

BARIUM /CONTRAST STUDIES
FOR GI DISORDERS

BASIC RADIOGRAPHIC OPACITIES

Air

Fat

Water

ST

Bone

Metal

+ Contrast

BLACK - GRAY- GRAY - GRAY- WHITE

CONTRAST RADIOGRAPHY

Group of radiographic procedures performed by administration of a contrast medium

Contrast medium:

POSITIVE (absorb X rays = radiopaque)

NEGATIVE (do not absorb X – rays, then radiolucent)

What for??

Visualization of individual organs

Enhance lesions in a particular organ

Some physiologic information

Always performed after a survey radiograph

CONTRAST MEDIA

POSITIVE:

Barium (inert, no hypertonic, no metabolized or absorbed)

Liquid

Paste

Iodine: Tri – iodinated derivatives of benzoic acid

NEGATIVE:

Air room

Carbon dioxide

Nitrous oxide

BARIUM SULFATE:

High atomic number

Not soluble in water = suspension

Used to coat the lining of organs

Supplied in different thicknesses

Uses:

Esophogram, UGI, Small Bowel, Large Bowel

Contraindications:

Perforations of GI tract proximal to an obstructed bowel

Precaution

Adequate hydration post examination

Contrast Media for GIT Exams:

Why use Barium Sulphate? It has a high atomic number ($Z=56$) Non-toxic Relatively cheap body cannot metabolize BaSO_4

Gastrografin or Hypaque:

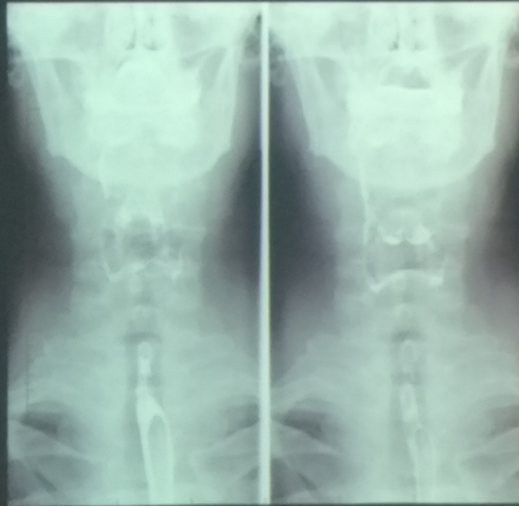
Contrast Media for GIT Exams Gastrografin or Hypaque High atomic # Close to iodine Water soluble Similar usage as Barium

