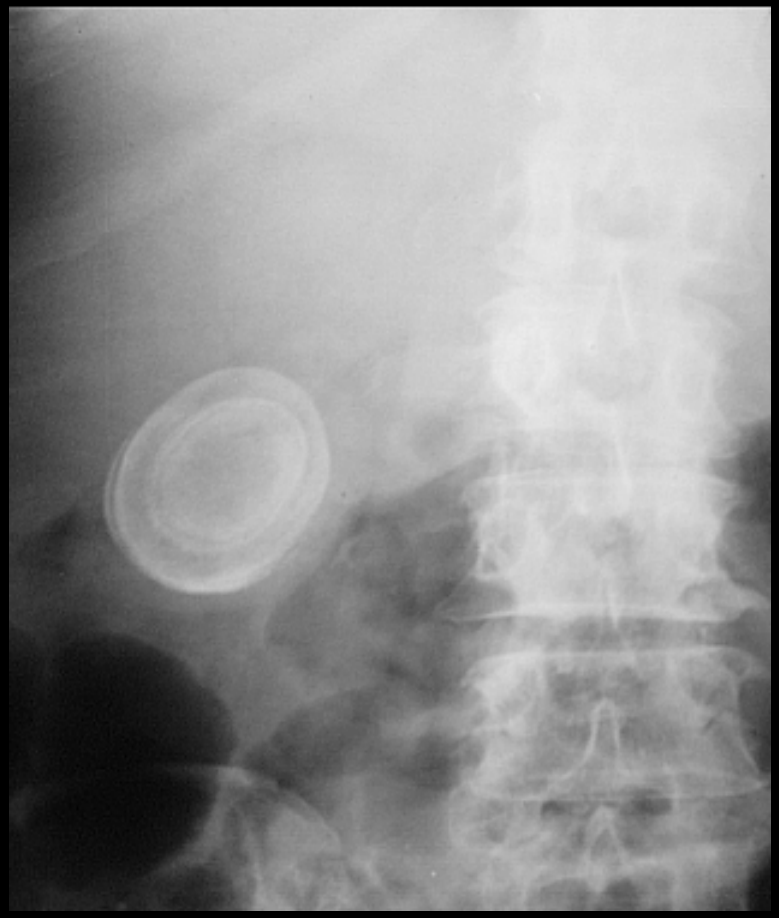
Erect

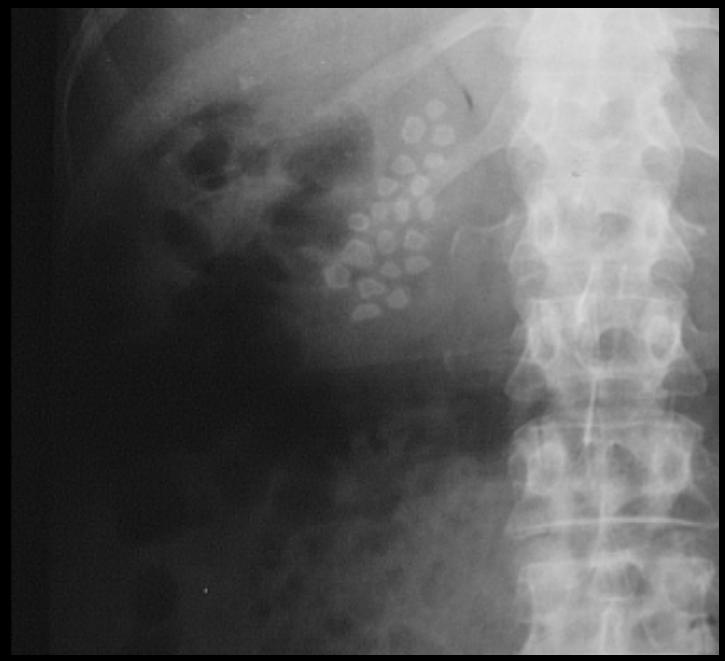
Supine

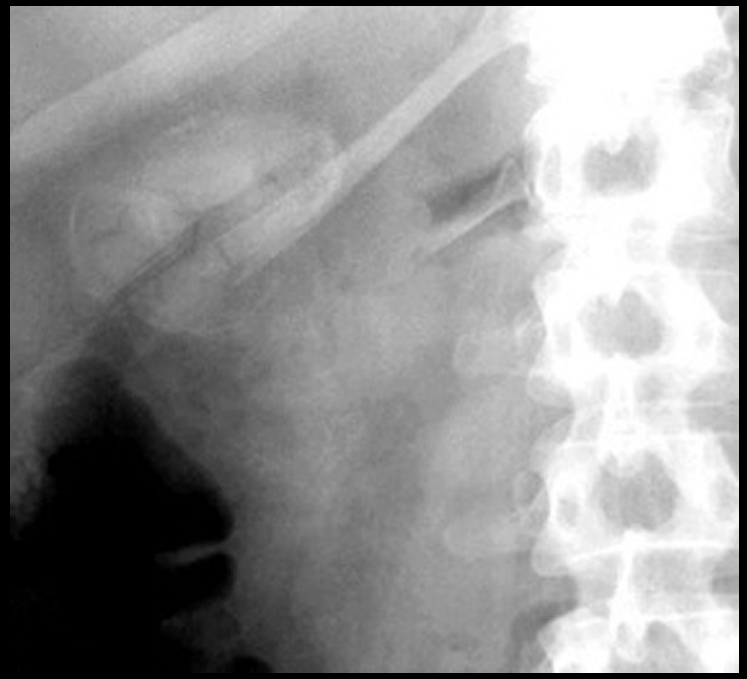


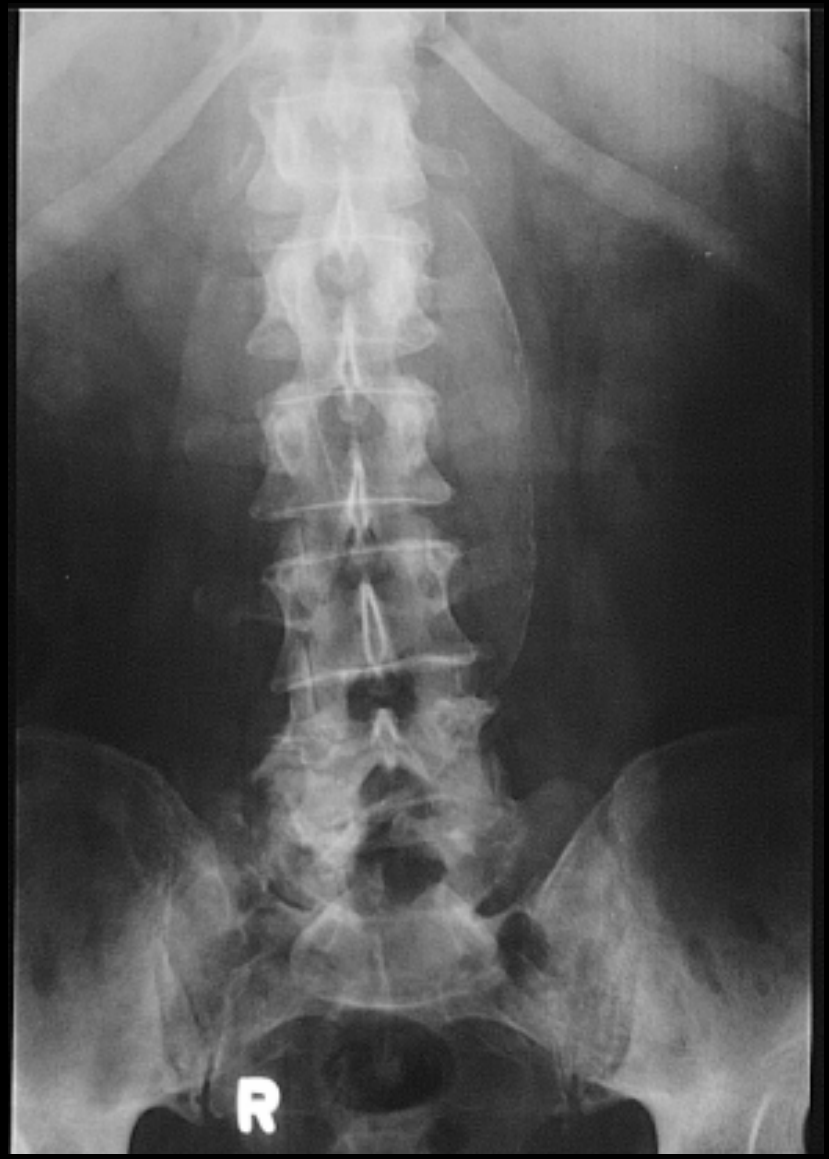
A B

Fig. 32.8 Small-bowel obstruction: **A** supine; **B** erect. Multiple dilated loops of both gas-filled and fluid-filled small bowel are readily identified. There is little or no gas in the large bowel. Multiple fluid levels are noted on erect film. A 77-year-old woman with a past history of several abdominal operations. The small-bowel obstruction was presumed to be due to adhesions and resolved with conservative management.





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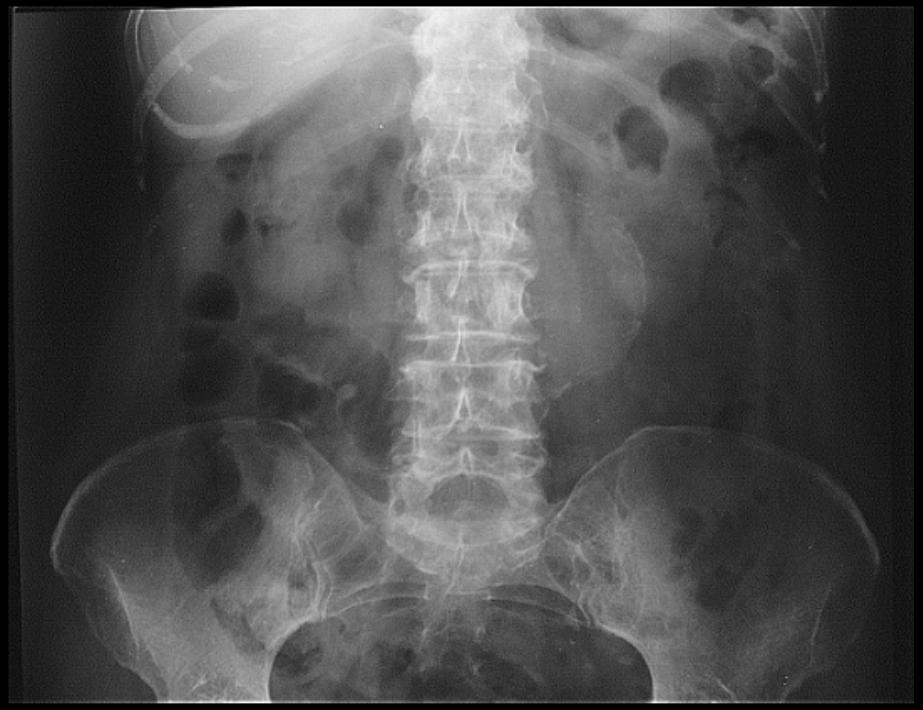

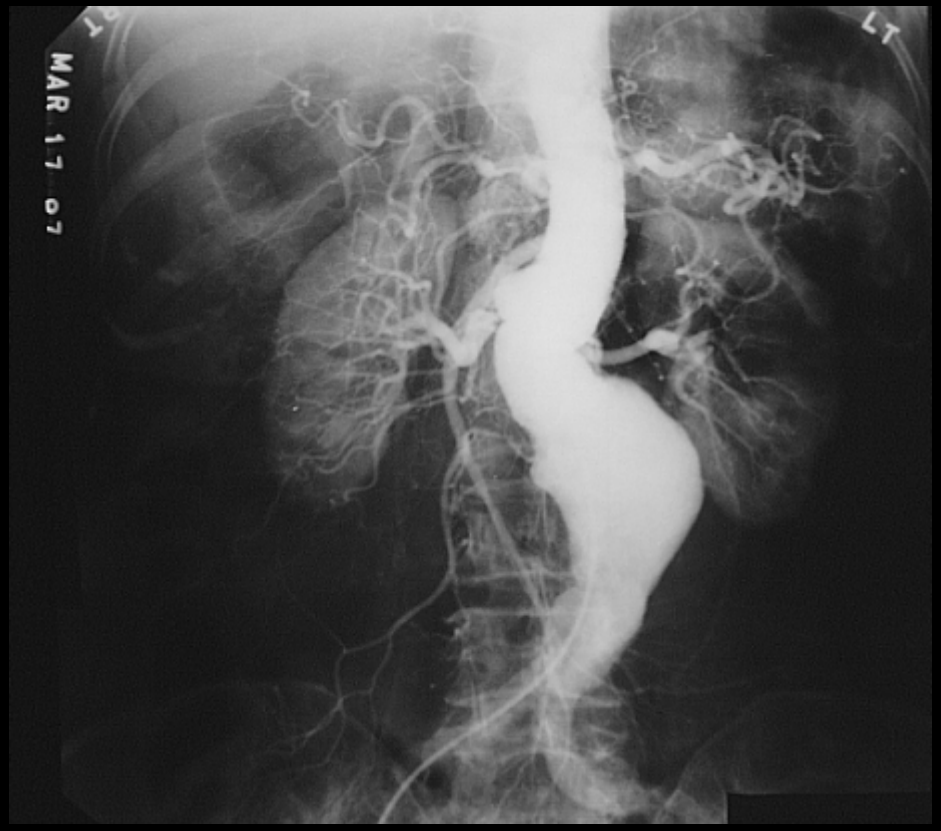
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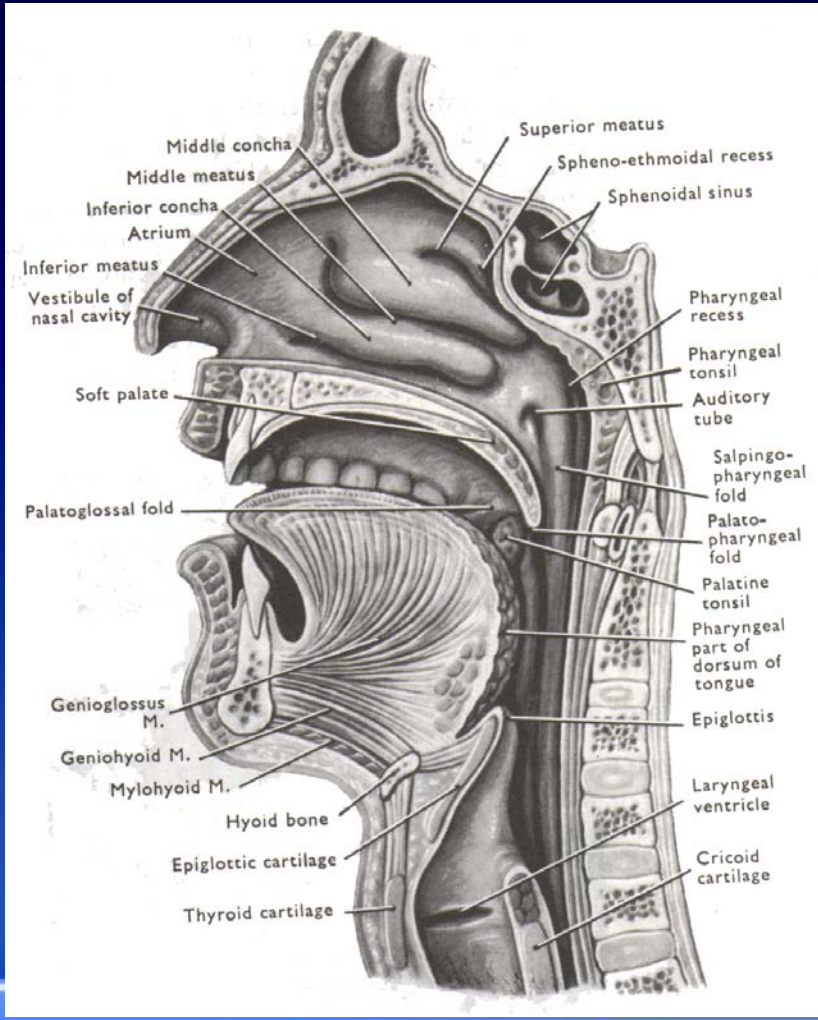
The pharynx & oesophagus

- Technique of examination
- **Plain Radiography**
  - Plain x-ray of the Neck & chest
- **Contrast Studies**
  - Ba Swallow
- **CT of the Neck & Chest**

