

NAME SUNDAS

ID 16608

Bs RADIOLOGY 4th SEMESTER

PAPER CRP & CP

Question No.1

ANSWER:-

Nonvisualization of ureteral segment on IVU and CTU. Alternative procedure is retrograde pyelogram. Retrograde pyelogram may be able to better image the segment of ureter.

GENERAL PROTOCOL FOR RETROGRADE

PYELOGRAM:-

Before Retrograde pyelogram there are few things you should do in preparation.

1. Fast for few hours before the procedure. Doctor will tell you to stop eating and drinking after midnight on the day of exposure. You may not be able to eat or drink from 4 to 12 hours before the procedure.

2. Take a laxative. You may be given an oral laxative or an enema to make sure your digestive system is cleaned out.
3. Stop taking certain medicines. Your doctor may tell you to stop taking blood thinner or certain herbal supplements before the test.
4. Take some time off work. This is an out patient procedure, meaning it only takes a few hours. Your doctor will likely give you general anesthesia to keep you asleep during the procedure.
5. If you are sensitive to or are allergic to any medicines, latex, tape and anesthesia. Before the procedure you will tell your doctor.
6. You may get a sedative before the procedure to help you relax. Because the sedative make you drowsy you will need to arrange someone to drive you home.
7. Your doctor will explain the procedure to you and offer you the opportunity to ask any questions that you may might have about the procedure.

8. You will fill the form read it carefully and ask questions if something is not clear.
9. Notify your doctor if you have ever had a reaction to any contrast dye, or if you are allergic to iodine.
10. if you are pregnant or suspected that you may be pregnant. you should notify your doctor.
11. Based on your medical conditions, your doctor may request other specific preparation.

Question No. 2

ANSWER:-

Intravenous Pyelogram procedure is commonly performed for assessing congenital anomalies of renal system.

INTRAVENOUS PYELOGRAPHY:-

Intravenous pyelography is also called intravenous urography or excretory urography.

It is a radiological

CONTRAINDICATION:-

- Contrast allergy
- Hepato-renal syndrome.
- Myelotoxicosis

Procedure used to visualize the abnormalities of urinary systems include. Kidneys, ureters and bladder.

INDICATIONS:-

Check for anatomical variants or congenital anomalies.

Check the course of uterus.

Detect and localize a ureteric obstruction.

Asses for synchronous upper tract disease in those with bladder transitional cell carcinoma

Check for normal function of kidney.

* CONTRAINDICATIONS: CONTRAST MEDIA *

HOEM or LOCM 370 are acceptable but the following high risk group should receive LOCM.

Patients with diabetes, myelomatosis
Sickle cell anemia.

Poorly hydrated patients.

Those with renal and/or cardiac.

failure.

Adult dose \Rightarrow 50ml

Paediatric dose \Rightarrow 1ml/kg⁻¹

PATIENT PREPARATION:

No food for 5h prior to the examination.

Dehydration is not necessary & does not improve image quality.

Patient should preferably be ambulant for 2h prior to the examination to reduce bowel gas.

The routine is no administration of bowel preparation fails to improve the diagnostic quality of examination and its use makes the examination more unpleasant for patient.

If the examination is to be performed on a patient who has previously had a severe contrast medium reaction, consideration should be given administering methyl prednisolone 32mg orally 12 and 2h prior to injection of contrast medium, ensuring that LOCM is used.

PRELIMINARY FILM:-

Supine full length of the abdomen

The lower border of the Cassette is at the level of the Symphysis pubis and x-ray beam is centered in the midline at the level of iliac crest.

Anteroposterior Supine of the renal areas. in expiration

The x-ray beam is centered in the midline at the level of lower Costal margin.

Posterior Oblique view 35°

Tomography of the kidneys at the level of a third of the AP diameter of the patient.

The optimal angle of swing is 25-40°

TECHNIQUE:-

Intravenous line will be put in your arm or hand. After you empty your bladder.

Doctor will then inject Contrast

dye into the urine. You will lie on exam table and x-ray camera above you will take initial picture.

The dye is injected you feel tingling. It may feel like you are urinating. This is normal.

You may also have metallic taste in your mouth.

A new picture will be taken every few minutes of 30 to 60 minutes.

The series of picture will track dye as it moves through your kidneys and ureters into your bladder.

FILMS:-

Immediate film

5-min film.

Immediate film.

A compression band is now applied around the Pt abdomen in ballon position midway b/w the anterior superior iliac spine i.e. precisely over the ureters as they cross the pelvic brim.

ADDITIONAL FILMS:-

35° posterior obliques of the kidney ureters or bladder.

Tomography. when there are confusing overlapping shadows.

Prone abdomen:- may provide better visualization of the ureters by making them more dependent.

Delayed films. may be necessary for up to 24 hr after injection in cases of obstructive uropathy.

COMPLICATIONS:-

Due to Contrast medium

Pyelo ureteric junction obstruction: show as Dilatation of right renal pelvis and calyces.

Renal Collecting System and ureter crossed Renal Ectopia on the left kidney and Absent right kidney.

Question No. 3

ENDOSCOPIC RETROGRADE CHOLANGIO-PANCREATOGRAPH (ERCP)

Endoscopic retrograde cholangiopancreatography (ERCP) procedure is performed for investigation of extrahepatic biliary obstruction.

ERCP is a procedure that combines upper gastrointestinal endoscopy and X-rays to treat problems of the bile and pancreatic ducts.

GENERAL PROTOCOL OF ERCP:-

You may have diet and medication restriction the week before ERCP test.

if you take any blood thinning medicine aware your doctor.