Water soluble, safe in the abdominal cavity

Safe to use if perforation is suspected



BARIUM SWALLOW

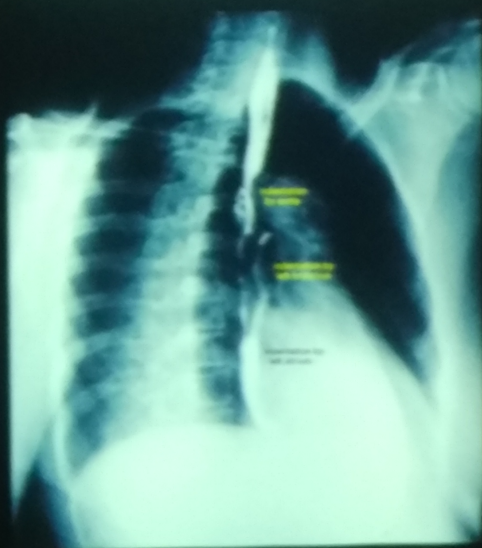


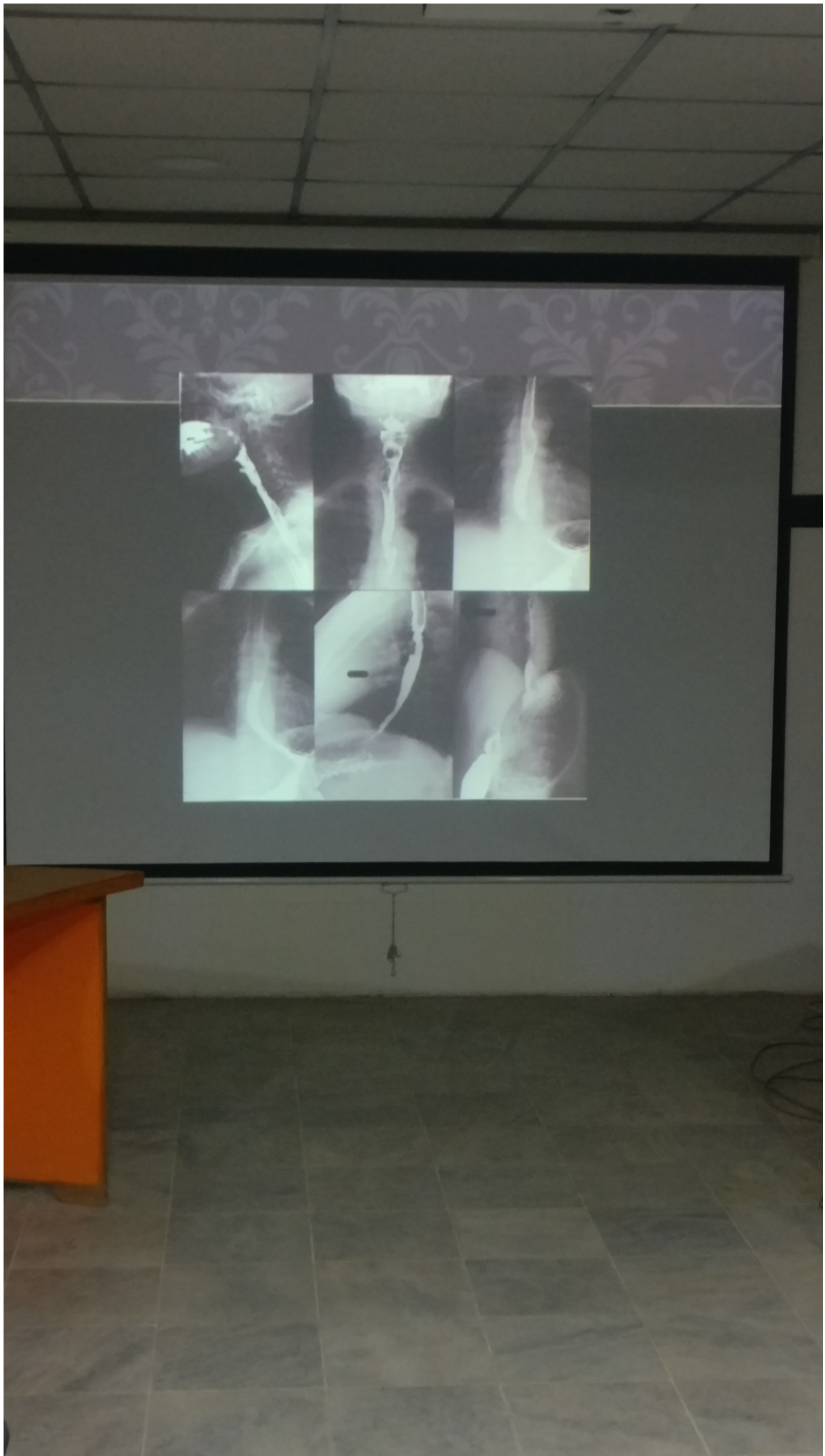
BARIUM SWALLOW