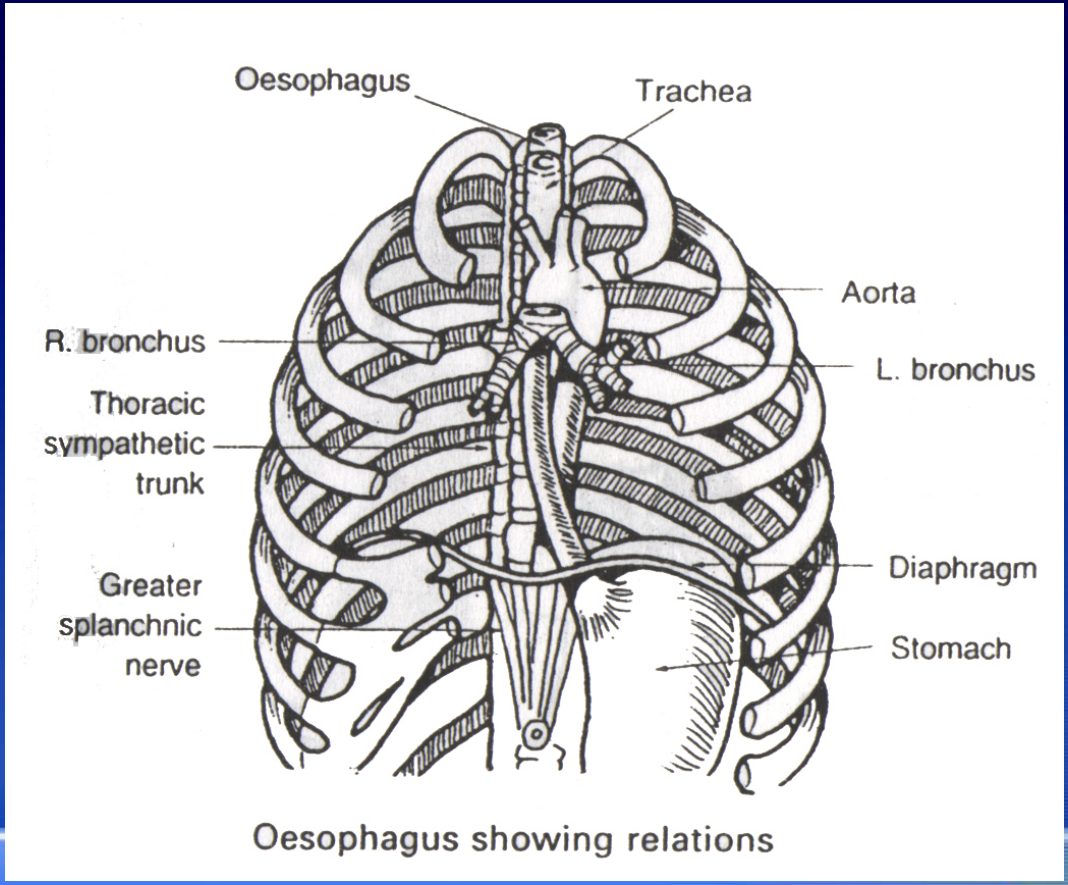
The pharynx & oesophagus

Normal Anatomy

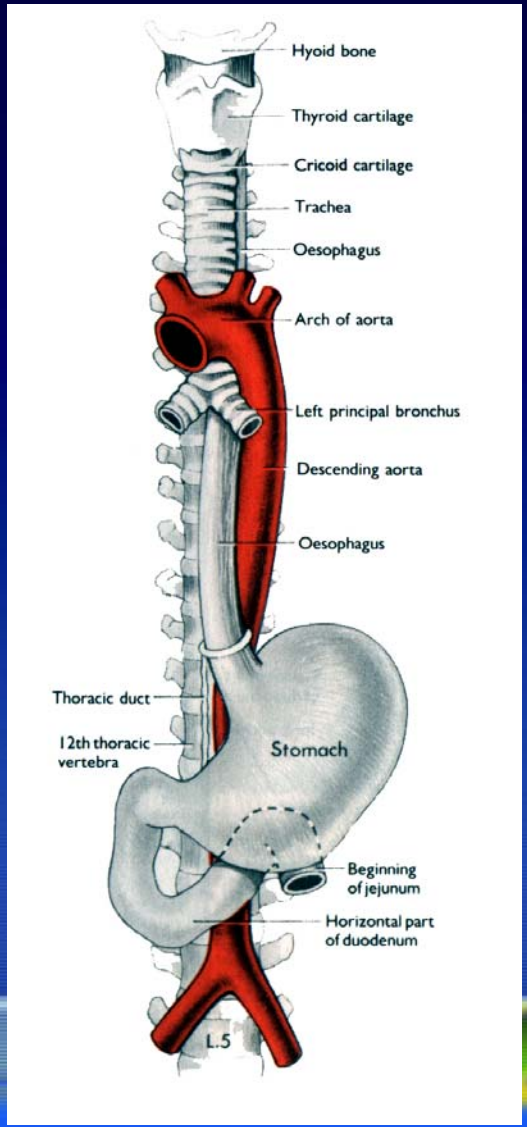


The pharynx & oesophagus

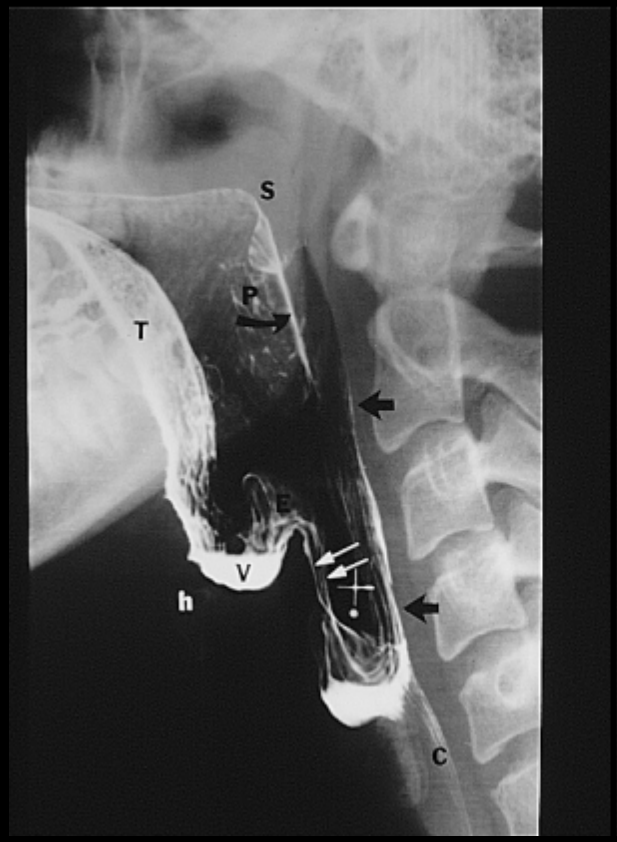
- Normal Anatomy



Oesophagus showing relations

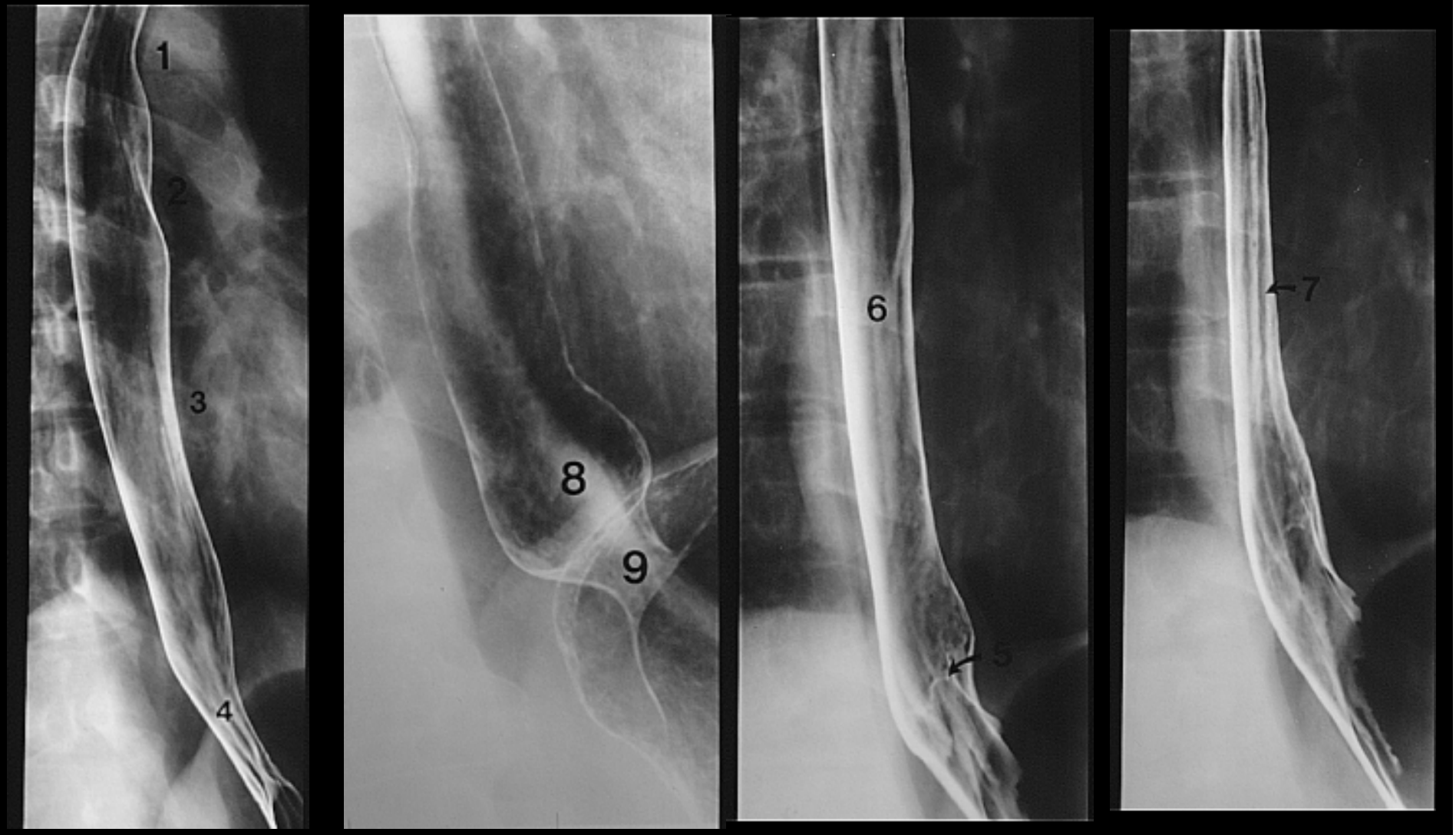


Normal Pharynx (Ba Swallow)



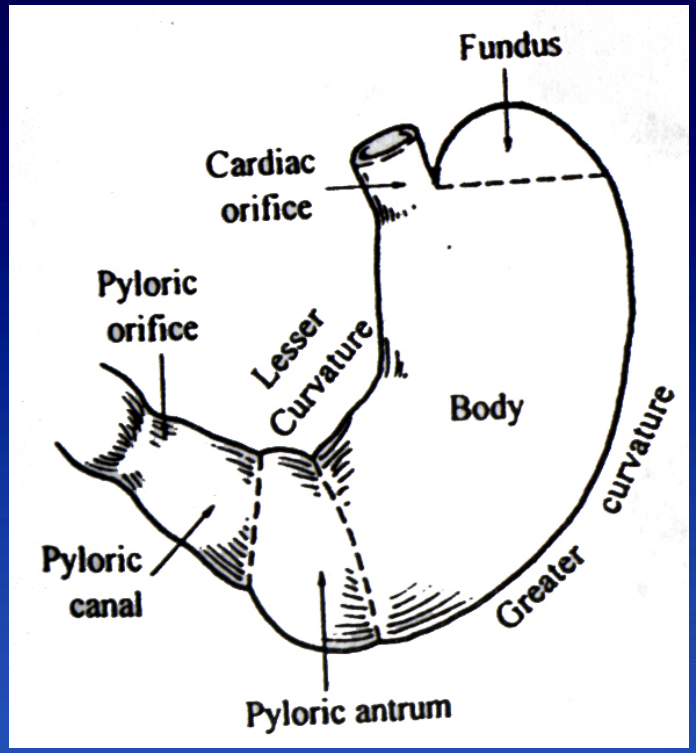
Normal Oesophagus (Ba Swallow) (Single Contrast)

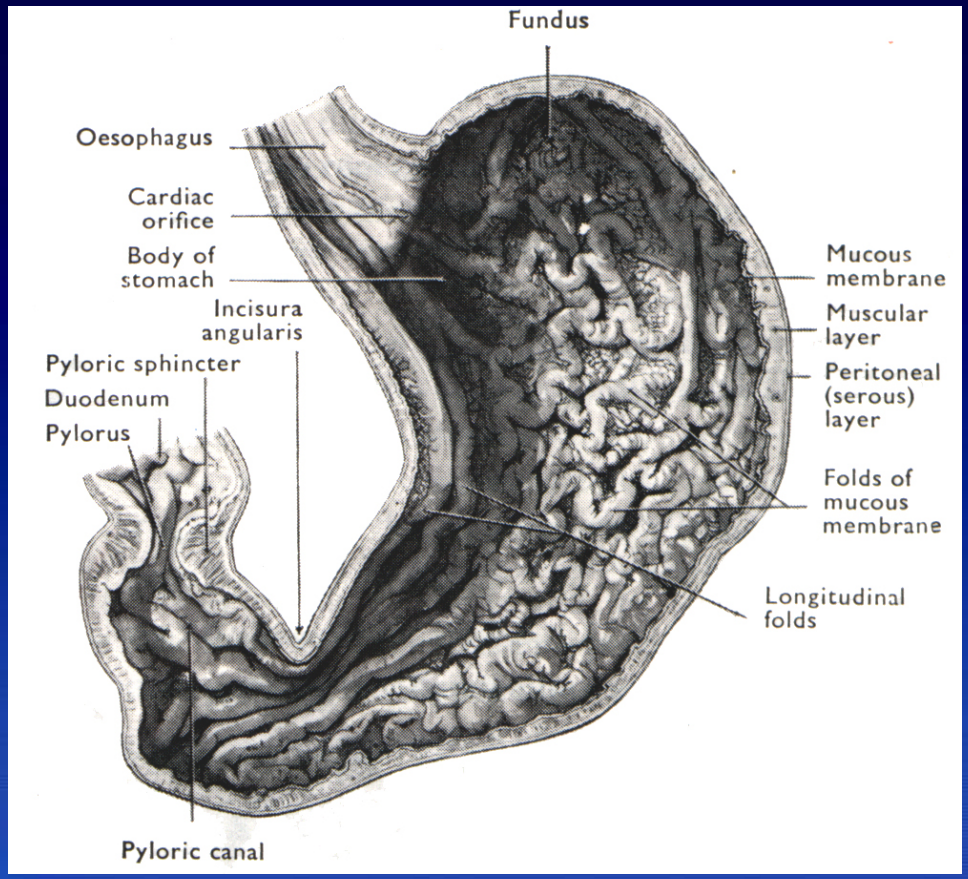
Normal Oesophagus (Ba Swallow) (Double Contrast)

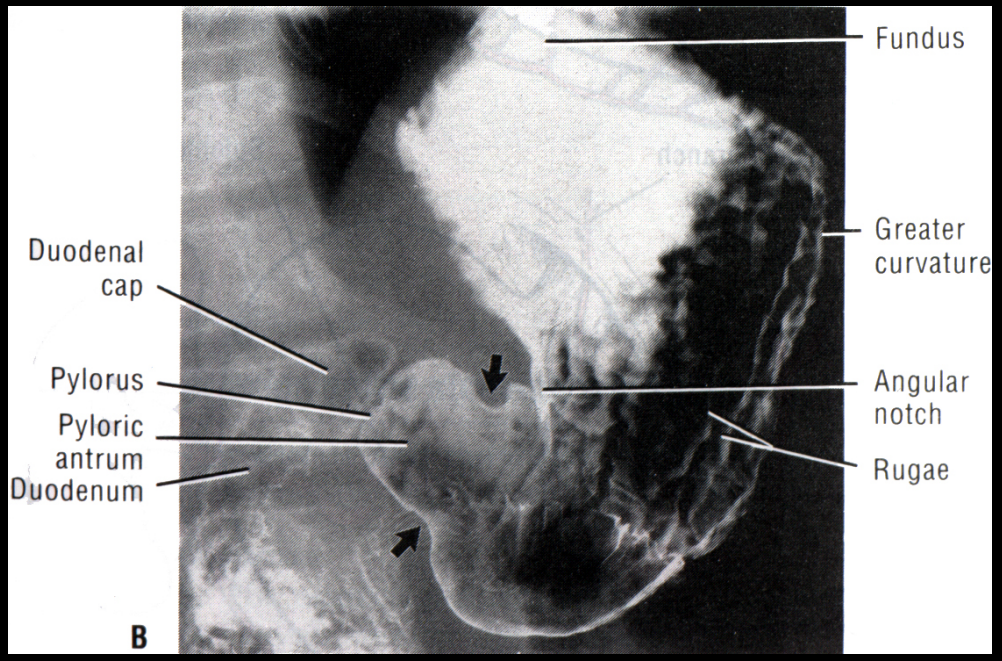


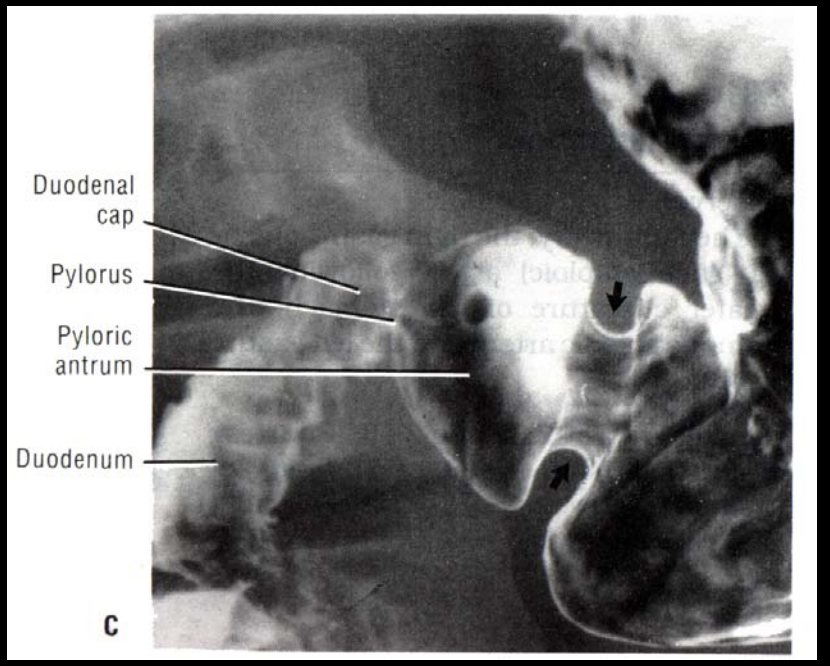
The Stomach & Duodenum

- Anatomy

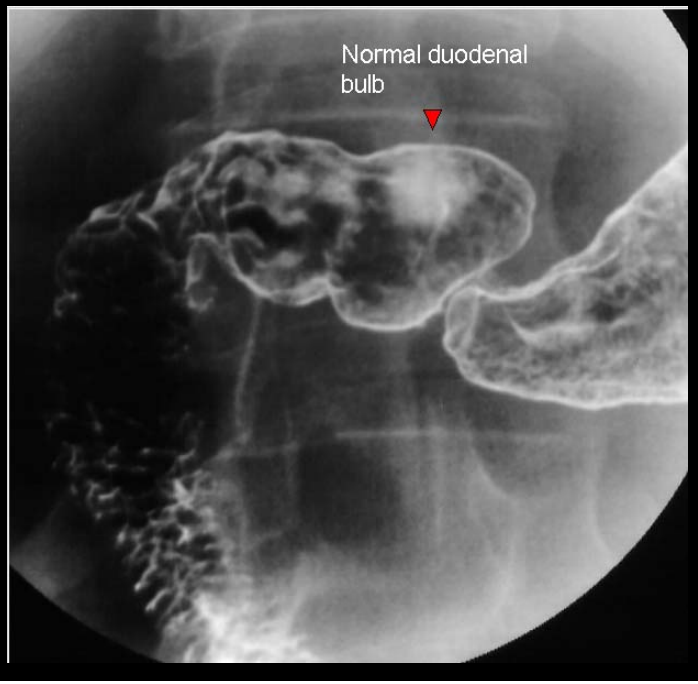




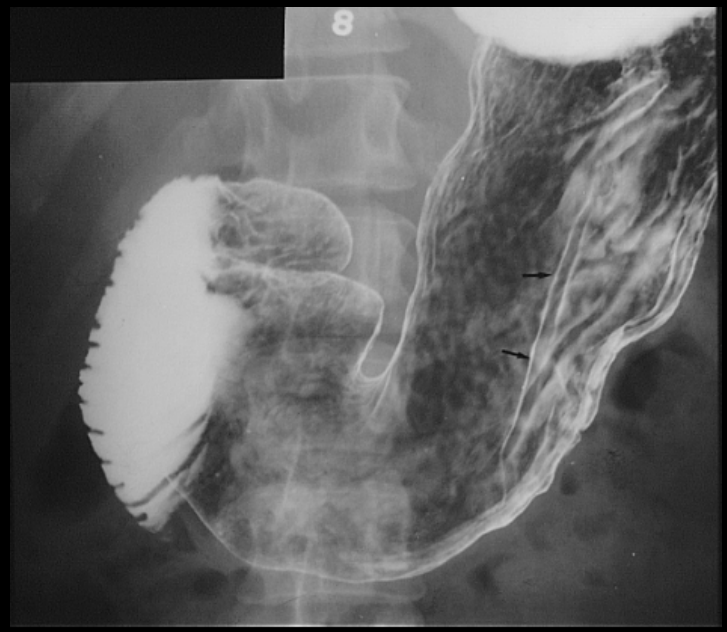


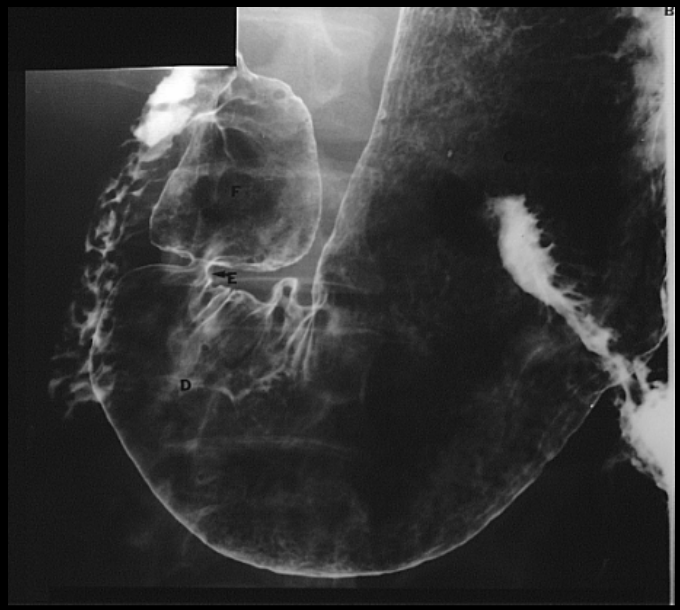


Normal Stomach (Ba Meal)



