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Paper CRPCP

Discipline BS (RAD) 4th semester

Q1:- If there is non-visualization of ureteral segment on IVU and CTU which alternative produre will you perform? What is the general protocol for performing that procedure?

A:- procedure

Demonstration of the pelvicalyceal system after an unsatisfactory excretion urogram.

=> Nonvisualization of ureteral segment on IVU and CTU (if there is still clinical concern for evaluating the collecting system after an IVU or CTU, a retrograde pyelogram may be able to better image the segment of ureter.)

=> Better characterization of ureteral or pelvicalyceal abnormalities seen on IVU or CTU.

protocol

Before the procedure

* Your doctor will explain the procedure to you and offer you the opportunity to ask any question that you might have about the procedure.

* You will be asked to sign a consent from that givess permission to do the procedure.
Read the form carefully and ask questions if something is not clear.

* if you're pregnant or suspect that you may be pregnant, you should notify your doctor.

* Notify your doctor if you've ever had are action to any contrast dye, or if you are allergic to iodine.

* Notify your doctor if you're sensitive to or are allergic to and medication agent (local & general).

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During the procedure

A retrograde pyelogram may be performed on an outpatient basis or as part of your stay in hospital, procedures may vary depending on your condition and your doctor's paractices.

Generally, the retrograde pyelogram follows this process:

1) You'll be asked asked to remove any clothing, jewelary, or other objects that interfere with the procedure.

2) You will be given a gown to wear.

3) An intravenous (IV) line may be inserted in your arm or hand.

4) You will be asked to lie face up on the x-ray.

Notify your doctor to report any of the following.
-> Fever & or chills
-> Redness, swelling or bleeding or other
-> drainage from the urinary opening

-> increased pain around to urinary opening.
-> increased in the amount of blood in your urine

-> Difficulty urinating

Your doctor may give you additional or alternate instruction after the procedure, depending on your particular situation.

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2) Which radiological prōcedure is commonly performed for assesing congenital abnomilities of renal system? Explain in detail the whole procedure?

A:- An intravenous pyelography (IVP) also called an intravenous urography (IVU) or excretory urography (EU) is a radiological prōcedure used to visualized abnormlities of the urinary system, including the kidney (renal parenchyma, pelvicalycedl system)- ureters and bladder.

INDICATIONS

- → check for normal function of kidneys.
- → check for anatomical variants or congenital anomalies (e.g horse shoe kidney)
- → check the course of the ureters
- → detect and localize a ureteric obstruction (urolithiasis)
- → assess for synchronous upper tract disease in those with bladder transitional cell carcinoma (TCC)

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Contraindications

- contrast allergy
- Hepato-renal syndrome
- Thyrotoxicosis
- Raised serum creatinine.

Contrast media

- HOCM or LOCM 370 are acceptable but the following high-risk groups should receive LOCM.

1. Infants and small children and the elderly.
2. Those with renal and/or cardiac failure
3. poorly hydrated patients.
4. patient with diabetes, myelomatosis or sicle-cell anemia.
5. Patient who have had a previous severe contrast medium reaction with LOCM or those with a strong allergic history.

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Contrast media

Adult dose
50ml

Paediatric dose
1ml kg-1

Patient preparation

-> No food for 5h prior to the examination. Dehydration is not necessary and does not improve image quality.

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

-> The routine administration of bowel preparation fails to improve the diagnostic quality of the examination and its use makes the examination more unpleasant for the patient.

-> if the examination is to be performed on a patient who has previosly had a severe contrast medium reaction consideration should be given to

administering methyl prednisolone 32 mg orally 12 and 2 h prior to injection of contrast medium in addition to ensuring that a LOCM is used.

Preliminary Film

1→ supine, full-length AP of the abdomen in inspiration. The lower border of the cassette is at the level of the symphysis pubis and the x-ray beam is centred in the mid-line at the level of the iliac crests.

The position of overlying opacities may be further determined by-

2→ Supine AP of the renal areas in expiration. The x-ray beam is centred in the midline at the level of the lower costal margin.

3→ 35% posterior oblique views, or

4→ tomography of the kidneys at the level of a third of the AP diameter of the patient (approx 8-11 cm). The optimal angle of

Swing is 25-40°

Technique

The median antecubital vein is the preferred injection site because flow is retarded in the cephalic vein as it pierces the clavipectoral fascia.

→ A 19-G needle is advanced up the vein to reduce the risk of a perivenous injection and the injection is given rapidly as a bolus to minimize the density of the nephrogram.

→ upper arm or shoulder pain may be due to stasis of contrast medium in the vein. This is relieved by abduction of the arm.

FILMS

15-min film: AP of the renal areas. There is usually adequate distension of the pelvicalyceal systems with opaque urine by this time. compression is released when satisfactory demonstration of kidney pelvicalyceal system has been achieved.

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Release Film:- supine AP abdomen-
This film is taken to show the whole urinary tract if this film is satisfactory, the patient is asked to empty their bladder.

After micturation film:-

Based on the clinical findings and the radiological findings on the earlier films, this will be either a full-length abdominal film or a coned view of the bladder with the tube angled 15° caudad and centred 5cm above the symphysis pubis.

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Films

1. Immediate Film
AP of the renal areas. This film is exposed 10-14 after the injection (arm to kidney) it aims to show the nephrogram e.g. the renal parenchyma opacified by contrast medium in the renal tubules.