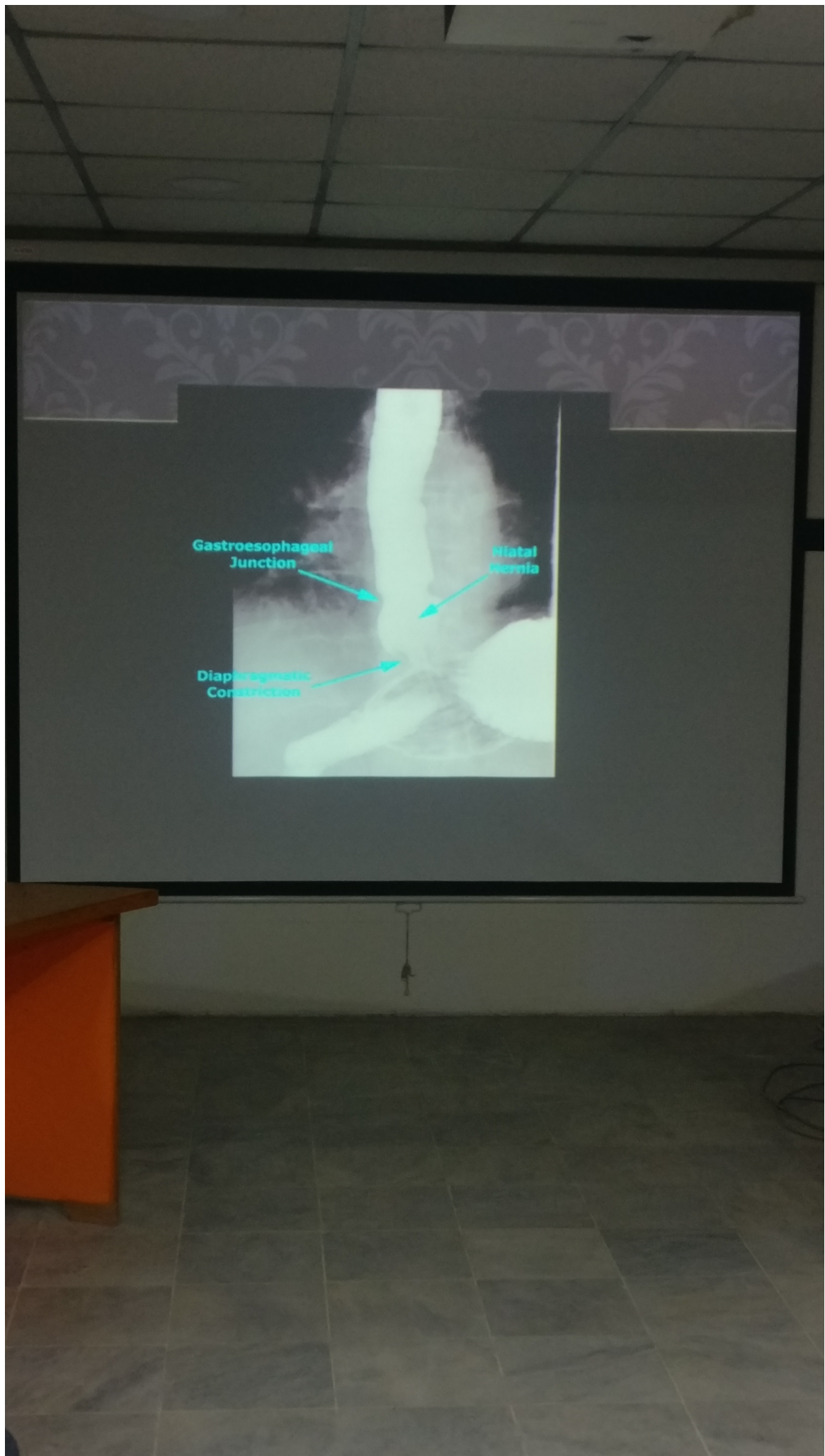


ECO Mode: ECO

BARIUM SWALLOW







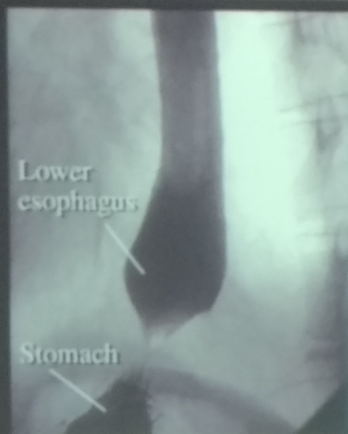


Figure 1

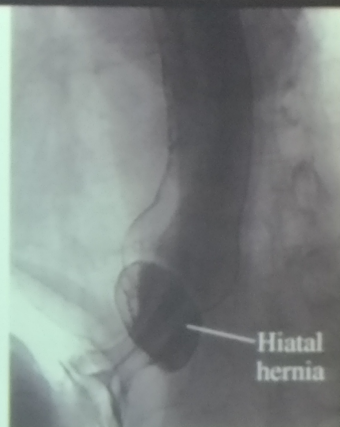
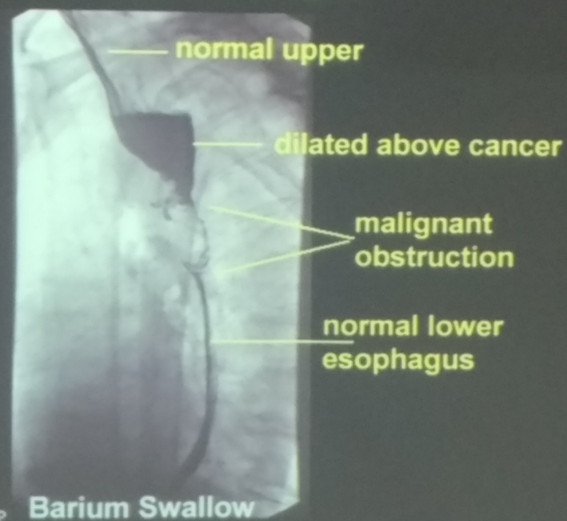