Normal Stomach (Ba Meal)





The Small Intestine

- Anatomy

Normal Small Intestine

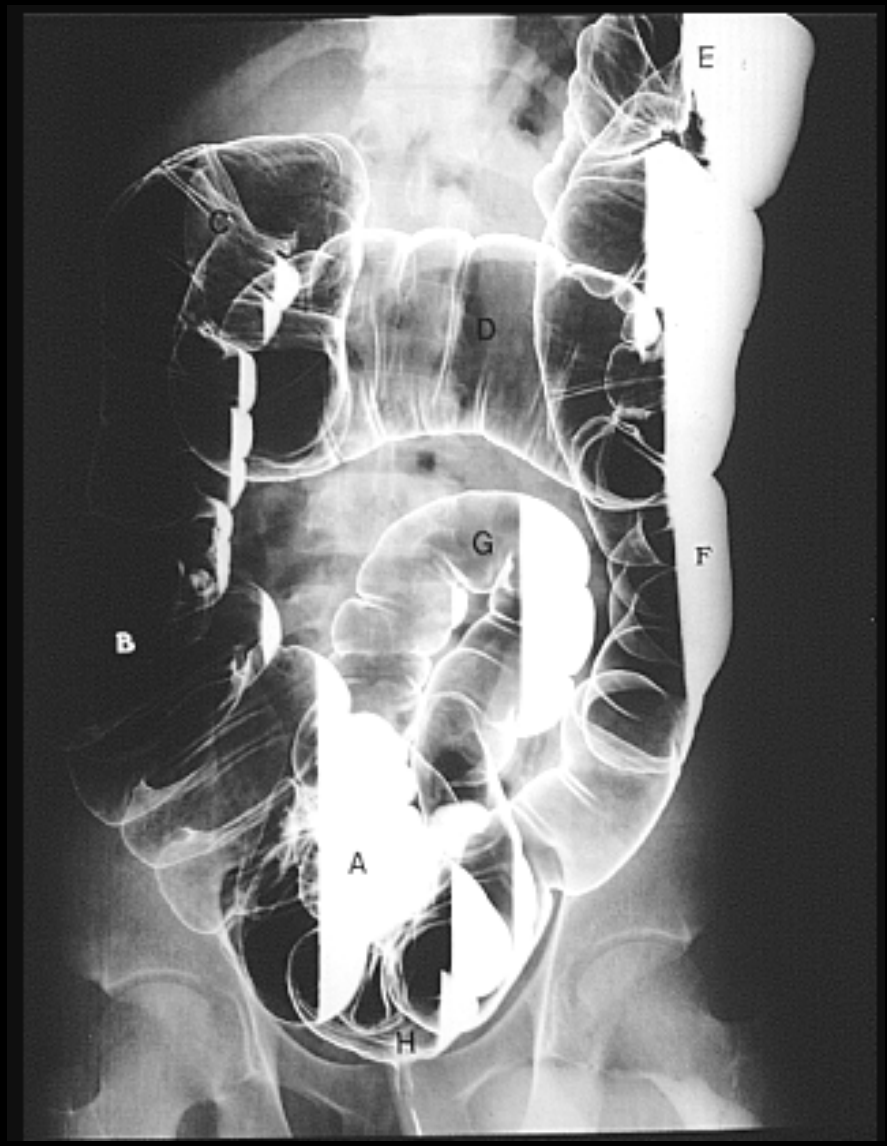
(Ba Follow through)

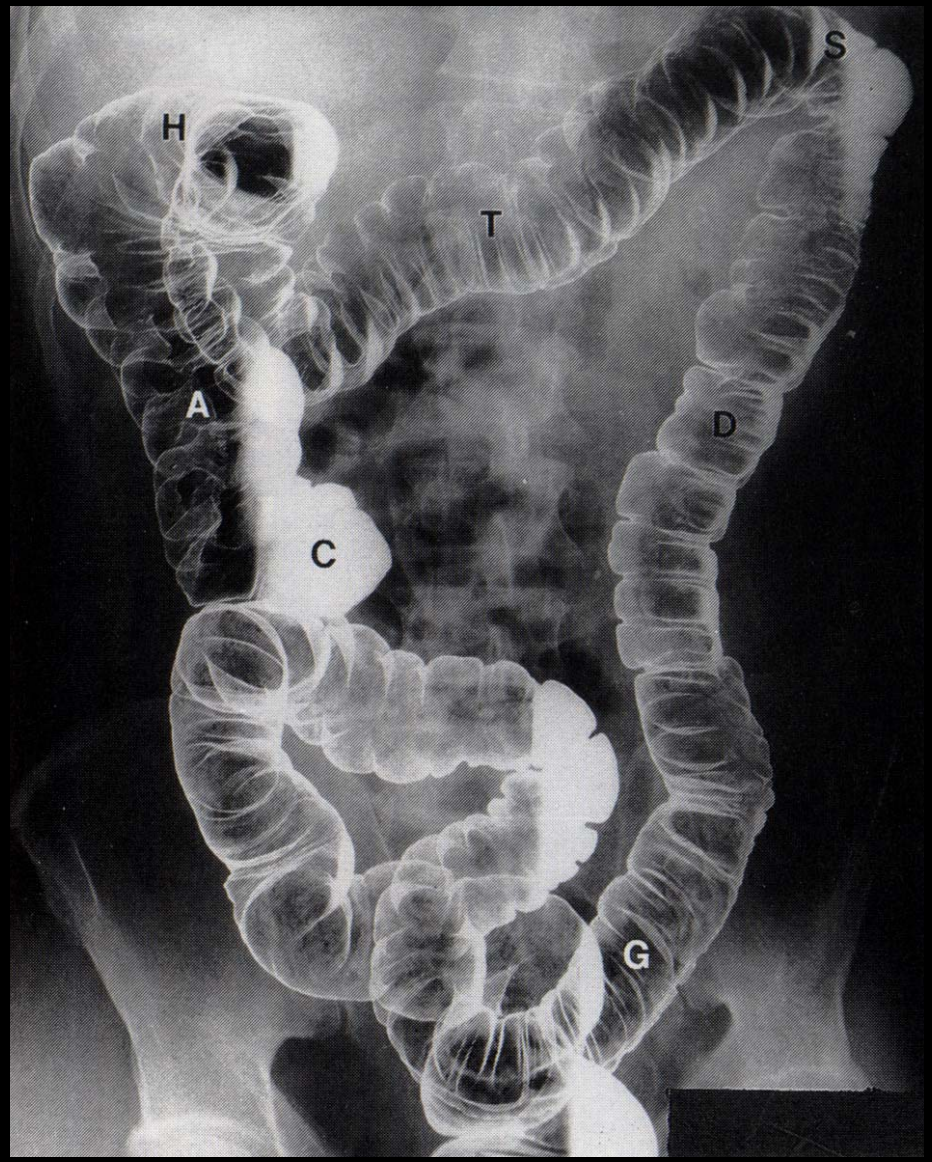
The Large Intestine

- Anatomy

Normal Large Intestine

(Ba Enema)

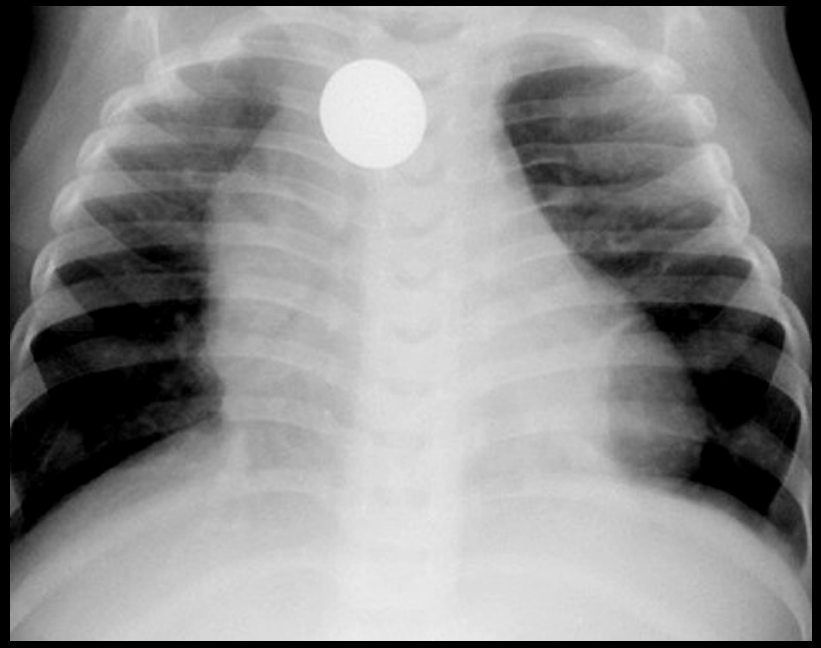




The pharynx & oesophagus

- Pathology

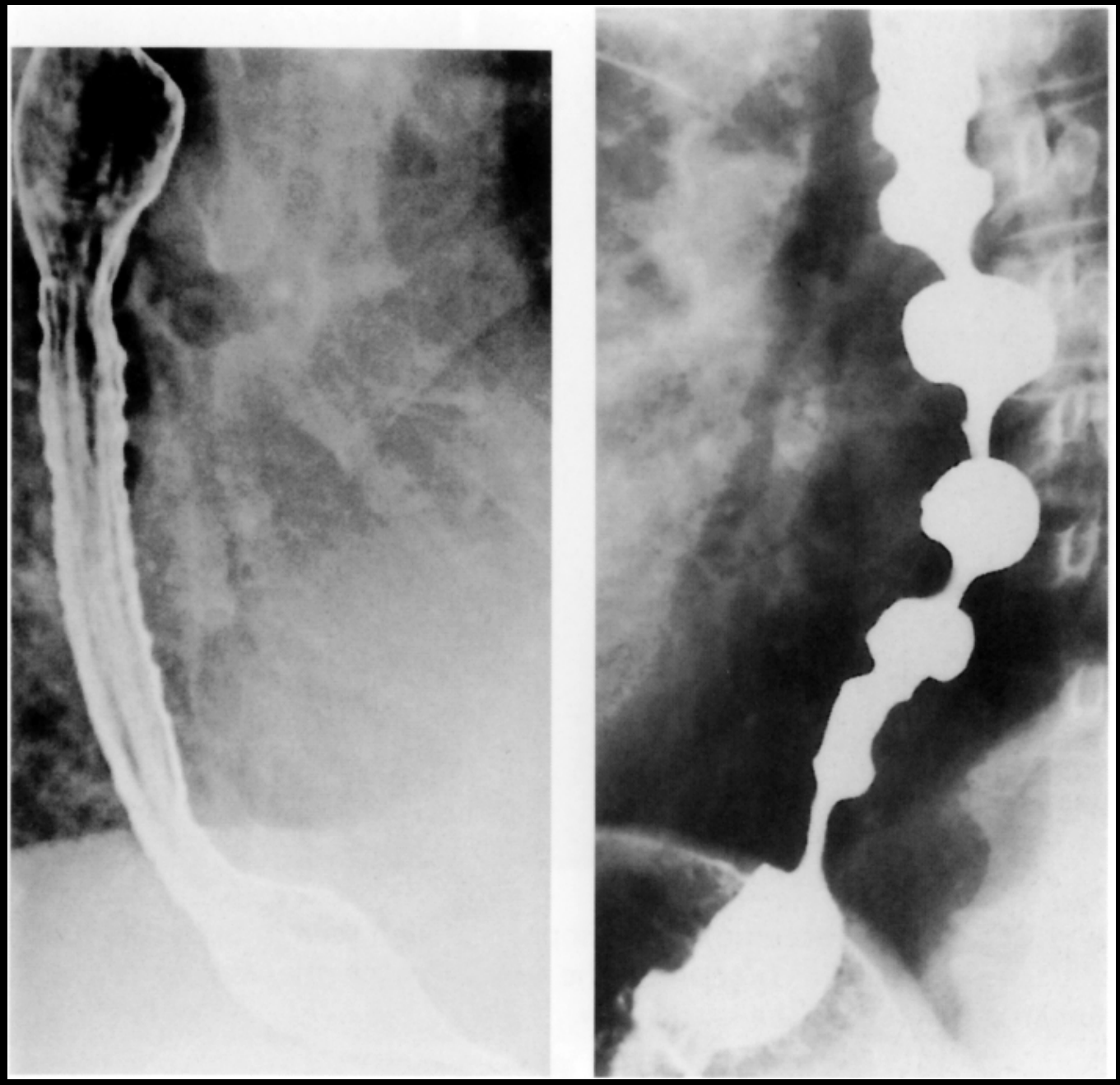
FB of the Pharynx



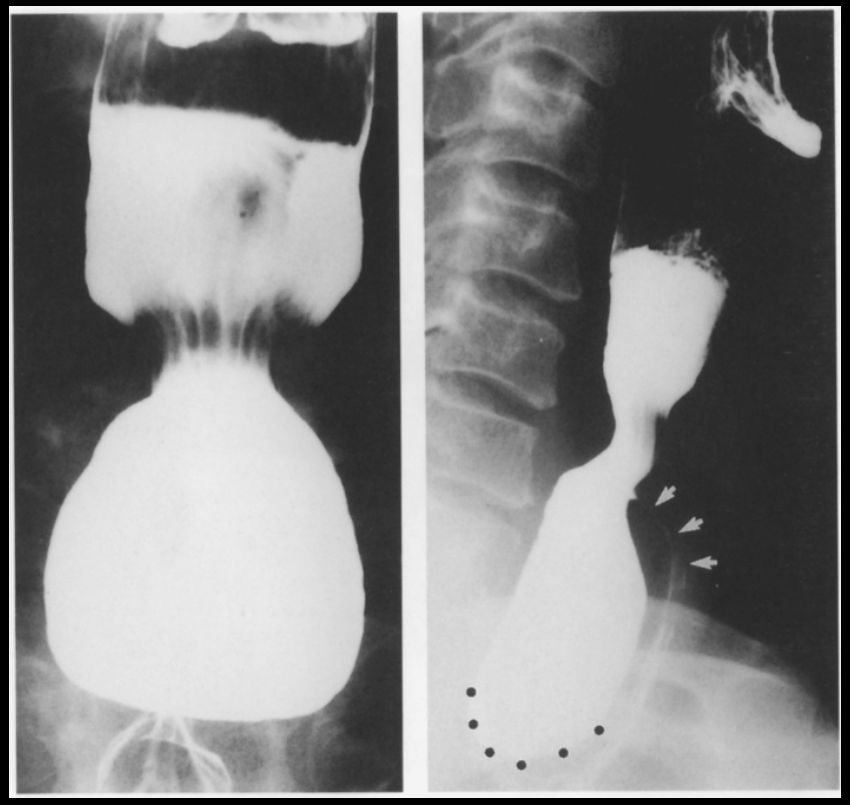
FB of the esophagus

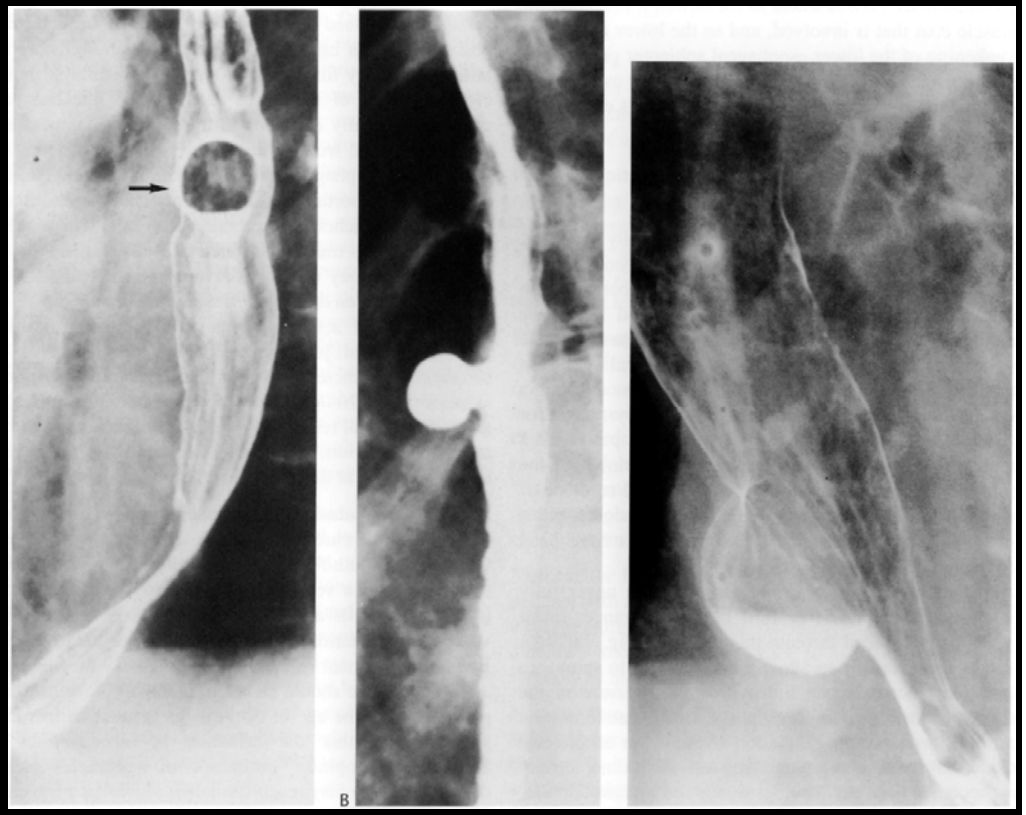
FB of the esophagus (Food Bolus)

