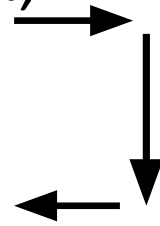


Contrast media

- ❖ Substances that attenuates the beam to a different degree than the surrounding tissue
- ❖ Used to enhance areas of the body that have the same attenuation of surrounding tissue
- ❖ Contrast media increases contrast on film

Basic Radiographic Opacities

- **Radiographic image:** It is produced when x-ray goes through the body part: penetration and absorption, hence==? What you got??



- Basic radiographic opacities



Air Fat Water Bone Metal/+Contrast

BLACK ? GREY ? GREY ? GREY ? WHITE

Contrast Radiography

- Tissue radio density and its surrounding is deliberately altered, for better visualization and demarcation.
- Group of radiographic procedures performed by administration of a contrast medium
- What for??
 - Visualization of individual organs
 - Enhance lesions in a particular organ
 - Some physiologic information
 - Always performed after a survey radiograph

Contrast Media

- **Positive Contrast Media**

(absorb X rays = radiopaque)

- Barium (inert, not metabolized or absorbed)
 - Liquid
 - Paste
- Iodine: Tri – iodinated derivatives of benzoic acid
 - Ionic-Diatrizoate, Iothalamate (Anion)
Sodium, Meglumine (Cation)
 - Non – ionic
Iohexol, Iopamidole

❖ The elements used for positive contrast should have atomic number (Z) above 50. Example - $^{56}\text{Barium}$, $^{53}\text{Iodine}$

Negative Contrast Media

(do not absorb X rays = radiolucent)

- Air
- Carbon dioxide
- Nitrous oxide

Barium Sulphate preparation

- Insoluble
- Non absorbable by
GIT

Not used with ruptured GIT as it will lead to inflammation, formation of granulomatus mass and fibroma.

Water Soluble Iodine Compound

Commonly used contrast medium having low osmolarity.

1. Sodium salt of Iothalamic
2. Meglumine salt of Iothalamic
3. Sodium salt of Ditriazoic
4. Meglumine salt of Ditriazoic

CHOLECYSTAPAQUES



Water soluble organic iodine.

Very useful in liver functions

Excreted exclusively through biliary-system

Hence used for outlining biliary system and gall bladder

Mostly used as IV

Intravenous preparations – Meglumine iodoxamate, ioglycamate, iotroxate.

Oral preparation :- Sodium iopodate, iopanoic acid

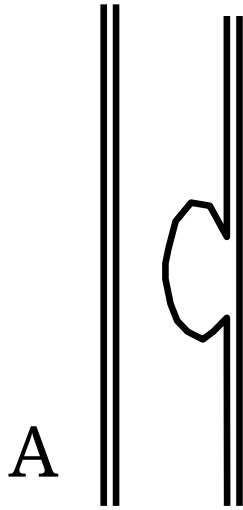
Viscous and Oily preparation

Used for Myelography if Non-iodine low osmolarity medium not available.

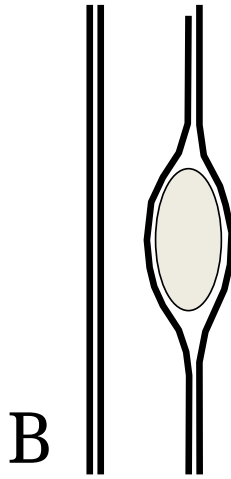
EXAMPLES OF CONTRAST RADIOGRAPHY

1. Dacrocystorhinography : Nasolacrymal duct
2. Sialography : Salivary gland
3. Bronchography : Bronchioles
4. Reticulography : Reticulum
5. Pneumocystography : Abdominal Cavity
6. Intravenous Pyelography : Urinary tract
7. Myelography : Spinal Cord
8. Arthrography : Joints
9. Fasciography : Tendon and associated structures
10. Osteomedullography : Channels of long bones.
11. Angiography : Arteries
12. Urethrography : Urethra
13. Cystography : Urinary Bladder