You will not be allowed any heavy meals for at least 8 hours before the procedure, light meals or opaque liquids for 6 hours before, or clear liquids for at least 2 hours before.

Plan to take the day off from work.

Plan to have someone you know drive you home. Because the procedure is performed with general anesthesia. You will be not allowed to drive after procedure. or return to work until the next day.

if you take any medicine such laxative etc tell to your doctor. In some cases your doctor may prescribe an antibiotic before the procedure.

In some cases when patient need certain therapeutic interventions during an ERCP procedure they may be admitted to the hospital overnight for observation.

Question No. 2

ANSWER:-

Hysterosalpingography is commonly performed & recommended for evaluating the cause of female infertility.

HYSTEROGRAPHY:-

Hystero means "uterus"
Salpingo means "fallopian tubes"
Graphy means to "draw"

Hysterosalpingography is an x-ray procedure. That is used to view the inside of uterus and fallopian tubes.

It often is used to see if the fallopian tubes are partly or fully blocked.

It can also show if the inside of the uterus is of a normal size and shape.

All the of these problems can lead to infertility and pregnancy problems.

INDICATIONS:-

1. infertility
2. Following Tubal Surgery
3. Recurrent miscarriages.
4. Following Assessment of the integrity of a Caesarean uterine Scar.

CONTRAINDICATIONS:-

Pregnancy.

Profuse discharge on inspection of the vulva or Cervix, or diagnosed PID in the preceding 6 months.

Contrast Sensitivity.

Recent dilation and curettage or abortion, or immediately post-menstruation. This applies only to oily contrast medium because of the risk of intravasation.

CONTRAST MEDIUM:-

HOEM or LOEM 300 Volume 10-20ml

Oily Contrast medium is no longer recommended.

LOEM have no advantage with regard to image quality or side effects but the nonionic dimers; iotrolam

is associated with a lower incidence and decreased severity of delayed pain.

EQUIPMENT:-

Vulsellum forceps
Vaginal speculum
Fluoroscopy unit with spot film device
Uterine cannula, Leech Wilkinson
Cannula, olive or S.F. Paediatric
Foley Catheters.

PATIENT PREPARATION:-

Your health care provider may recommend that you take an over-the-counter pain reliever an hour before the procedure.

In some cases may prescribe an antibiotic for you to take before HSG.

Apprehensive (fearful) patients may need premedication.

PRELIMINARY FILM:-

Coned PA view of pelvic cavity.

TECHNIQUE:-

The patient lies supine on the table with knees flexed, legs abducted and heels together.

A device called Speculum is inserted into the vagina. It holds the wall of vagina apart allow the Cervix to be viewed. The Cervix is cleaned.

The anterior lip of Cervix is steadied with the vulsellum forceps and the cannula is inserted into the Cervical Canal. If Foley Catheter is used there is Cervix the vulsellum forceps.

Gas must expel the bubble of air in syringe and cannula. Otherwise it will cause confusion and interpretation.

Contrast medium is injected slowly under intermittent fluoroscopic control.

Spasm of the uterine may be relieved by IV Glucagon.

Opiates increase pain by stimulating smooth muscle contraction.

FILMS:-

Using the under couch tube

When peritoneal spill has occurred & will all the instruments removed.

As the tube begin to fill.

AFTER CARE:

it must be ensured that patient is no serious discomfort nor has significant bleeding before she leaves.

The patient must be advised that she may have bleeding per vagina for 1-2 days.

COMPLICATIONS:

Uterine abnormalities eg uterine tuberculosis, carcinoma and fibroids.

infection:- which may be delayed occurs upto 2% of Pt and more likely when there is previous history of pelvic infection.

Abortion. The operator must ensure that the patient is not pregnant.

Direct trauma to the endometrium etc.

DETECTABLE PATHOLOGY:-

Condition may be detected HSG include

Uterine Pathologies:-

Uterine malignancy, uterine Congenital anomalies, adenomyosis etc.

Tubal Pathologies:-

tubal polyps, tubal malignancy, hydrosalpinx etc.

Question No. 5

ANSWER:-

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

ARTHOGRAPHY:-

Arthro means joint

Arthrography is a medical imaging procedure which is performed to demonstrate and assess the joint and associated soft tissue structures for pathologic process.

These structures are visualized through the introduction of a contrast agent into the capsule.

Joints studied include the hip knee ankle shoulder elbow and temporomandibular joints.

It is very effective at detecting disease within cartilage ligaments tendons and cartilage.

METHOD:-

Single Contrast (contrast)
Double Contrast (air)

INDICATION:-

Tendons
ligaments
Synovial membrane
joint capsule torn
joint cavity
loose bodies within joint

CONTRAINICATION:-

Bleeding problems
joint infection
Active arthritis
previous sensitivity to contrast media

Equipment:-

Fluoroscopy with spot films devices

PREPARATION FOR PROCEDURE:-

You may ~~breast~~ fast

Patient must provide information on allergies, medication and possible pregnancy prior to the procedure.

Explain procedure to the patient thoroughly before the examination to preclude patient anxiety

Patient must sign an informed consent form before the procedure is done.

PRELIMINARY FILM:-

- Routine plain film radiograph
- AP and true lateral of the joint of interest.
- Radial and ulnar deviation in wrist joint.

AFTER CARE:-

Avoid driving two days.
joint pain may occur.

COMPLICATION:-

- Allergic reaction
 - Synovitis (inflammation of synovial membrane)
 - Pain capsular rupture.
 - Trauma to adjacent structure eg. nerves and vessels.
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