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(4th Sem)

Paper: Conventional Radiological  
Procedure and  
clinical Practice

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Q1:

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Ans:

If there is still clinical concern for evaluating the collecting system after an IVU or CTU, then a Retrograde Pyelogram may be able to better image the segment of Ureter.

→ Retrograde Pyelography is a method of imaging the upper urinary collecting system.

→ This test is usually done during a test called Cystoscopy. During Cystoscopy contrast is injected directly into the ureters of a patient.

→ The exam is done using Anesthesia.

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### 1) → Before Procedure:

- Sign a consent form that give permission to do the procedure.
- Fast for a certain prior to procedure.
- If the patient is pregnant, they should notify the doctor.
- Notify the doctor, if the patient have a bleeding disorders or if taking any blood-thinning medications.
- A Laxative may be perscribed the night before examination.

### 2) During Procedure:

- A retrograde pyelogram is performed in Hospital.
  - The Patient needs to follow these steps:
    - ↳ Remove clothing, jewelry or any metal objects.
    - ↳ wear a gown.
    - ↳ IV line is inserted in arm or hand.
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- ↳ lie face-up on x-ray table.
  - ↳ Receiving general Anesthesia in the IV prior to the insertion of endoscopy.
  - ↳ Endoscopy <sup>will be</sup> ~~is~~ inserted through the urethral opening and advanced into the bladder. Once the endoscopy is in place, the bladder can be examined and a catheter may be inserted into one or both ureters.
  - ↳ The contrast will be injected through the catheters.
  - ↳ Contrast Medium, HOCM or LOCM 150-200, that is not too dense to obscure small lesions, 10ml.
  - ↳ Preliminary film;  
full-length supine AP Abdomen when the examination is performed in x-ray department.
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↳ Catheter: Using 5F or 6F open-ended or cone-tipped catheter.

↳ After this and in this time a radiographs are taken to ensure the proper placement of catheter, once placement is confirm then the doctor may inject the contrast through catheter. (5-8 mL Typically).

⇒ Film.

→ Supine PA of the Ureter

→ Both 35° anterior Obliques of Ureter.

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(5)

Q2:

Ans:

## Intravenous Pyelography (IVP):

→ IVP is a radiological procedure performed for the assessing congenital anomalies of Renal System.

⇒ Procedure of IVP:

1) Contrast Media:

→ HOCM or LOCM 370.

→ But for the small children and elder, renal cardiac failure patients, poorly hydrated patients and for the patients with diabetes, myelomatosis or sickle-cell anaemia the LOCM contrast will be received.

→ For Adult, dose 50 ml, and Paediatric dose 1 ml kg<sup>-1</sup>.

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## 2): Patient Preparation:

- Patient required to not eat food for 5 hours before examination.
- Patient should be ambulant for 2 hours prior to examination to reduce bowel gas, mean he should walk for 2 hours to reduce bowel gas and the image quality will comes properly.
- If the bowel gas will not properly eliminated then the image quality fails to improve.
- If the patient have previous contrast allergy then we administering the Methyl prednisolon  
- 32 mg orally.
  - ↳ orally will given before 12 hours.
  - ↳ Injection will be given before 2 h, to examination.

### 3) Technique:

- Contrast will be given in the median antecubital veins through injection.
- A 19-G needle is used to properly advance in vein.
- Patient may feel some pain in upper arm and shoulder, then relieved.

### 4) Films.

1- Immediate film: AP of the renal Areas.

→ film is exposed 10-14s after the injection.

→ It aims to show the Nephogram.

2- 5-min film.

→ Image taken after 5 minutes.

→ To see the excretion in both kidneys.

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(8)

3) 15-min film.

→ In this film the pelvic area  
~~was~~ is clearly opaque.

→ Compression is released after  
satisfactory.

4) Release film: Supin AP Abdomin.

→ This film shows whole urinary  
tract.

→ After satisfactory, the patient  
should empty their bladder.

5) After Micturition film.

→ To see that the bladder is properly  
empty or not.

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Q3:

Ans: The Endoscopic Retrograph is performed for investigation of extrahepatic biliary obstruction.

→ Patient Preparation.

→ Not eat and drink before examination for 2 hours.

→ Using premedication

→ Antibiotic covering.

→ Preliminary film:

→ Prone AP and LAO of the upper abdomen, to check for opaque.

→ Contrast Medium

Pancreas → LOCM 240.

Bile ducts → LOCM 150.

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## ⇒ Technique:

- Giving Anesthesia to patient with xylocaine spray 4%, and give diazepam 5mg iv.
  - Then the patient should lie on left side and endoscopy is introduced.
  - A polythene catheter prefilled with contrast medium is inserted into the Ampulla, that the air bubbles are excluded.
  - To determine the position of cannula, a small test injection of contrast is made.
  - Avoid over-filling of the pancreas.
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Q4:

Ans: Hysterosalpingography. (HSG)

is recommended for evaluating the cause of female infertility.

→ It's fluoroscopic examination of the uterus and the fallopian tube.

→ Performed to check the shape of uterine cavity and potency of fallopian tube.

⇒ Contrast Medium:

HOCM or LOCM 300. Volume <sup>10-</sup> 20-ml.

⇒ Equipment:

1- fluoroscopy.

2- Vulsellum forceps

3- Vaginal Speculum

4- Uterine Cannula

↳ Leech-Wilkinson Cannula.

↳ Olive or 8-F paediatric foley catheter

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### ⇒ Patient Preparation:

→ Fearful patients needs  
premedications.

→ Examination can be booked  
before or between fourth & tenth  
days in a patient with a regular  
28-day cycle.

### ⇒ Preliminary film.

→ Loned PA view of the pelvic  
cavity.

### ⇒ Technique:

→ ~~P~~ Supine position

→ knees flexed, legs abducted  
and heels together.

→ Operator cleans the Vagina and  
cervix with chlorohexidine by  
inserting speculum.

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(13)

→ Anterior lip of cervix is steadied with Vulsellum forceps, and a cannula ~~not~~ inserted into cervical canal.

→ Take care about to expel all air bubbles from cannula and Syringe.

→ Spasm of the uterine may be relieved by iv glucagon.

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Q5:

Ans:

The Arthrography is used for the disorders of joints, ligaments and tendons.

⇒ Equipment:

→ fluoroscopy with spot film devices.

⇒ 1): Knee joint Arthrography.

→ supine position.

→ Skin and underlying soft tissue are anaesthetised posteriorly

to mid-point of patella.

→ 21-G needle is inserted into joint space and slightly angle anteriorly, so that the Needle tip

(15)

lies against the posterior surface of patella.

→ To ensure the correct position of needle, we need to inject small dose of contrast.

→ Then full volume of Contrast medium (4ml) is injected followed by 40 ml of air for double contrast.

→ Then the needle is removed and the limb is exercised for uniform distribution of contrast.

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