Tertiary contractions of the oesophagus

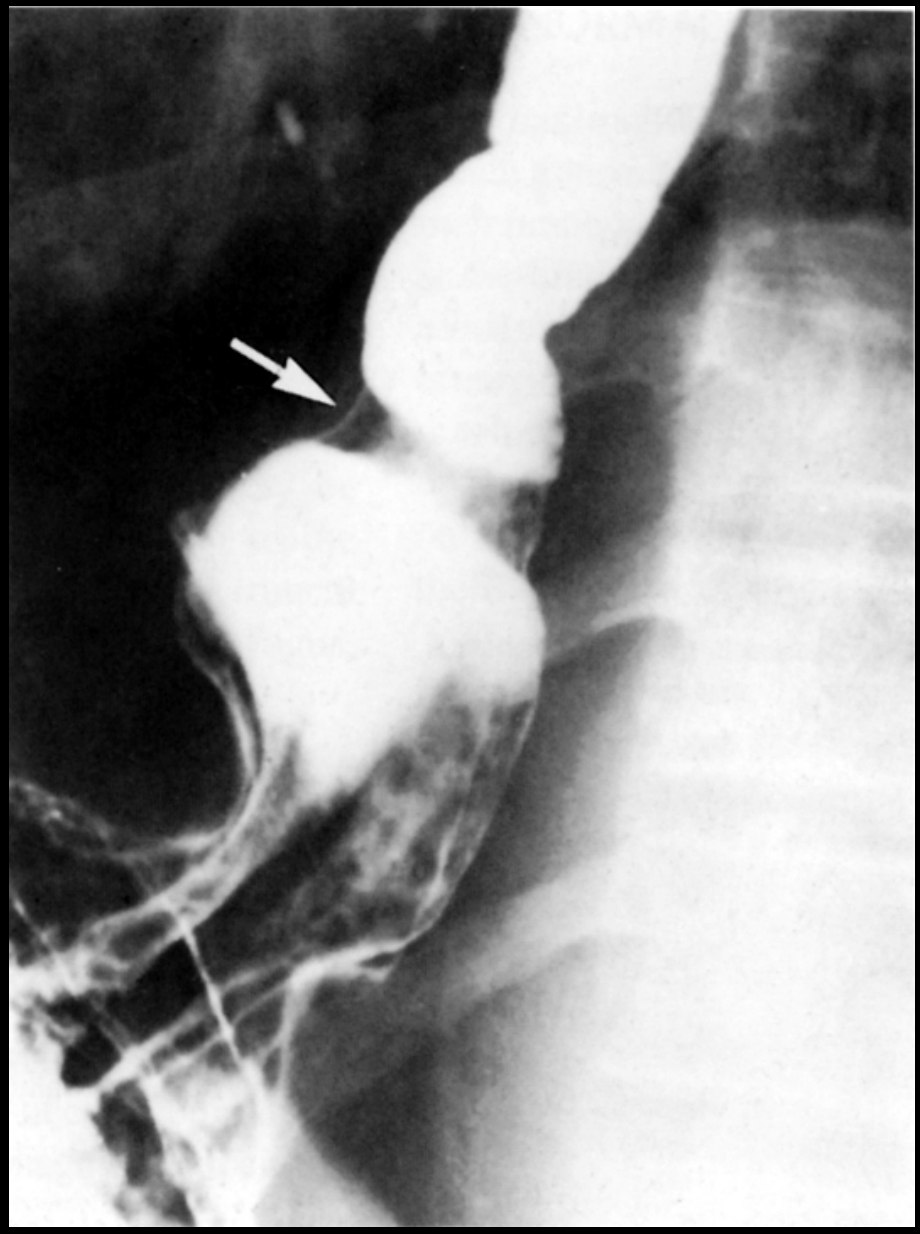


Esophageal Diverticulum

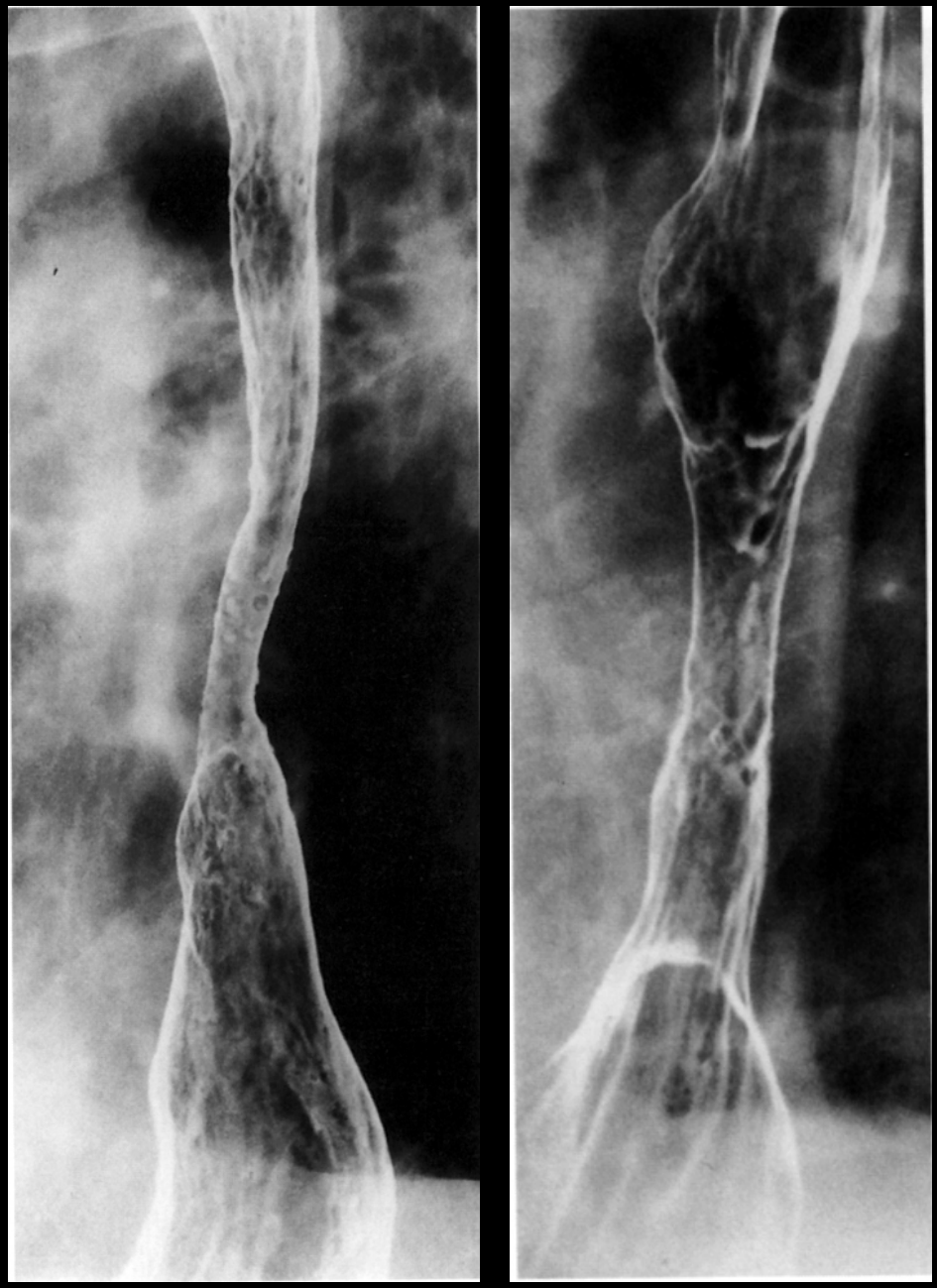


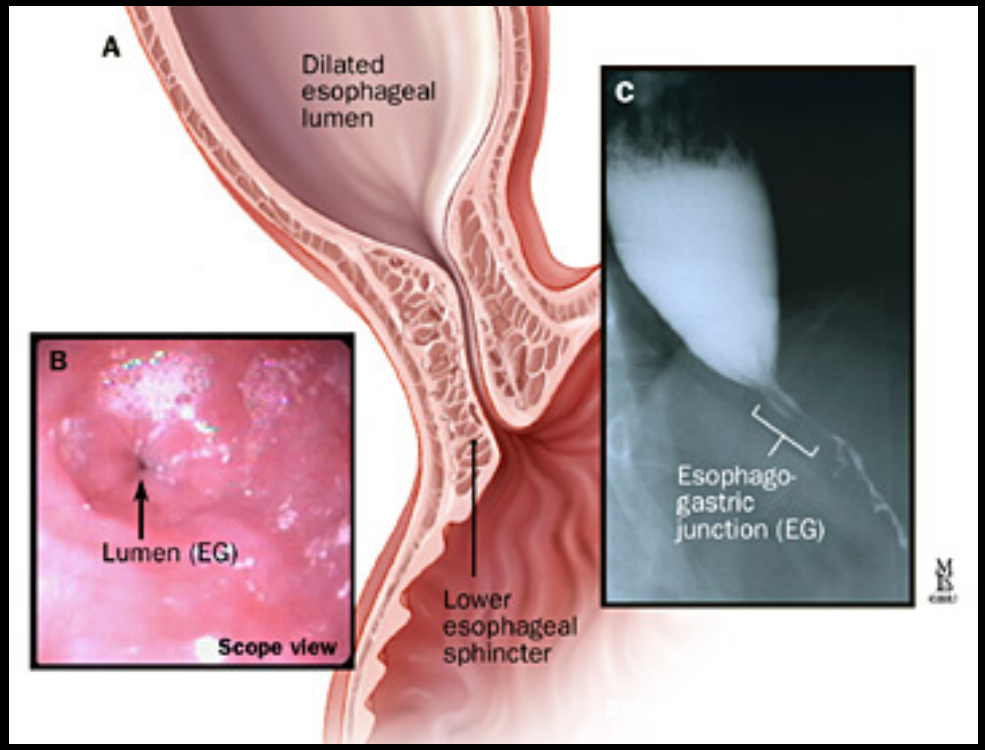


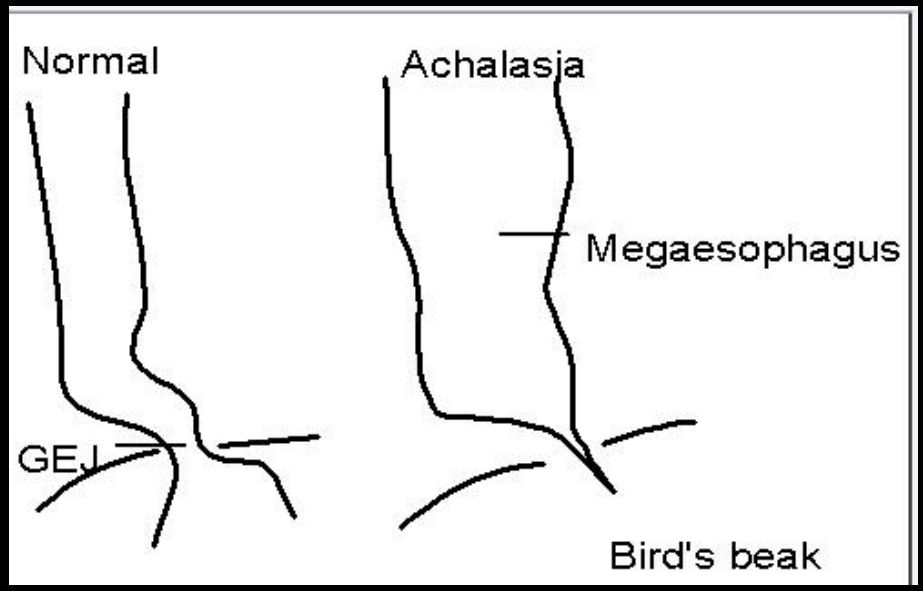
Hiatus Hernia



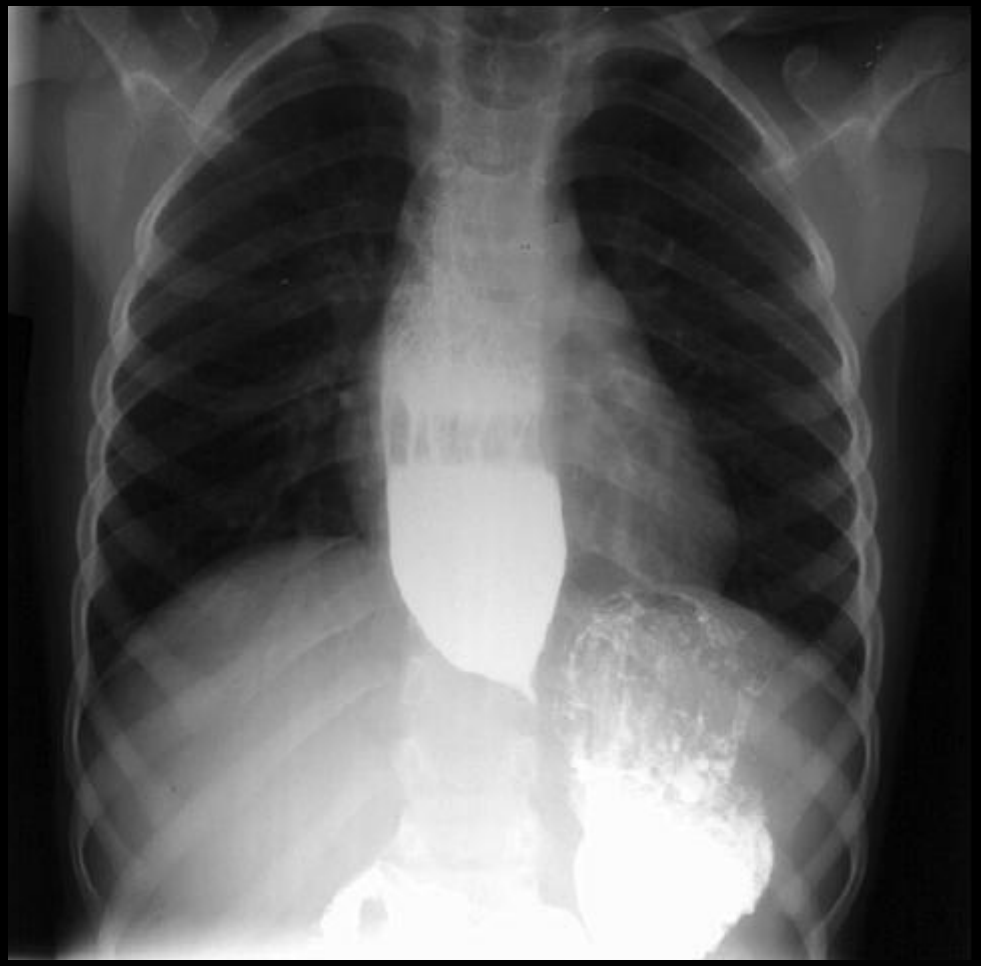
Benign esophageal stricuture



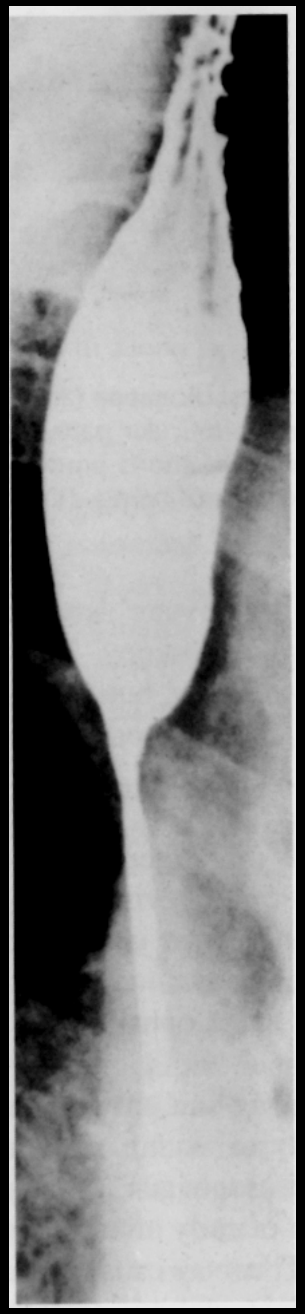

A
Dilated esophageal lumen
B
Lumen (EG)
Scope view
Lower esophageal sphincter
C
Esophago-gastric junction (EG)


Normal
Achalasja
Megaesophagus
GEJ
Bird's beak

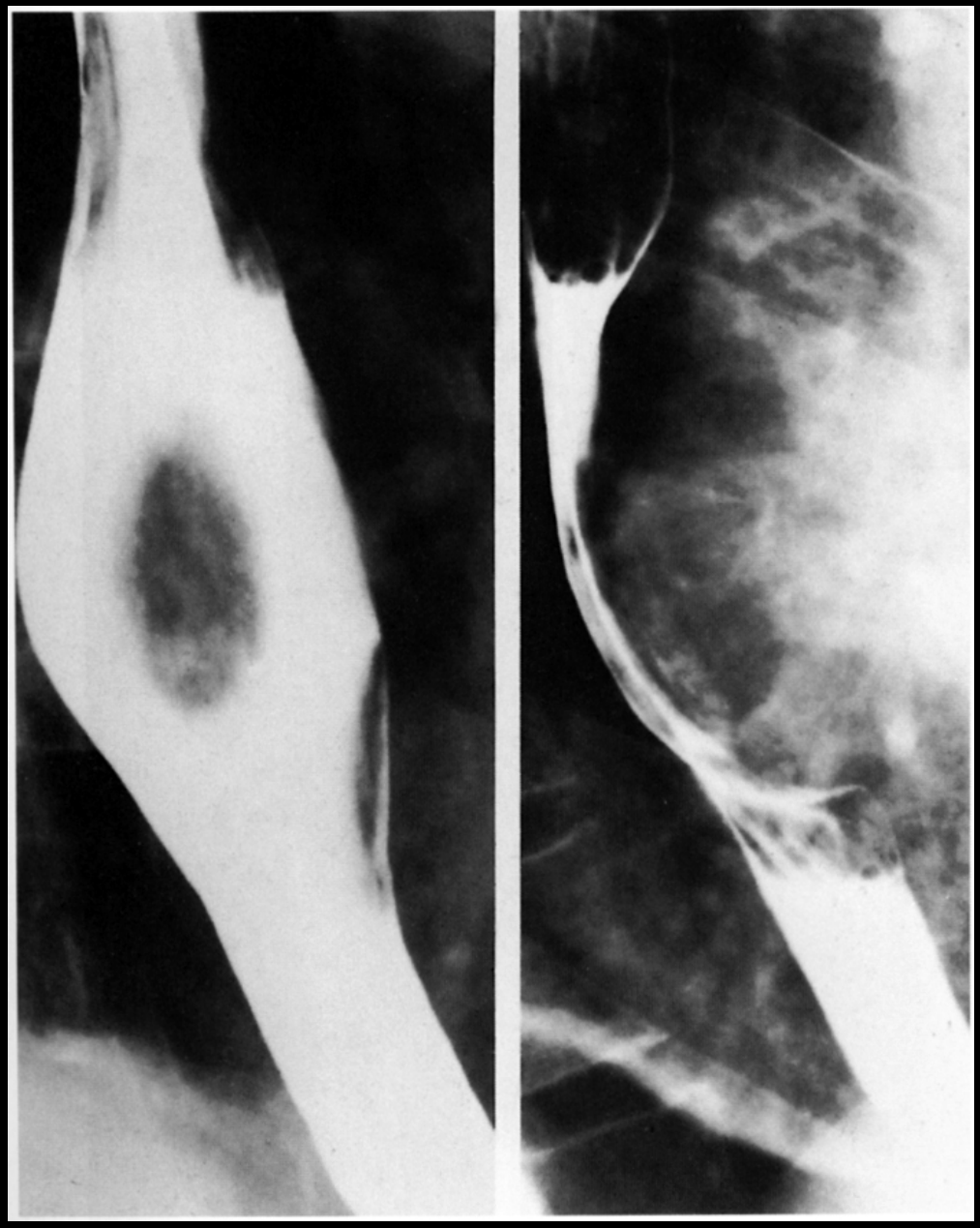
Achalasia (Ba Swallow)