Figure 2



Locally Advanced Squamous Cancer - Middle Esophagus

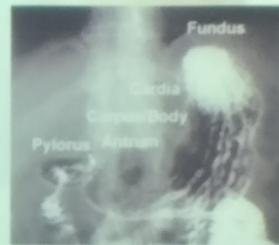


Barium Swallow

NORMAL BARIUM MEAL



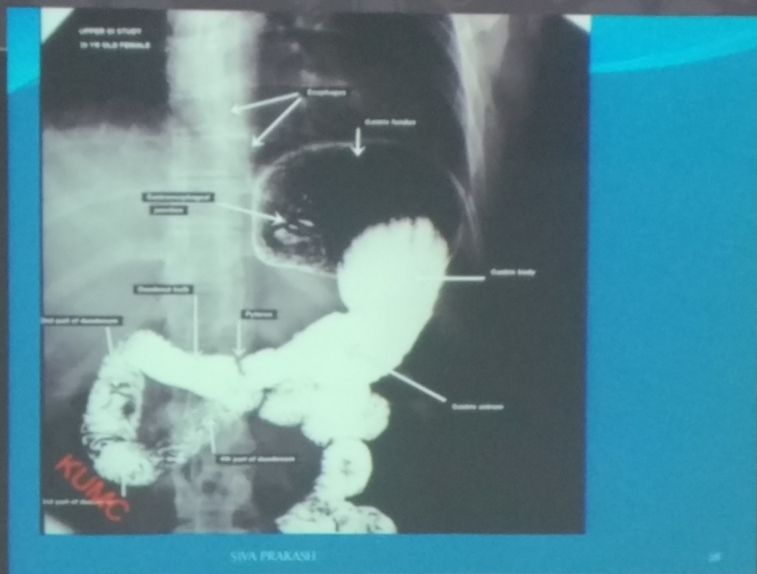
SINGLE contrast



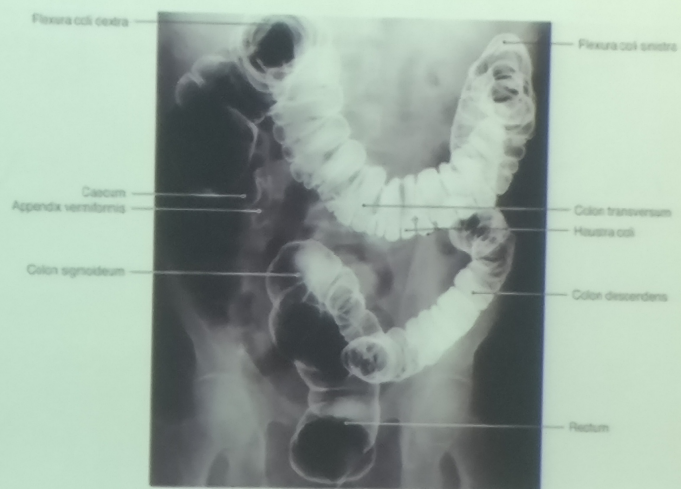
DOUBLE contrast





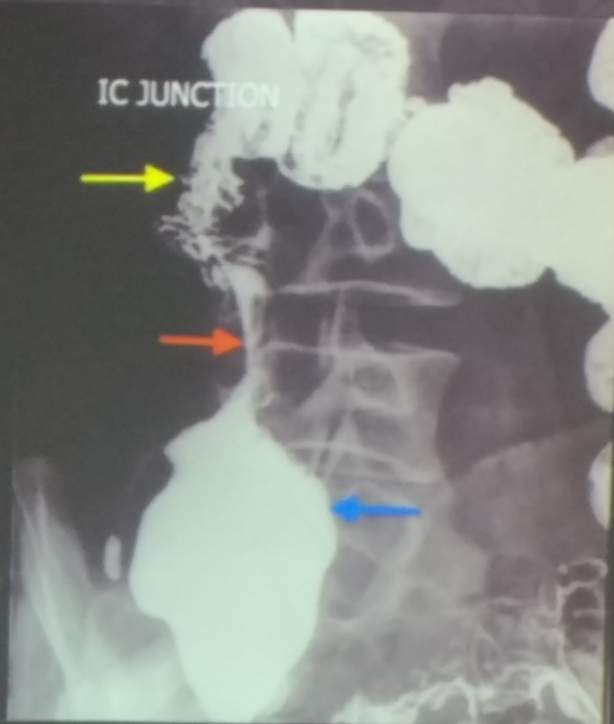






Double contrast barium enema X-ray

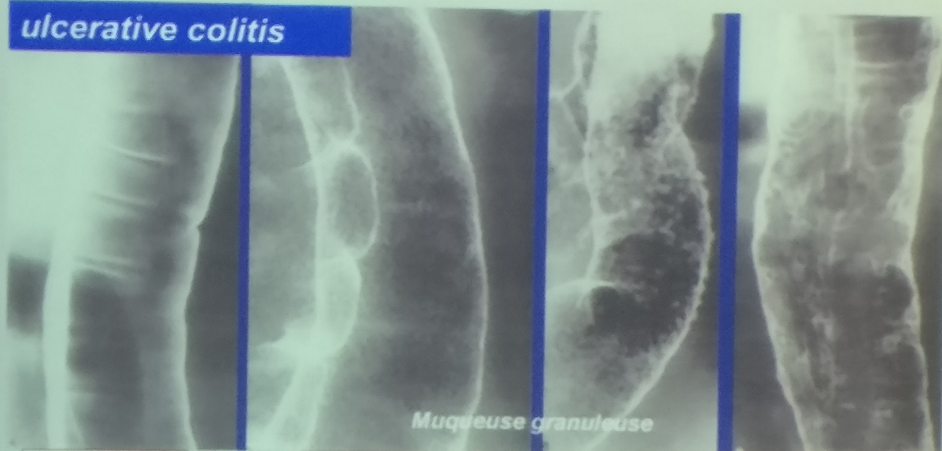
- On Barium enema
- Loss of normal ileocaecal angle and dilated terminal ileum, appearing suspended from a retracted fibrosed caecum – **goose neck deformity**



Inflammatory Bowel Disease

Imaging Studies - DC barium enema

ulcerative colitis



normal
mucosa

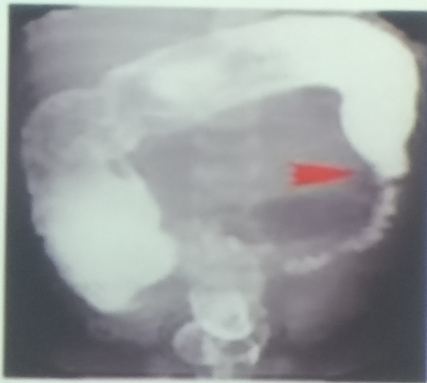
superficial
ulcerations

extensive
ulcerations

inflammatory
pseudopolyps

granular mucosa

Hirschsprung's disease



Hirschsprung's disease

