**Mid Term Exam.**

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**Program :Bs Radiology 4th semester**

**Paper :convintional Radiography procedure and cp**

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**Question no: 1**

**Answer :**

**Barium swallow :**

**Definition : Barium swallow is diagnostic radiology exam using x ray to examine the upper Gi tract, specifically the esophagus.**

**Barium swallow can help diagnose structural and financial problems of the upper Gi tract.**

**Indication :**

* **Dysphagia**
* **Anaemia**
* **Pain**
* **Ulcer**
* **Polyps**
* **GERD**
* **Esophageal varices**
* **Contraindications none.**
* **Contrast medium:**

**1)E\_Z HD 250 % 100ml.**

**2)gastrografin.**

**3)LOCM(approx.350mgl/ml).**

**N.B**

**1.Gastrographine should not used for the investigation of a tracheo oe sophageal al fistula or when aspiration is a possibility.**

**2. Barium swallow not be used if perforation is suspected.**

**Equipment:**

**Rapid serial Radiography or video recording may be required for assessments of the laryngophayrnx and upper oseophagus during delutition.**

**Patient preparation:**

**Becouse the esophagus is empty most of the time, patient need no preparation for barium swallow.**

**For an Barium swallow only, all clothing and anything metallic between the mouth and the should be removed. Before the flouroscopy procedure is performed, history should be taken and the examination carefully explained to the patient.**

**Preliminary film :**

**A control film is advised prior to the a water should study if perforation is suspected.**

**Modification of techniques:**

**To demonstrate a tracheo\_os sophageal fistula in infants, a nasigastric tube is introduced to the level of the mid\_oesophagus.**

**This will force the contrast medium through any small fistula which may be present.**

**It is important to take Radiographs in the letral projection during simultaneously injection of the contrast medium and withdrawal of the tube**

**After care:**

**Eat and drink as normal but with extra fluids.**

**Complications:**

**Leakage of Barium from an unsuspecting perforation.**

**Aspirations.**

**Question no :2**

**Answer:**

**Films:**

**1.spot films of the stomach (lying) :**

1. **RAO\_to demonstrated the antrum and greater curve.**
2. **SUPINE\_to demonstrated the antrum and body.**
3. **LAO\_to demonstrated the lesser curve an face.**
4. **Left letral tilted, head up 45°\_to demonstrate the funds.**

**2.spot film the duodenal loop (lying):**

* **Prone\_the patient lies on a compression pad to prevent Barium from flooding into the duodenum.**

**An additional view to demonstrate the anterior will of the duodenal loop may be taken in an RAO position.**

**3.spot films of the duodenal cap (lying) :**

**a. Prone.**

**b. RAO\_the patient attains this position from prone positions by rolling first onto the left side, to avoid Barium flooding into the duodenal loop.**

**C. Supine.**

**D.LAO.**

**4. Additional views of the fundus in an erect position may be taken at this stage, if there is suspicion of a fundal lesion.**

**5.Spot films of the o esophageal are taken, while Barium is being swallowed, to complete the examination.**

**Single vs double contrast :**

* **Single contrast:**
* **Shows size, shape, and position of stomach.**
* **Examines changing counter of stomach during peristalsis.**
* **Observe filling and emptying of duodenal bulb.**
* **Double contrast:**
* **Mucosal lining is well visualized.**
* **Small lesions are less easily obscured.**

**Question no:3**

**Answer:**

* **Classification of contrast media:**
* **X ray and ct**

**There are two types of contrast media. positive and negative CM.**

**Positive cm are also two types.**

**Non water soluble and iodinated cm.**

**Iodinated cm are two types.**

**Non water soluble and water soluble.**

**Water soluble are also two types.**

**High osmolar and low osmolar.**

**High osmolar are one type.**

**Ionic monomers.**

**Low osmolar are two types.**

**Ionic and non ionic.**

* **Contrast media for x ray and ct:**

**1.positive contrast:**

**. High atomic number.**

**. White on film.**

**EXAMPLES:**

**1)Barium sulphate.**

**USE:**

**GI studies.**

**2)iodine compounds.**

**USE:**

* **Angiography.**
* **Sialography.**
* **Myelography.**
* **Cholangiography.**
* **Hysterosalpingiography.**

**2)Negative contrast :**

* **Low atomic number.**
* **Black on film.**

**EXAMPLES :**

**1)water, air and carbon dioxide.**

**BARIUM SULPHATE:**

1. **Atomic number 56.**
2. **Highly radiopaque.**
3. **Non absorbable.**
4. **Non toxic.**
5. **Insoluble in water.**
6. **It’s used for double contrast studies.**
7. **ROUTES: orally and rectally.**

**USES:**

* **Barium swallow.**
* **Barium meal.**
* **Barium meal follow through.**
* **Enterclysis.**
* **Barium enema.**
* **Complications of Barium.**

**1.Perforation:if we give Barium to a patient so, there are produce pain and sever type of hyoovolumic shock.**

**2.Aspiration:if we give Barium and they are going to lungs so, there are occur granuloma formation so, we require physiotherapy treatment.**

**Non water soluble iodinated cm:**

* **Fatty acids.**
* **Insoluble in water.**
* **White on film.**
* **EXAMPLES:**
	1. **Lophendylate, myelographic agent.**
	2. **Lipiodrol ultrsfluids, lymphangiography agent.**
* **Complications:**

**1.fat embolism.**

* **USE:**
1. **Sialography.**
2. **Myelography.**
3. **Galactography.**
4. **Broncography.**
5. **Hysterosalphingiography.**
* **IODINE:**

**1.atomic number 53.**

**2.atomic weight 127.**

**3.water soluble contrast.**

* **IODINE IS PREFERRED BECOUSE :**
1. **High contrast density due to high atomic number.**
2. **Allows firm binding to highly variable benzene ring.**
3. **Low toxicity.**

**HOCM:**

**The osmolality are high 4\_7 times from blood.**

**HOCM first generation of iodinated contrast, iv and intrathecal routes.**

**The HOCM adverse effect are more so, after the 1990s HOCM are less used due to adverse effects.**

**HOCM remains use for GIT and cystourethral administration**

**Gestrografin.**

**Conray.**

**LOCM:**

**The osmolality are high 2\_3 times from blood so, that’s why they are safe considered for intravasculer and intrathecal routes.**

**All non ionic contrast are LOCM but not all LOCM are non ionic.**

**EXAMPLES:**

**Omnipaque**

**Ultravist**

**IOCM:**

**Iso\_osmolal contrast media(IOCM), which are approximately the same osmolality as blood.**

**The only IOCM in current use is a non ionic dimer.**

**EXAMPLES :**

* **Visipaque.**