Benign esophageal stricuture

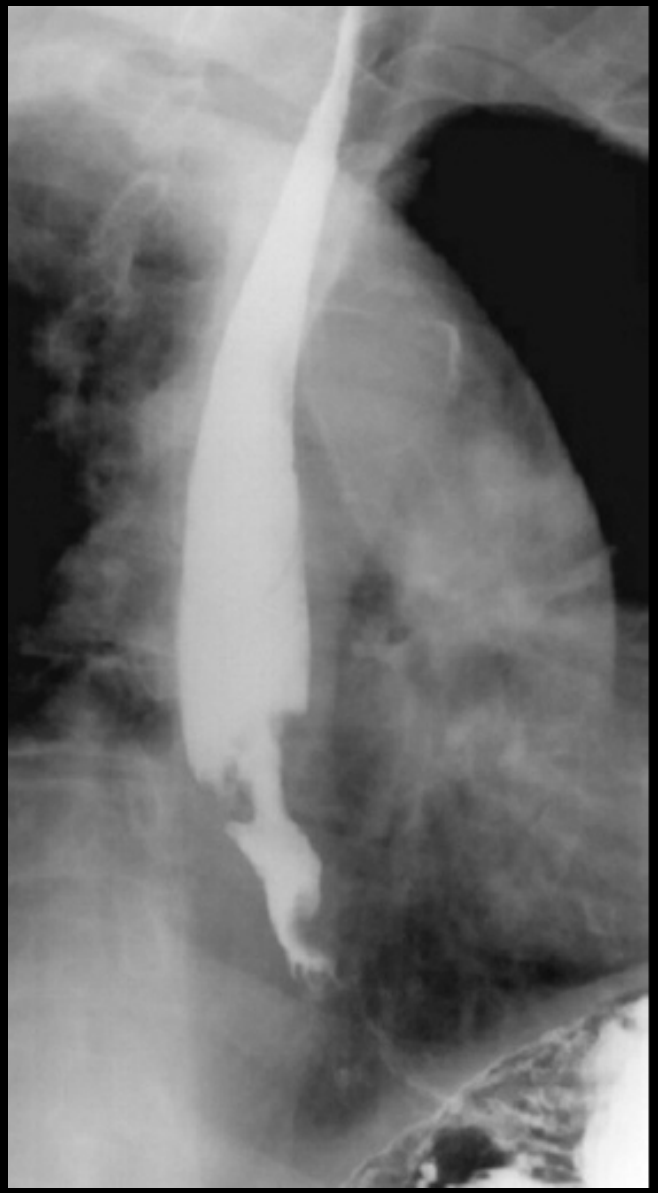


Benign esophageal mass

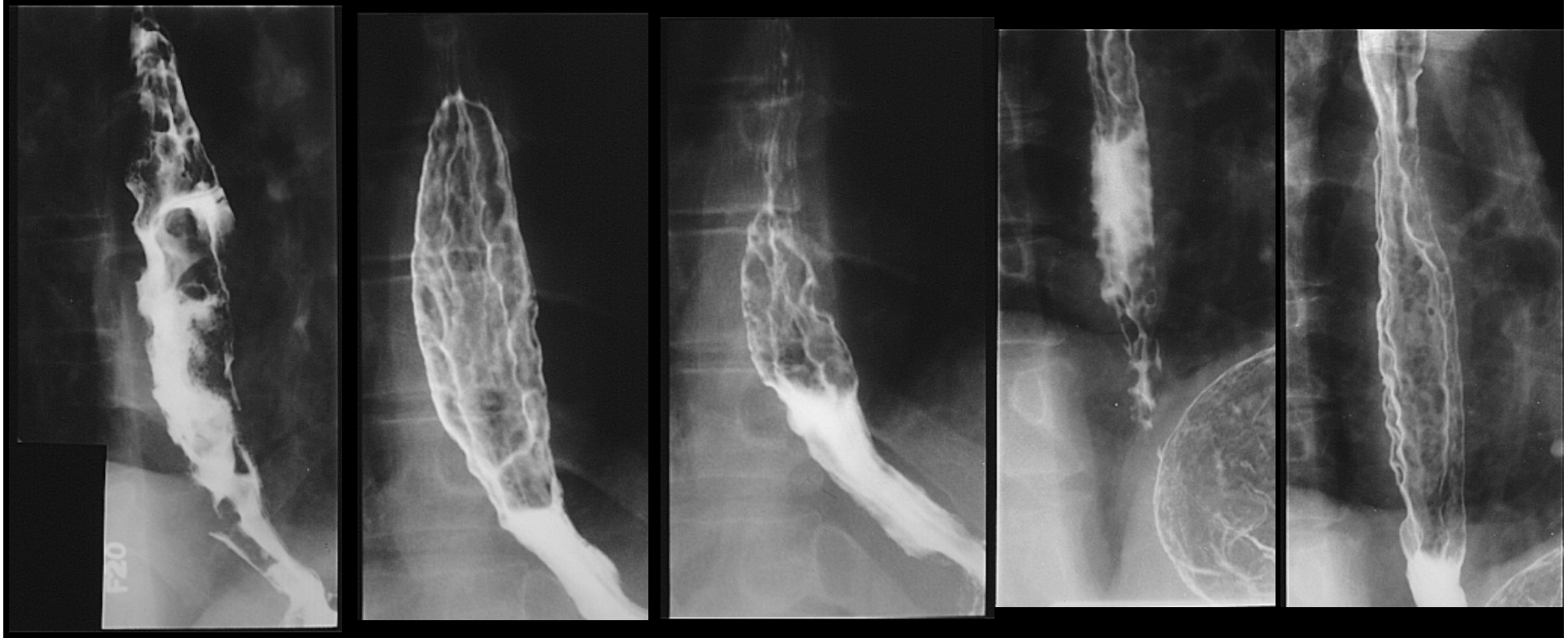


Malignant esophageal mass

Malignant esophageal mass



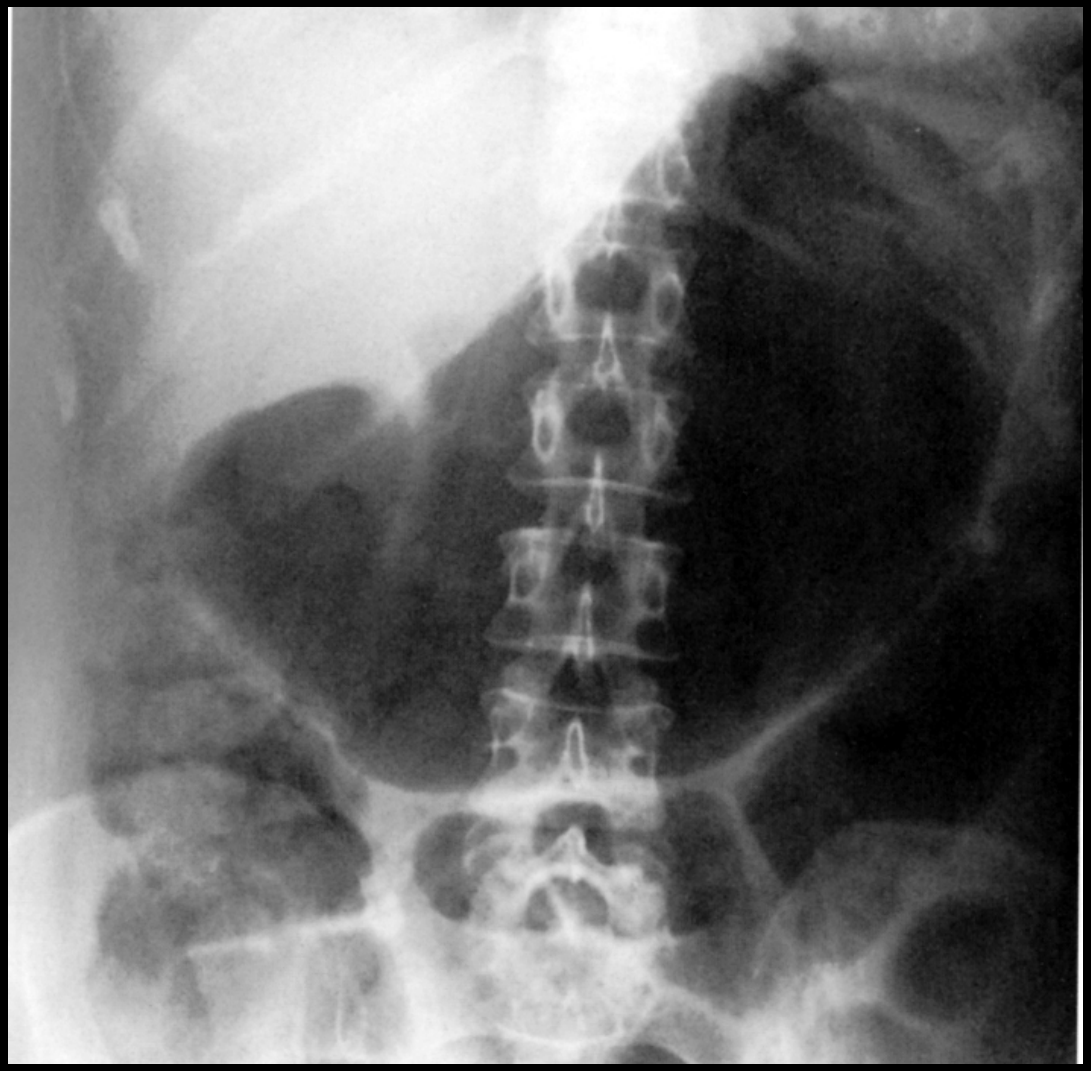
Esophageal Varices



The Stomach & Duodenum

- Pathology

Dilated Stomach



GU

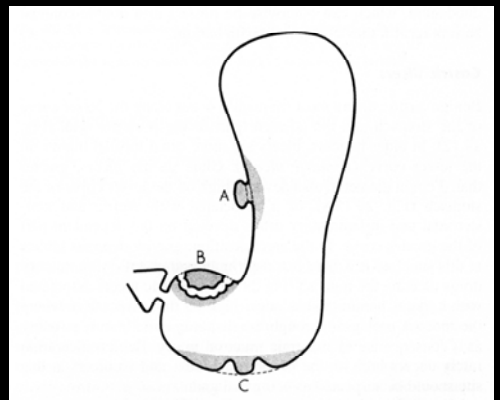
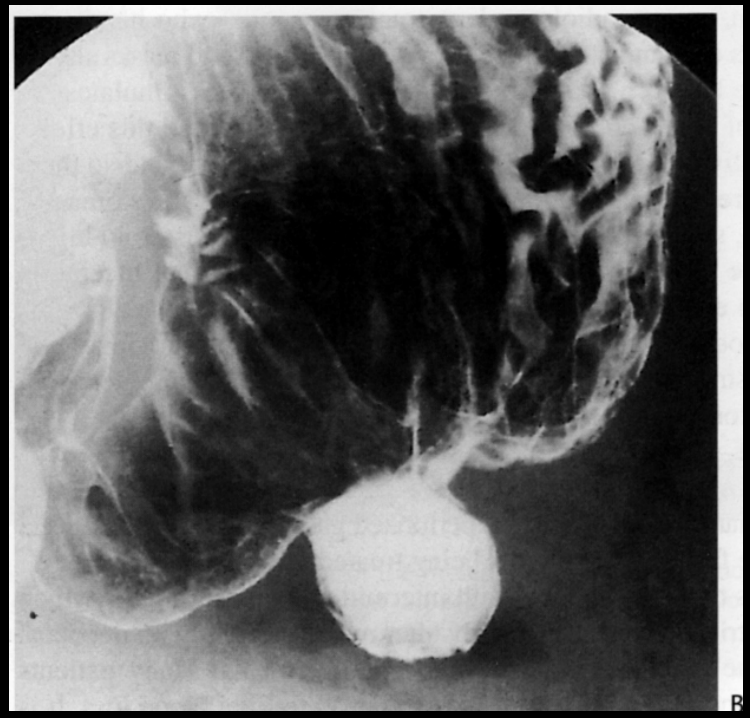


Fig. 29.14 Three characteristic types of gastric ulcer; the shading represents barium. A, benign, projecting, lesser curvature ulcer with collar (broken lines); B, malignant, intraluminal ulcer with irregular nodular tumor rim; C, non-projecting benign greater curvature ulcer.



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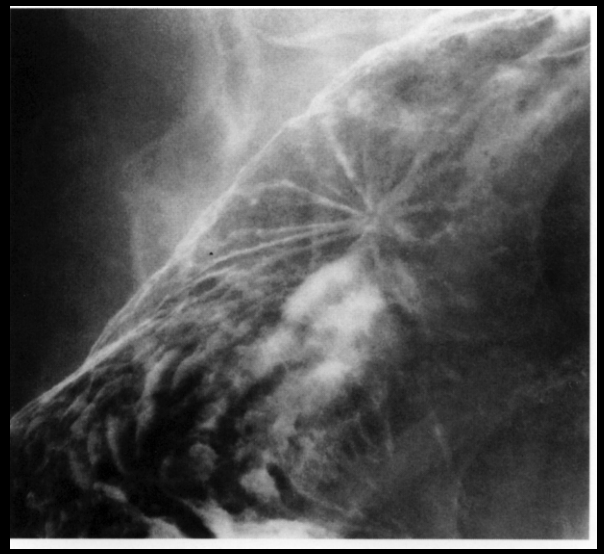
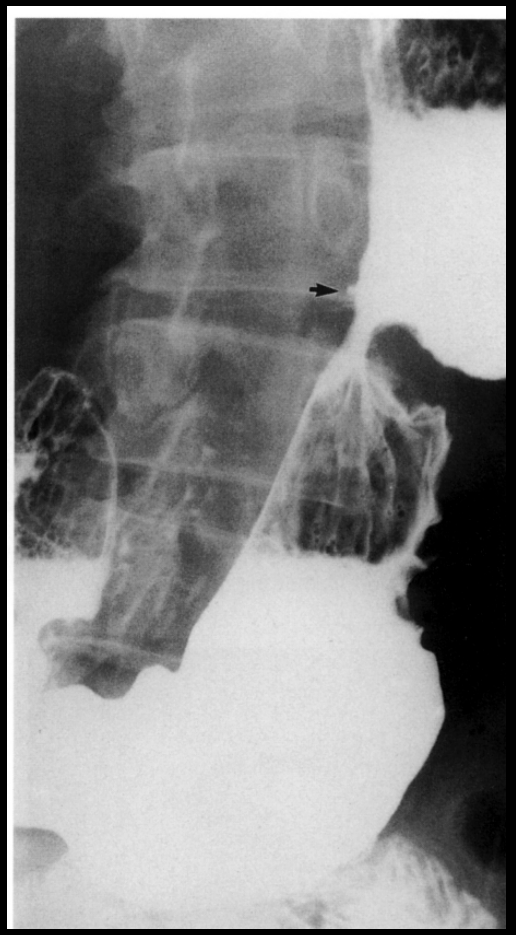
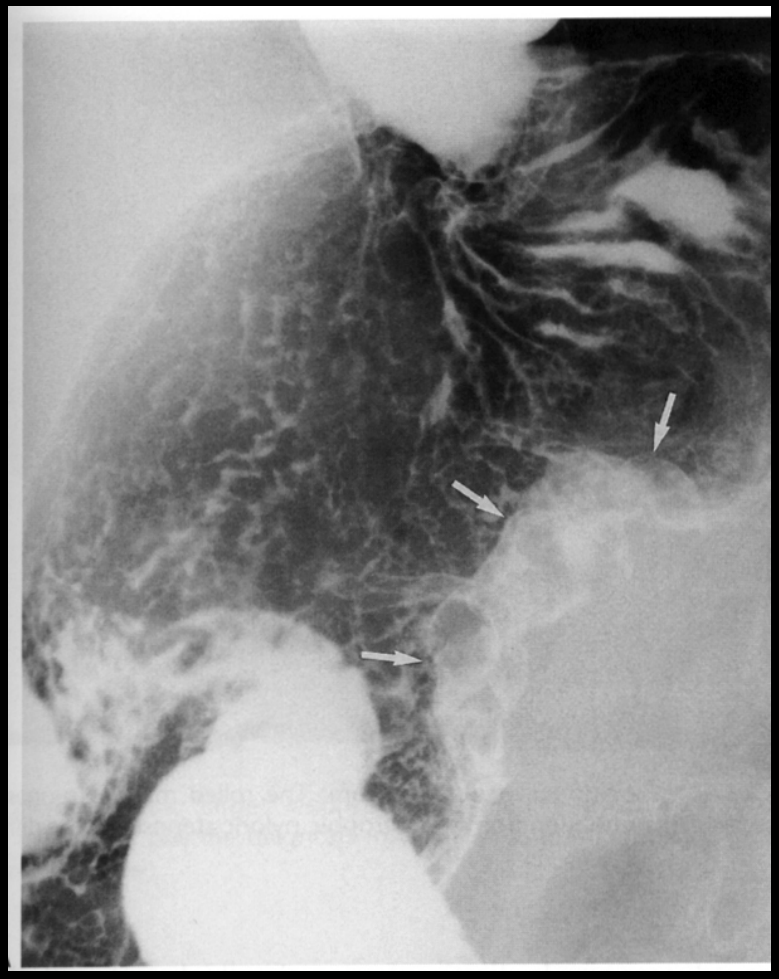
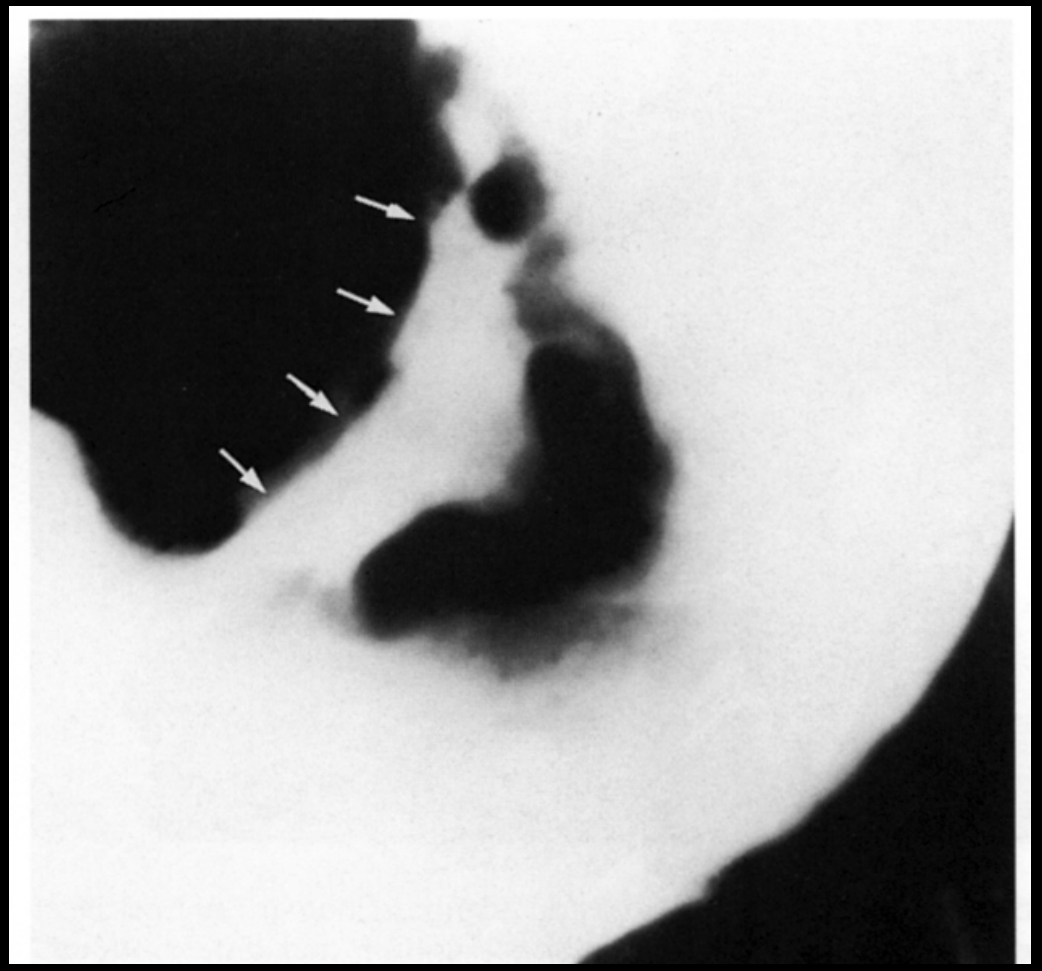