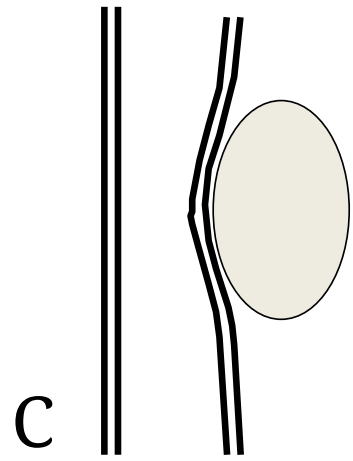
Principles



**mucosal
mass**

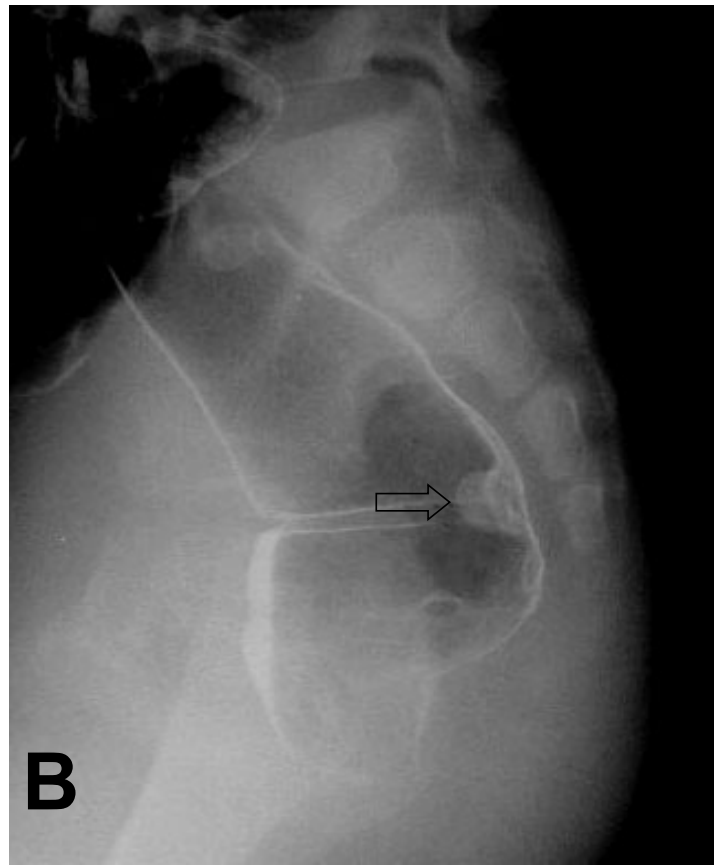
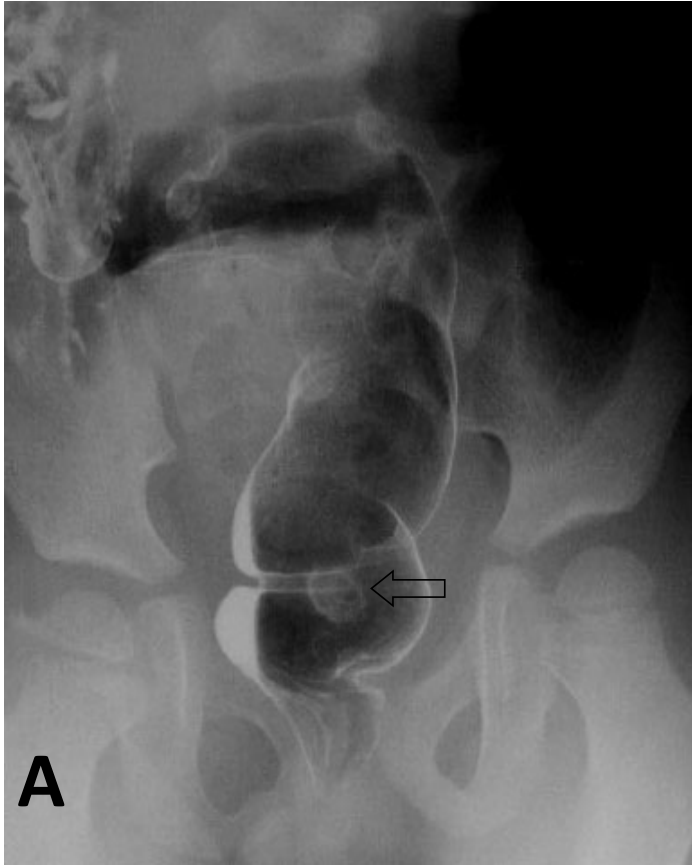


**submucosal or
intramural
mass**



extrinsic mass

Mucosal Mass



Sub Mucosal or Intra mural mass