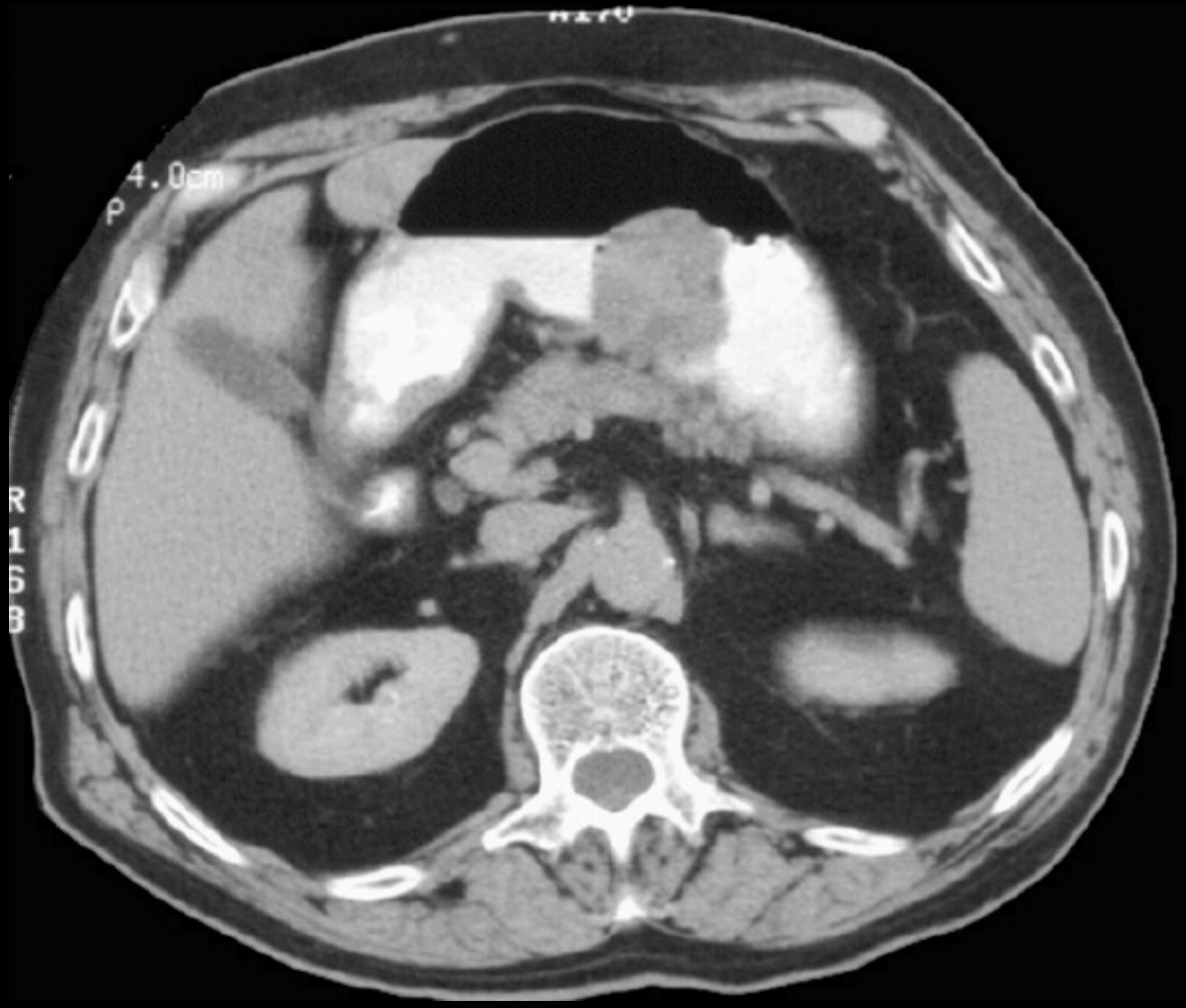
GU

Malignant Gastric mass

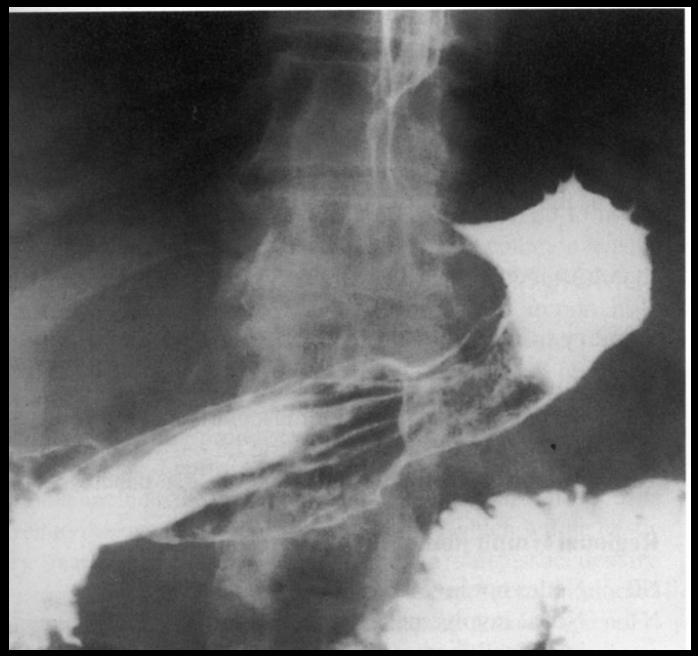




Malignant Gastric mass

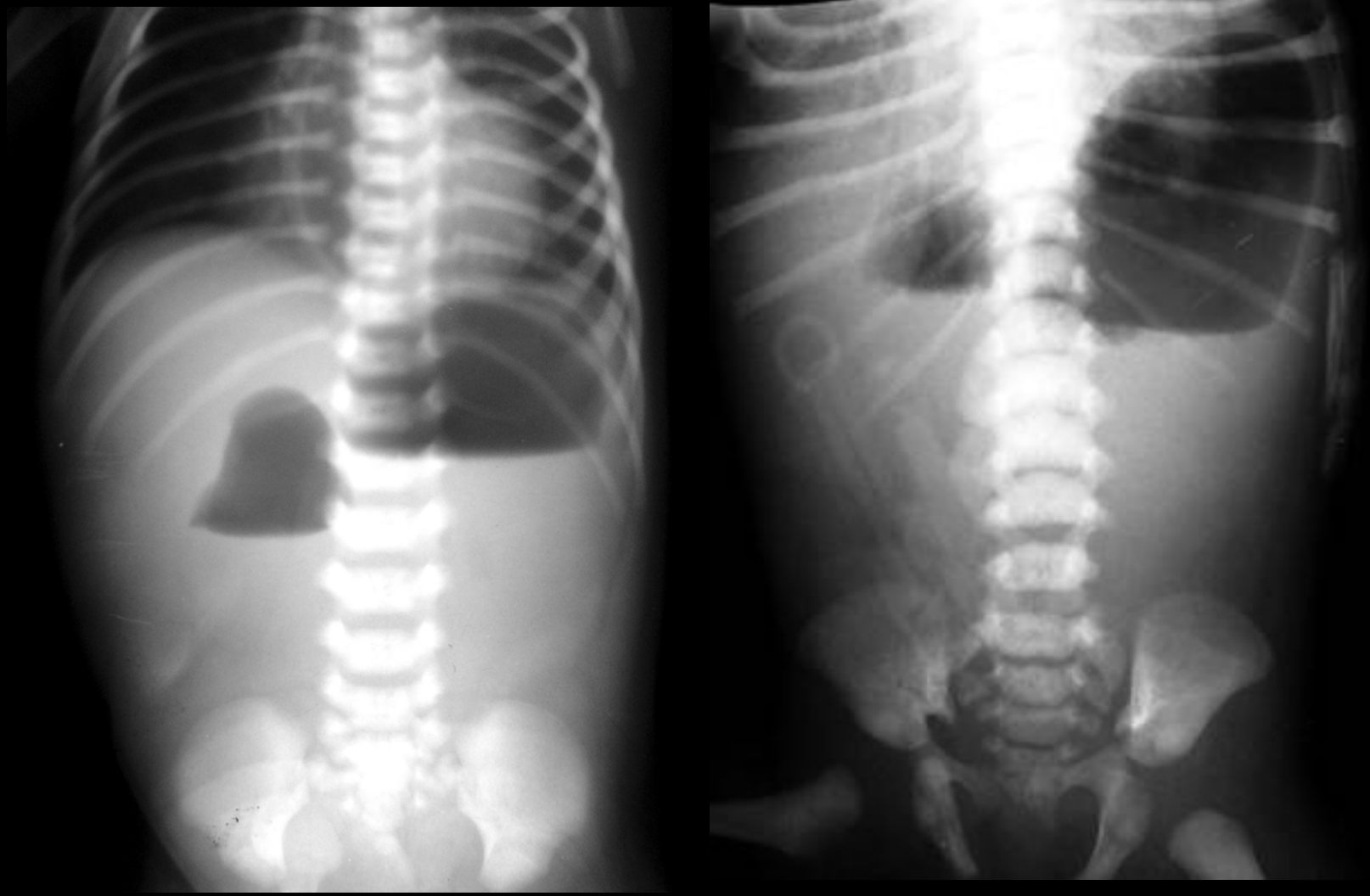


Malignant Gastric mass (Linitis plastica)

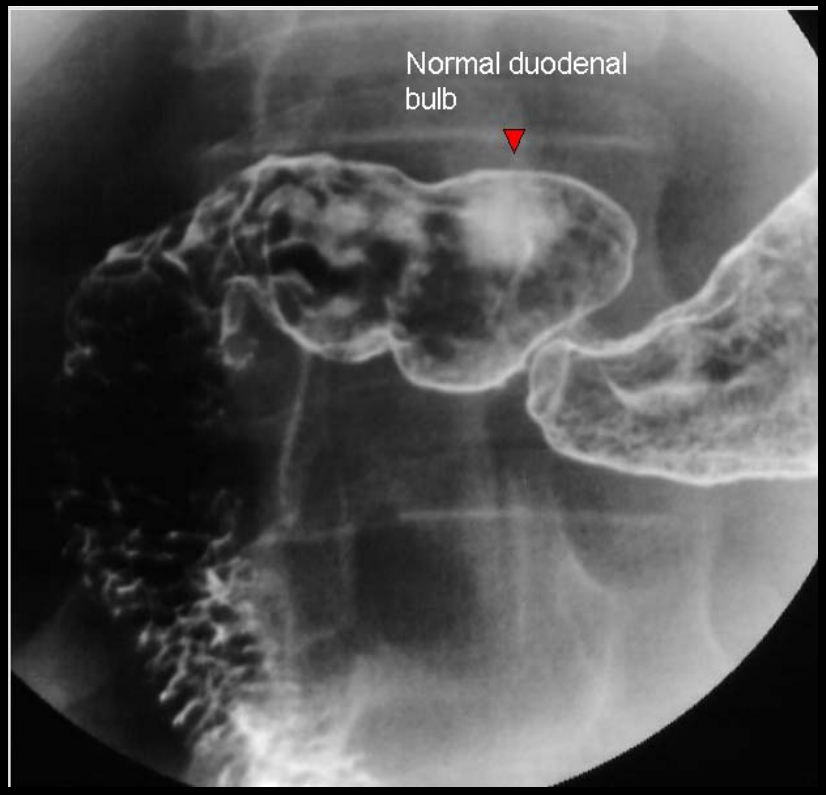


Malignant Gastric mass

Duodenal atresia



DU

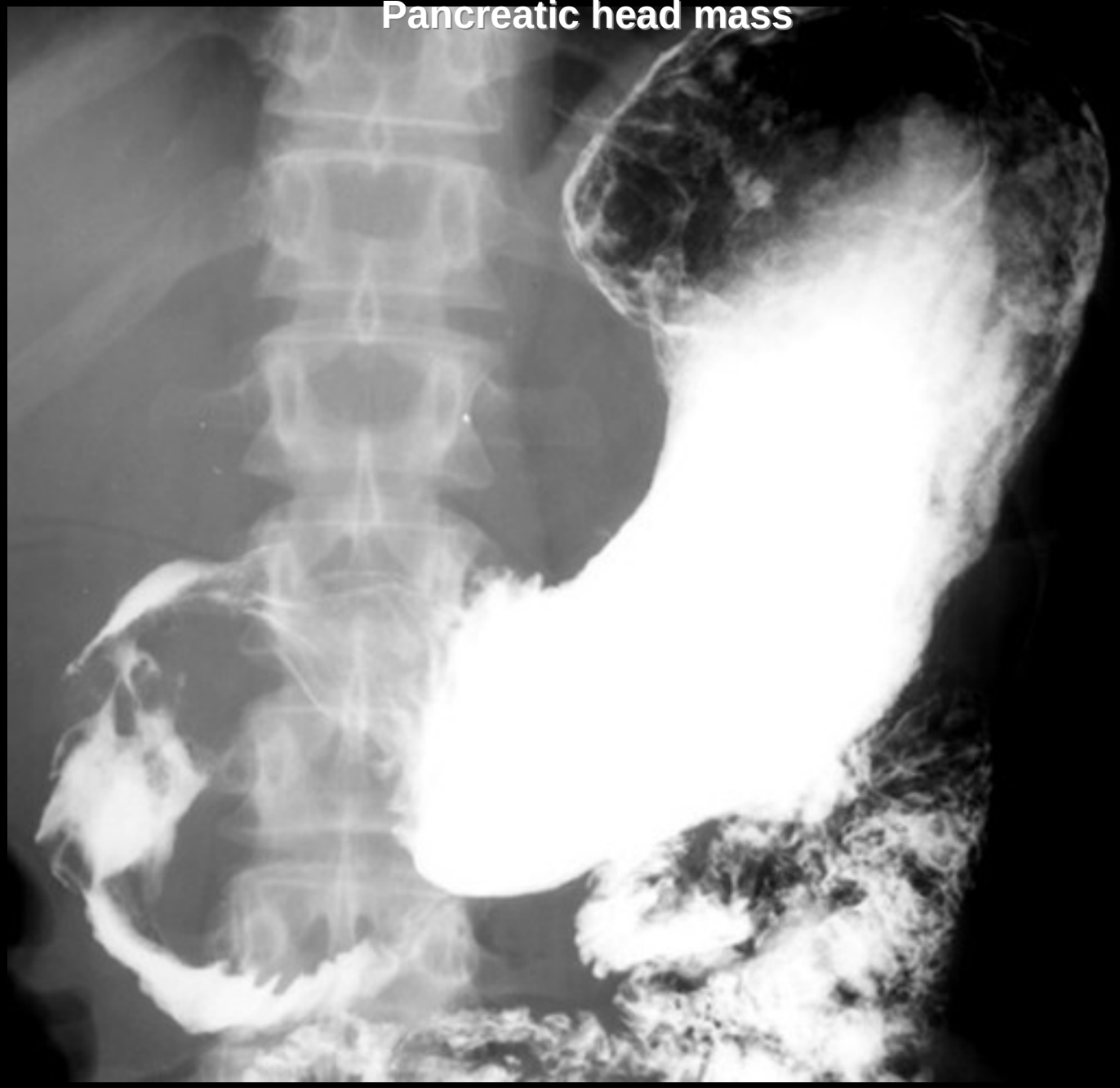


DU

Pseudopancreatic cyst

Pseudopancreatic cyst

Pancreatic head mass



The Small Intestine

- Pathology

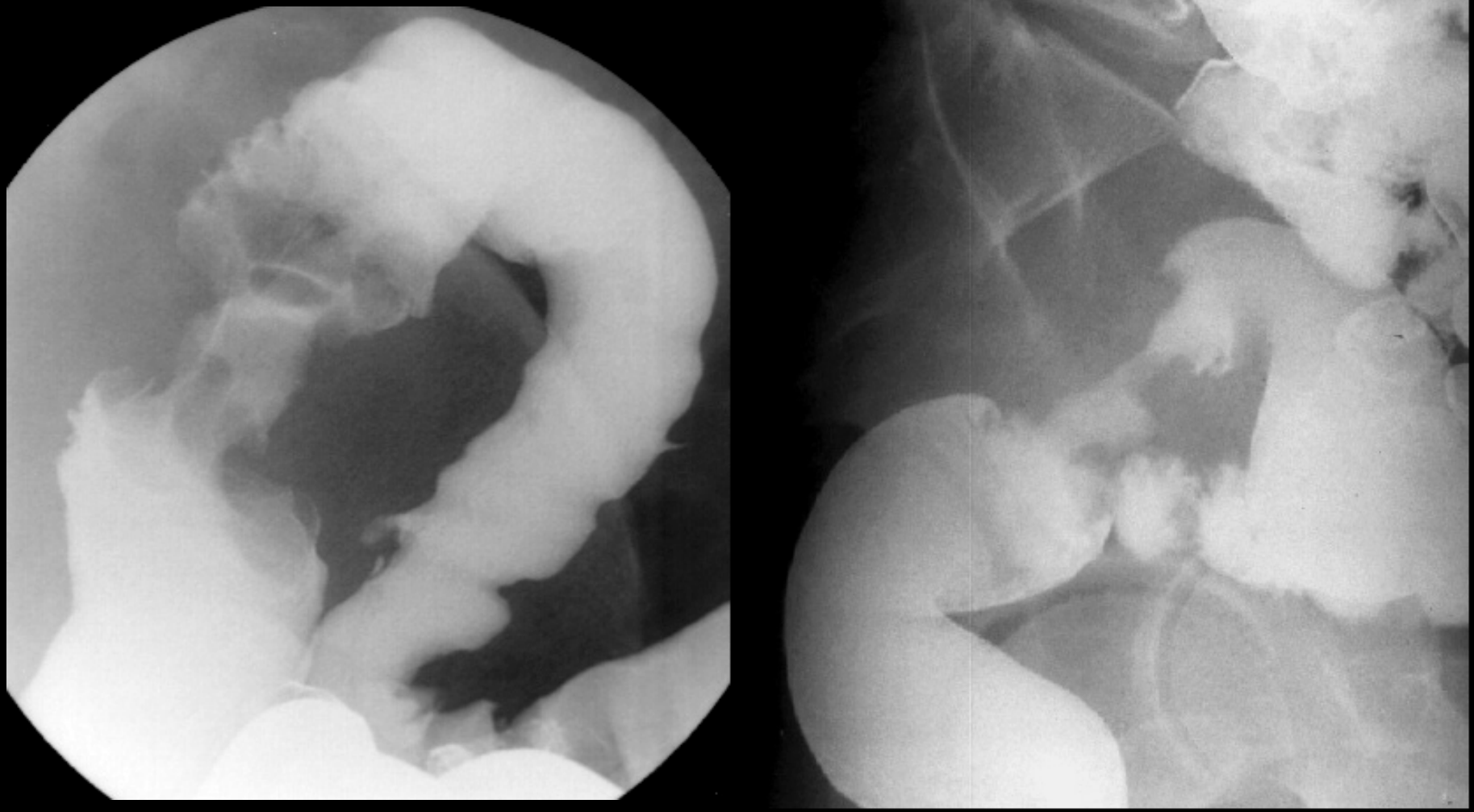
Chron’s Disease

The Large Intestine

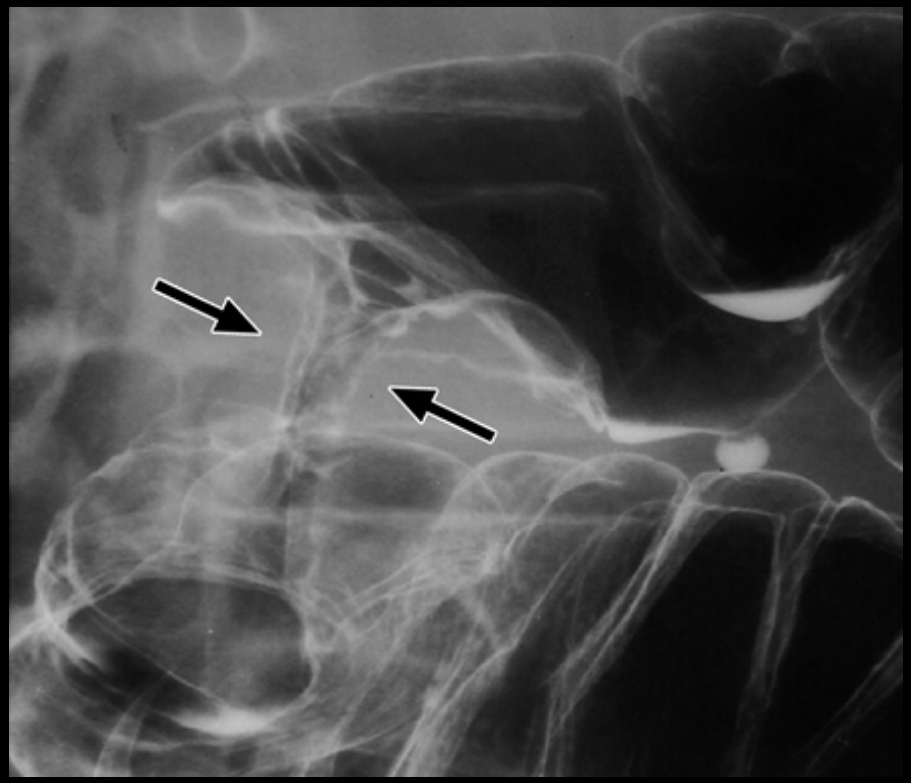
- Pathology

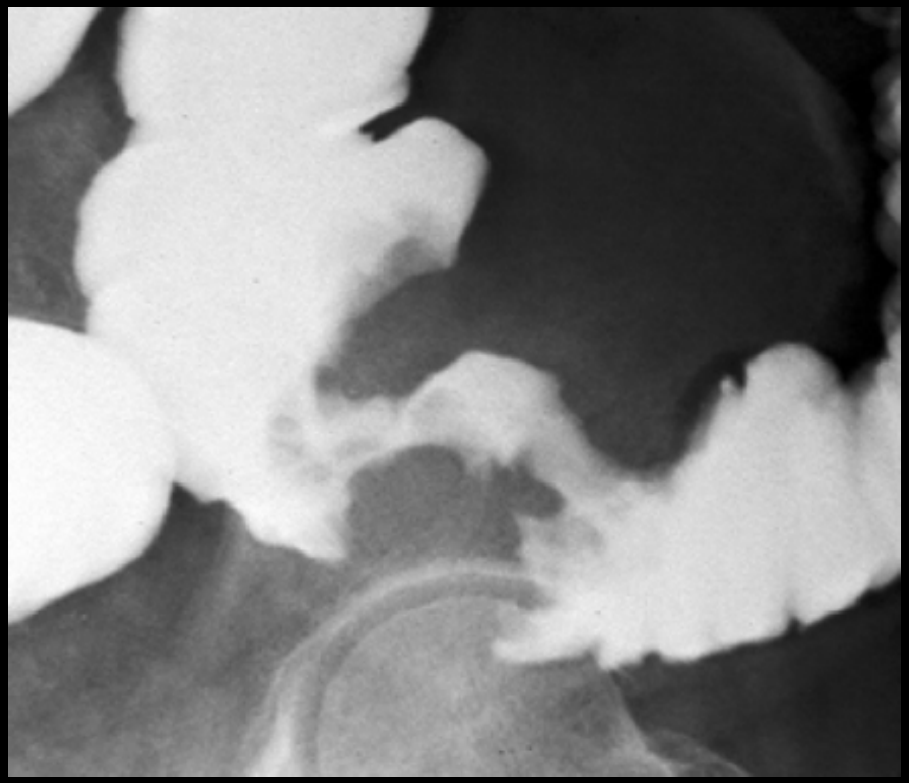
Colonic Polyposis (Familial)

Colonic Diverticulosis



Malignant Colonic Mass





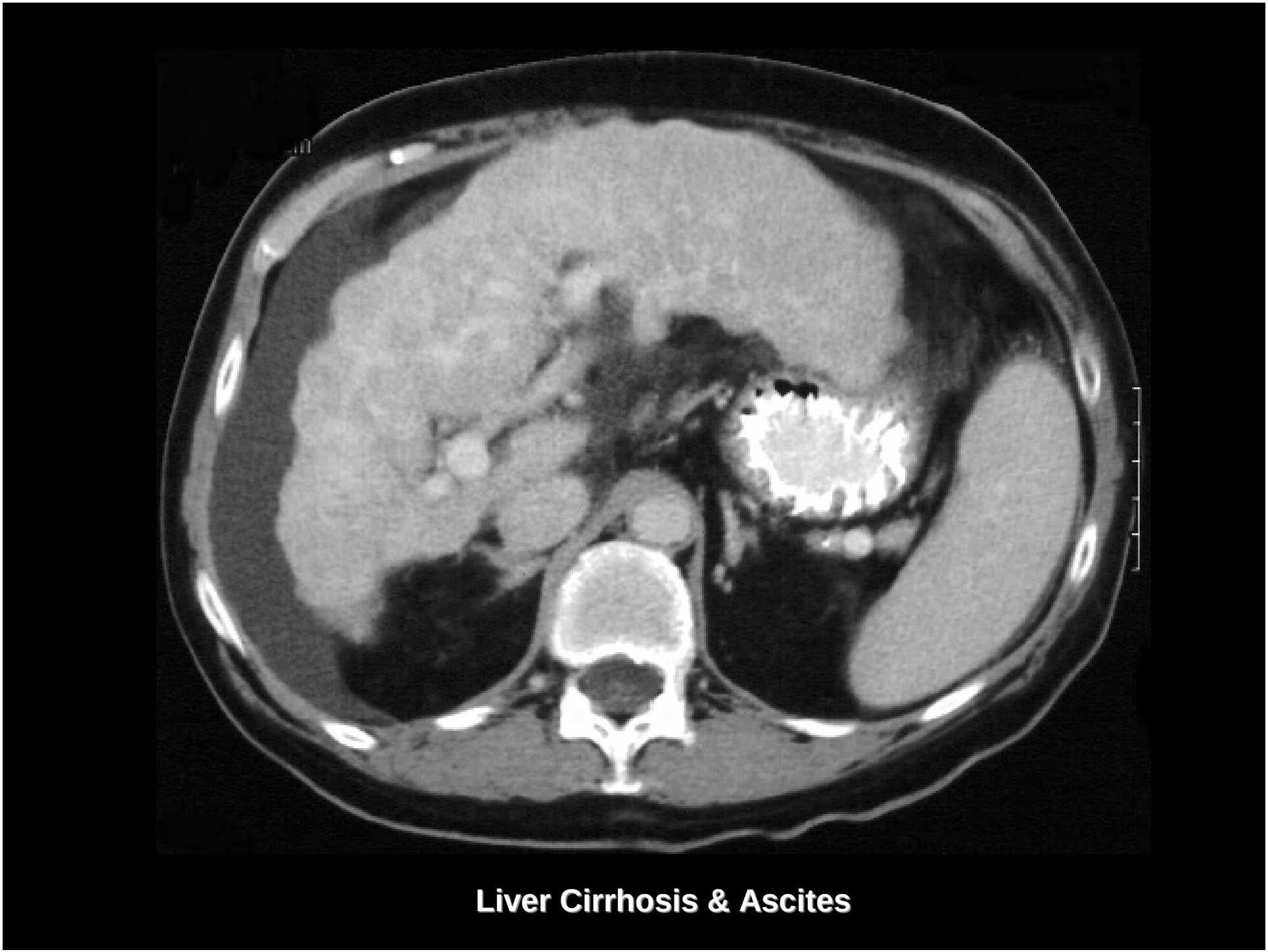
Malignant Colonic Mass

Malignant cecal Mass

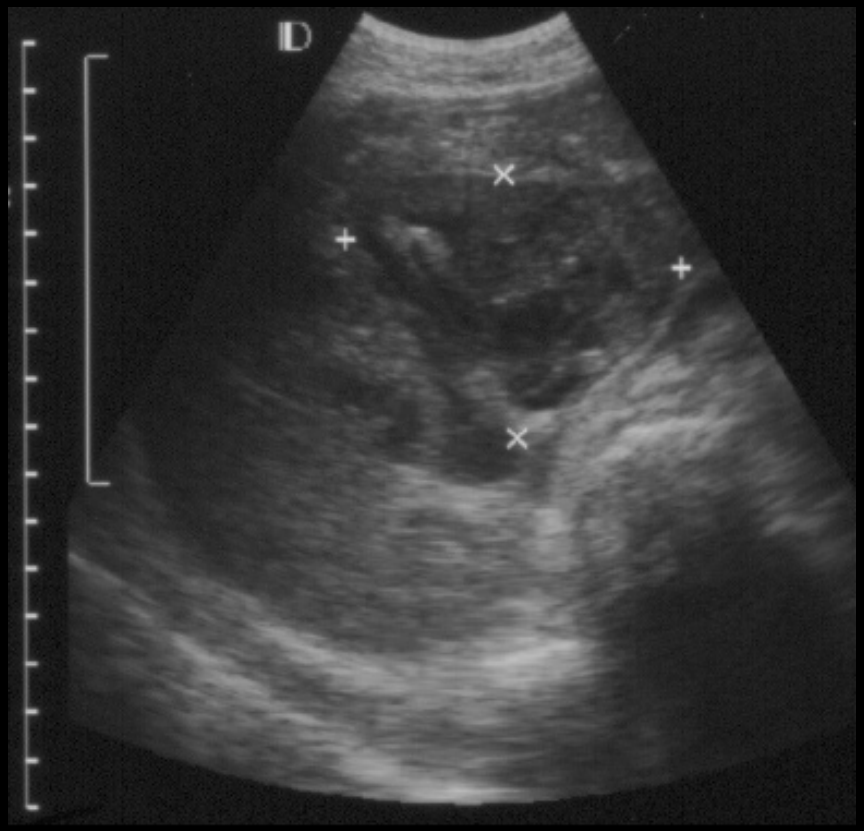
Hirschsprung’s Disease

The Liver

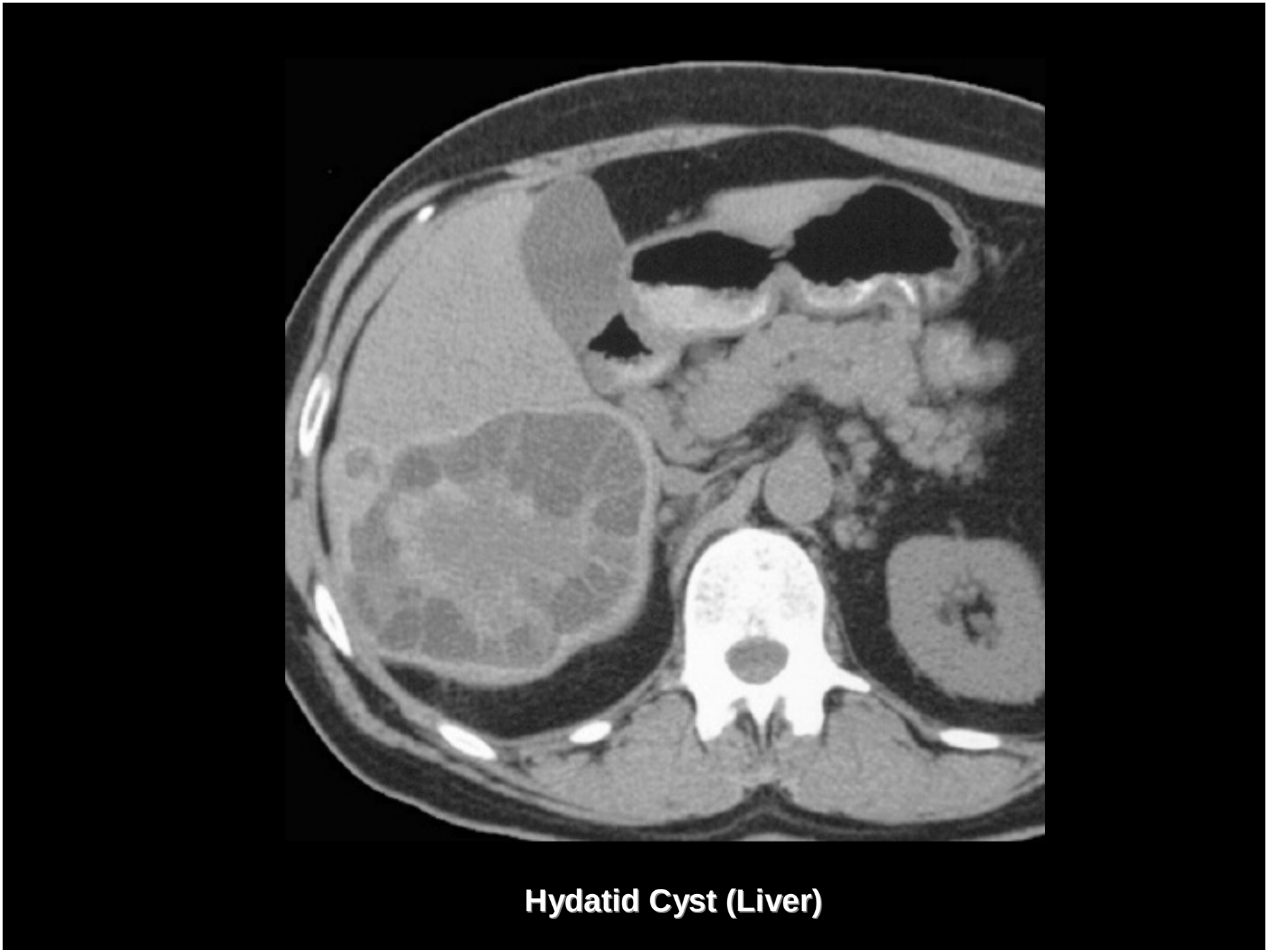
- Pathology



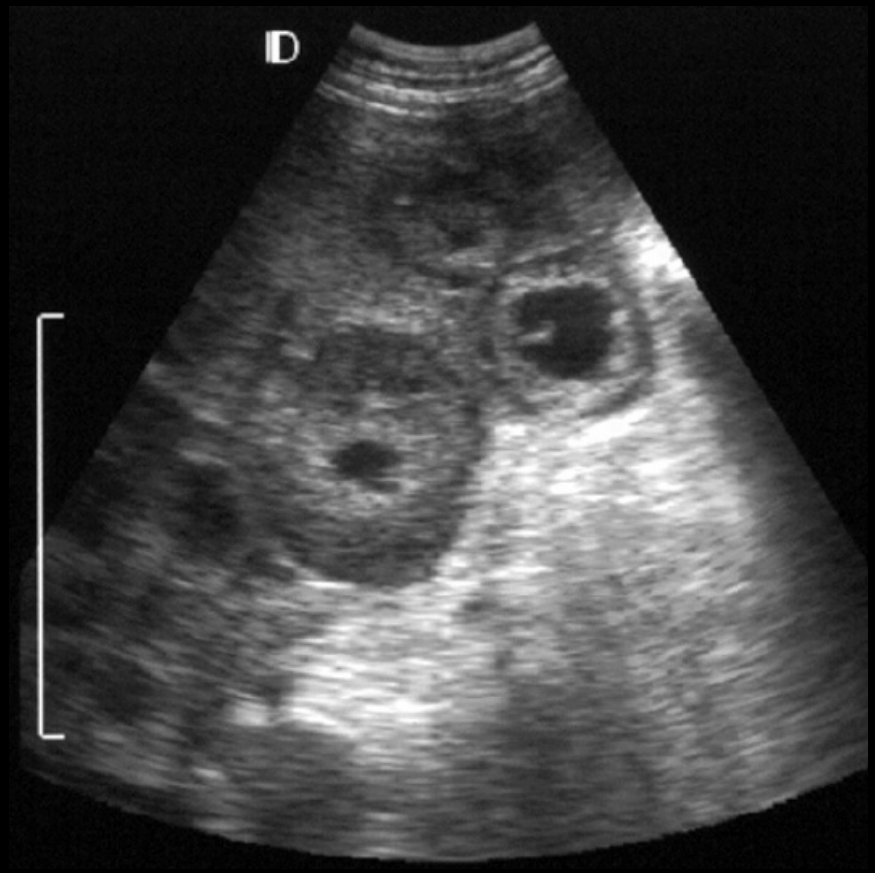
Liver Cirrhosis & Ascites



Liver Abcess (pyogenic)



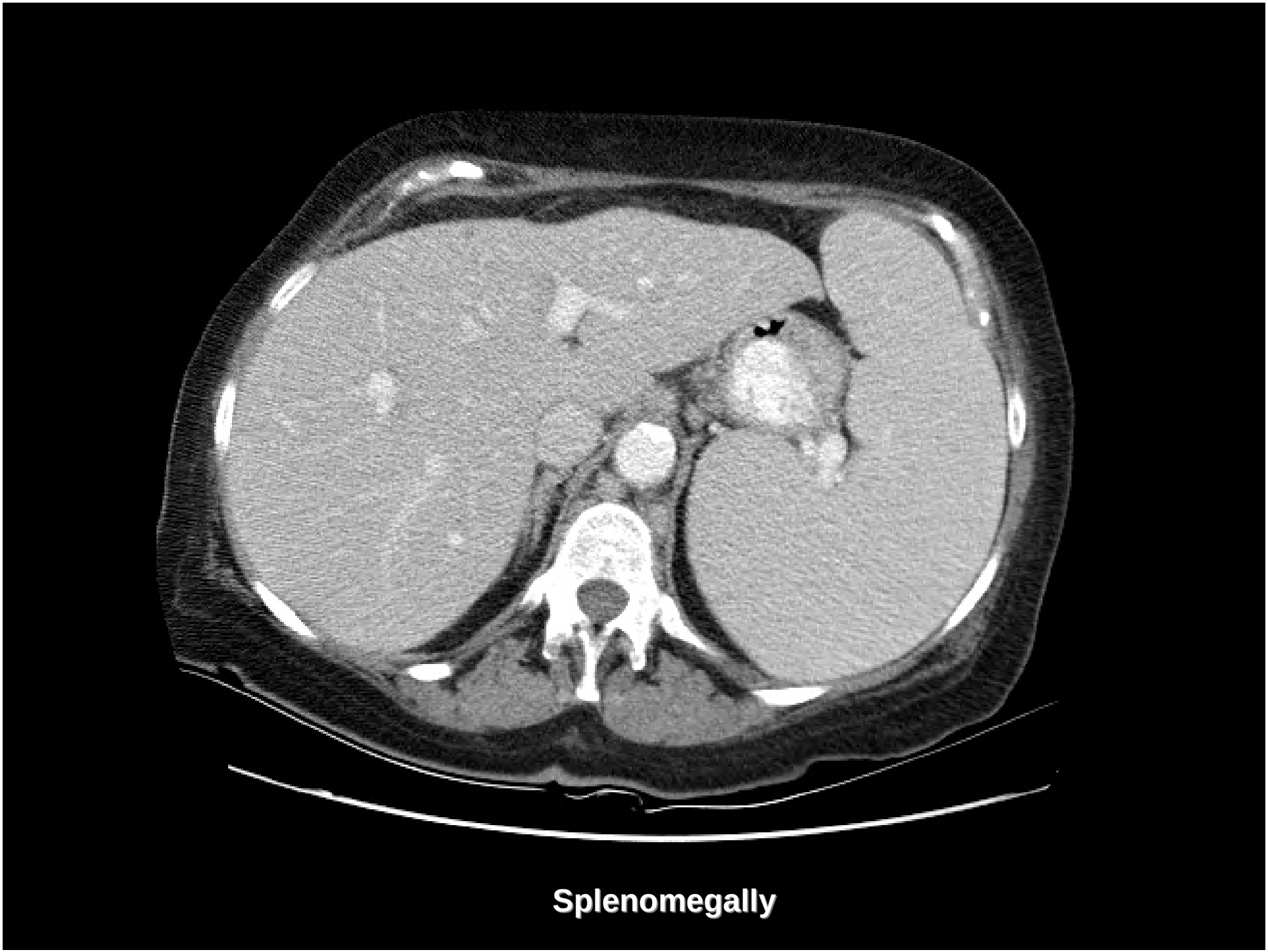
Hydatid Cyst (Liver)



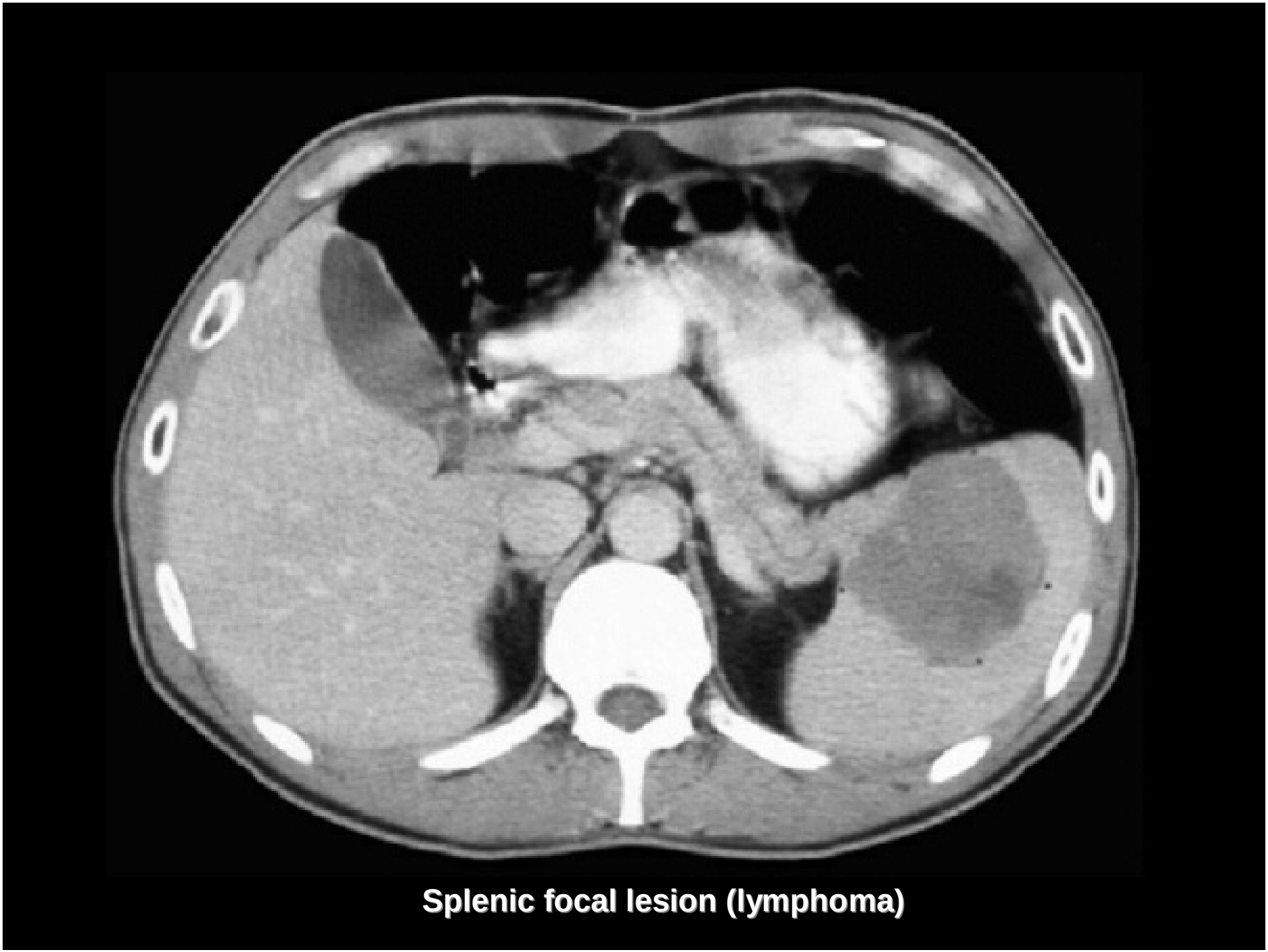
Metastasis in the liver

The Spleen

- Pathology

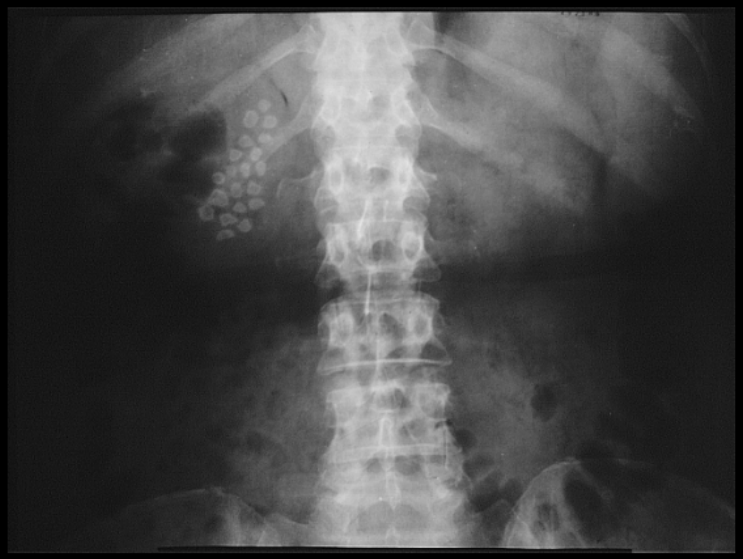


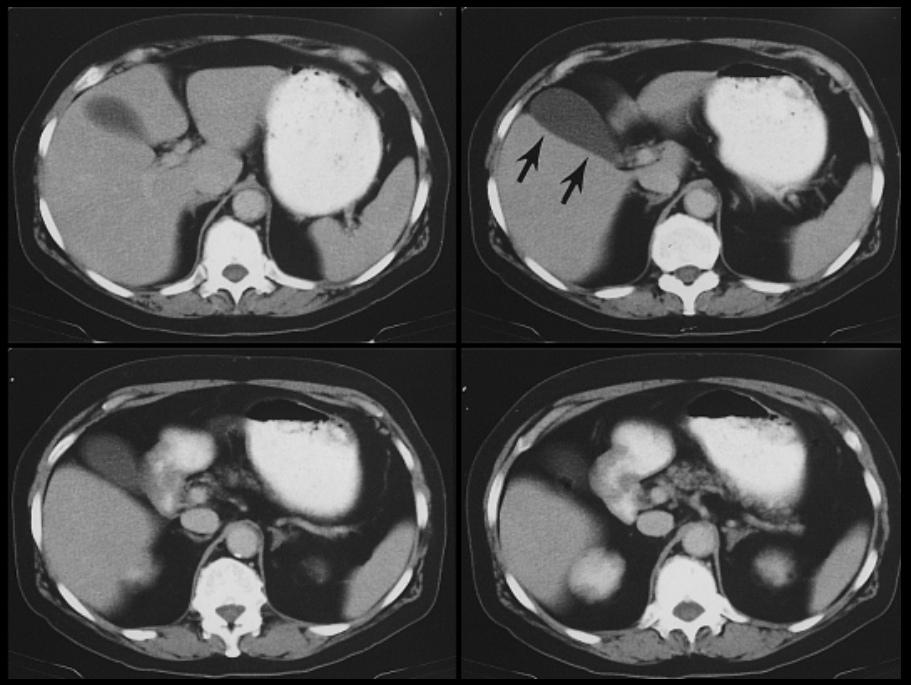
Splenomegally

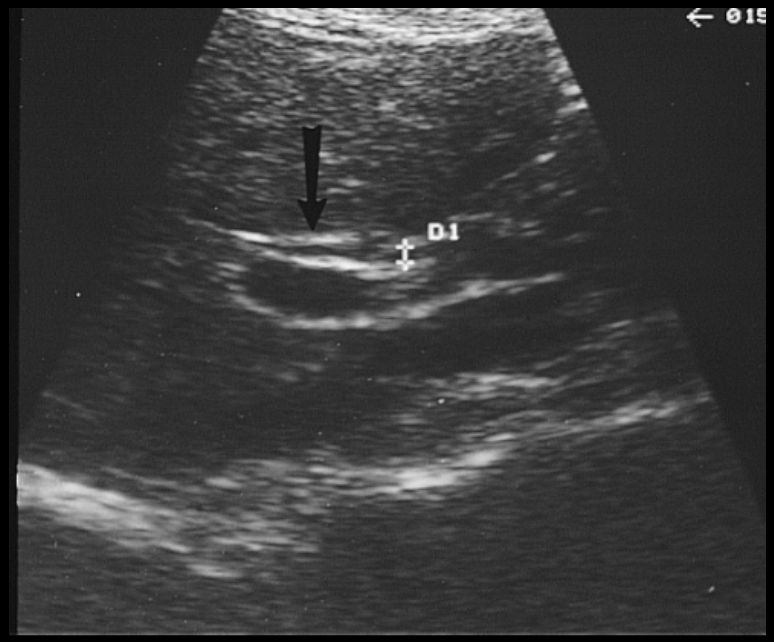


Splenic focal lesion (lymphoma)

The Biliary System



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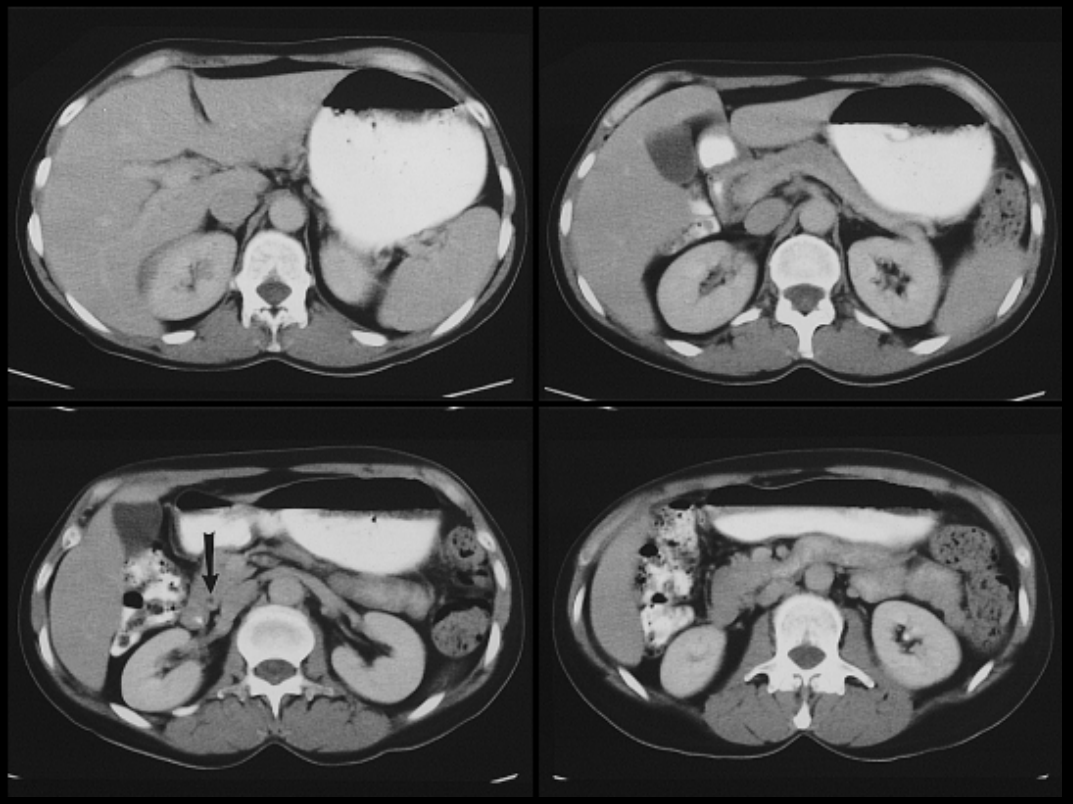
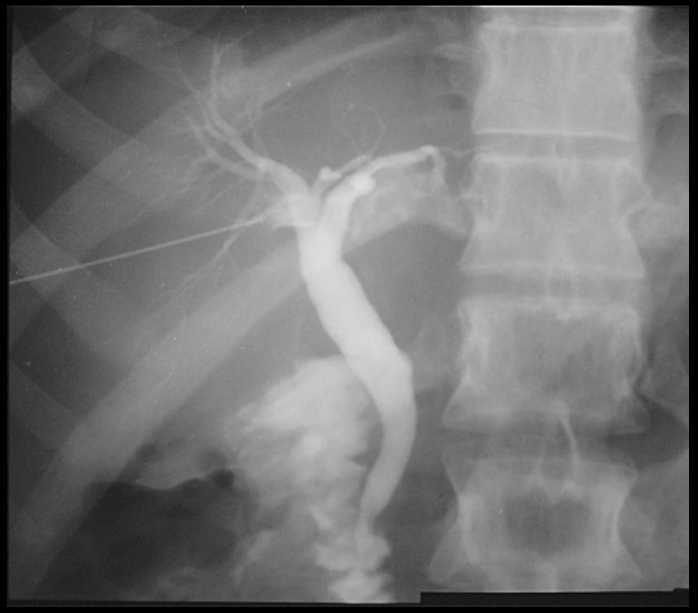
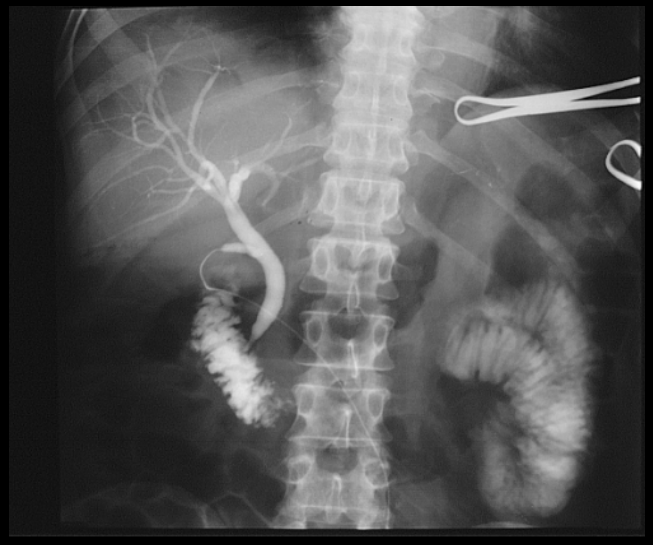


ERCP

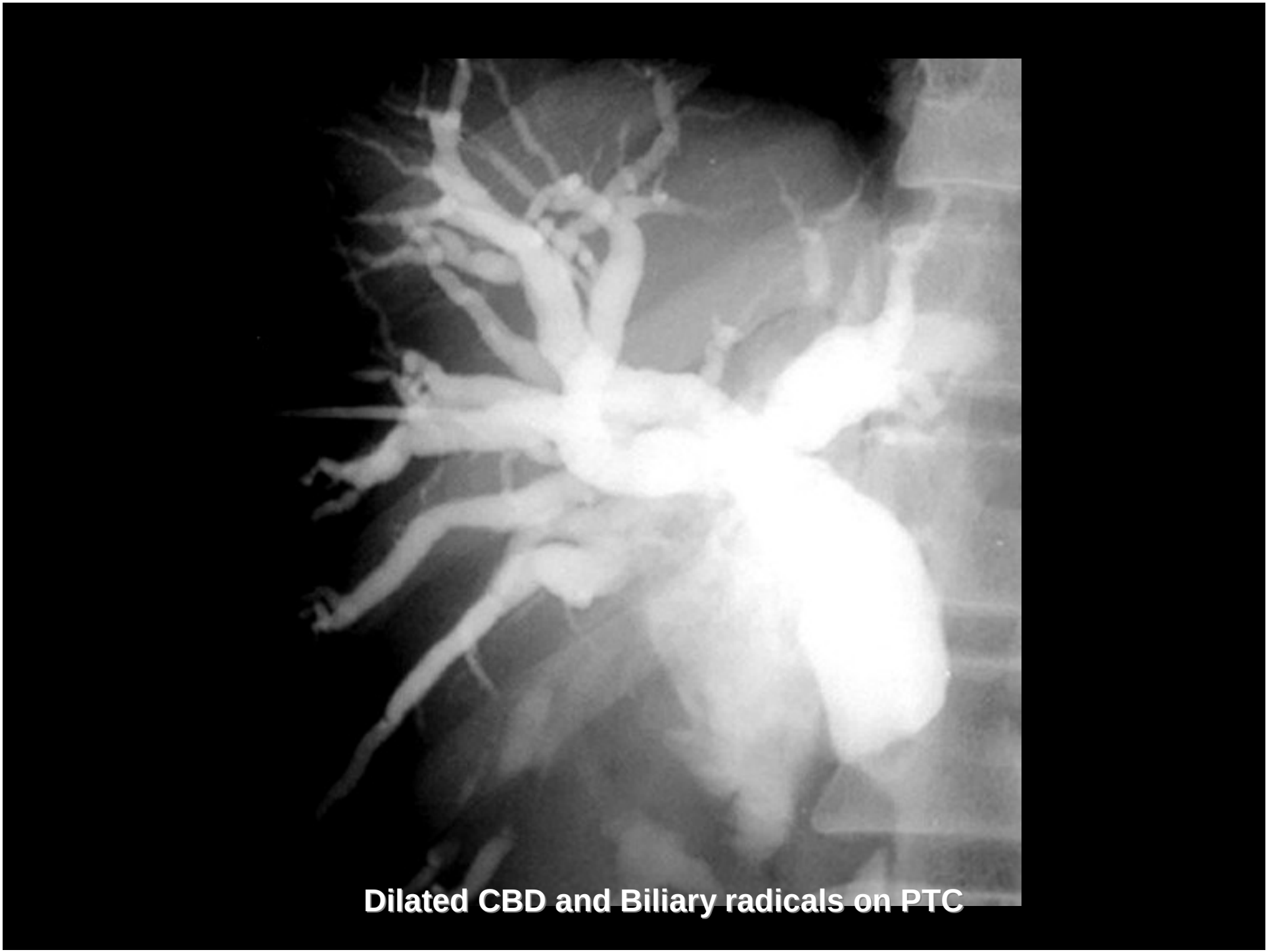
T-Tube cholangiogram



PTC



Intraoperative



Dilated CBD and Biliary radicals on PTC

The Pancreas

- Pathology

Pancreatic calcification (Chronic pancreatitis)


Thank You
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