5. min Film: AP of renal areas. This film is taken to determine if excretion is symmetrical and is invaluable for assessing to need to modify technique, eg a further injection of contrast medium if there has been poor intial oparcification.

→ A compression band is now applied around the patient's abdomen and the balloon positioned midway the anterior superior iliac spines precisely over the ureters as they cross the pelvic brim.

Compression is contraindicated.
a) after recent abdominal surgery.
b) after renal trauma
c) if there is a large abdominal mass.
d) when the 5 min shows already distended calyces.

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FILMS

The principal value of this film is to asses bladder emptying, to demonstrate a return to normal of dialed upper tracts with relief of bladder emptying pressure, to aid the diagnosis of bladder tumours, to confrim ureterovesical junction calculi and uncommonly, to demonstrate a urethral diverticulum in females

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Additional Film

1) 35° posterior obliques of the kidneys ureters or bladder.

2) Tomography - when there are confusing overlying shadows.

3) 30° caudad angulation of the tube for the renal area. This may throw a faecal laden transverse colon clear of the kidneys.

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

5) Delayed film - may be necessary for up to 24 h after injection in casses of obstructive uropathy.

Complications

→ Due to the contrast medium.

→ Due to the technique: incorrectly applied abdominal compression may produce intolerable discomfort or hypotension.

Q3:- Which radiological produre is recommended for evaluating the cause of female infertility? Explain the procedure in detail?

A:- Hysterosalpingography also know as uterosalpingography, is a fluoroscopic examination of the uterus and the fallopain tubes.

it is performed to investigate the shape of the uterine cavity and the shape and patency of the Fallopian tubes.

Hystero means uterus
Salphingo means Fallopain tubes
graphy means to draw

INDications

1) Infertility
2) Recurrent miscarriages
3) Following tubal surgery
4) Assessment of the integrity of a Caesarean uterin scar.

CONTRAINDICATIONS

1. Pregnancy

2) A purulent discharge on inspection of the vulve or cervix, or diagnosed PID in the preceding 6 months.

3) Recent dilation and curettage or abortion, or immediately post mestruation. This applies only contrast medium beacuse of the risk of intravasation.

4) contrast sensitivity.

CONTRAST MEDIUM

-> oil contrast medium is no longer recommended.

-> HOCM or LOCM 300. Volume 10-20ml

-> LOCM have no advantage with regard to image quality or side effects but the nonionic dimer, iotrolan, is associated with a lower incidence and decreased severity of delayed pain.

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EQUIPMENT

1) Fluoroscopy unit with spot film device
2) Vaginal speculum
3) Vulsellum forceps
4) uterine cannula, Leech-wilkinson cannula, olive or 8-F paediatric Foley cather.

PatIENT PREPRATION

1- The patient should abstain from intercourse between booking the appointment and the time of the examination unless she uses a reliable method of contraception or the examination.

Can be booked between the fourth and tenth days in a patient with a regular 28-day cycle.

2) Apprehensive (Fearful) patients may need premedication.

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PRELIMINARY FILM

- coned PA view the pelvic cavity.

TECHNIQUE

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

2) using aseptic technique the operator inserts a speculum and cleans the vagina and cervix with chlorhexidine.

3) The anterior lip of the cervix is steadied with the Vulsellum forceps and the cannula in inserted into the cervical canal.
if l Foley cather is used, there is cervix with the vulsellum forceps.

4) Care must be taken to expel all air bubbles from the syringe and cannula as these would otherwise cause confusion in interpretation.

5) spam of the cornu may be relieved by i.v. glcagon

NB: opiates increase pain by stimulating smooth muscle contraction.

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FILMS

Using the undercouch tube

1 As the tube begin to fill

2) When peritoneal Spill has occured and with all the instruments removed

AFTERCARE

1) It must be ensured that the patient is in no serious discomfort nor has significant bleeding befor she leaves.

2) The patient must be advised that she may have bleeding per vagina for 1, 2 days and pain may persist for up to 2 weeks.

COMPLICATIONS

Due to technique

1) Pain may occur the following times.

a) Pain using the Vulsellum forceps

b) during insertion of the cannula.

c) bleeding from trauma to the uterus or cervix

2) bleeding from trauma to the uterus or cervix.

3) Transient nausea, vomiting

4) Infection - which may be delayed.

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

Due to the contrast Medium

1) Allergic phenomena - especially if contrast medium is forced into the circulation.

DETECTABLE PATHOLOGY

- Uterine pathologies
  - uterine congenital anomalies
  - submucosal uterin fibroids
  - uterine malignancy
  - adenomyosis
- Tubal Pathologies
  - Tubal malignancy
  - Tubal Polyps
  - Hydrosalpinx
  - Salpingentomy.

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Q4: Which radiological procedure is commonly performed for ass investigation of extrahepatic billary obstruction? Discuss the general protocol following for procedure?

-> Endoscopic retrograde cholangiopancreagaphy is a technique that combines the use of endoscopy and fluoscopy to diagnose and treat certain problems of the billery or pancreatic ductal system.

Although percutaneous tranhepatic cholangiography (PTC) has a higher sucess rate for demonstrating bile ducts, ERCP has three advantage over PTC

1. The ability to visualize and biops ampullary lesion.
2) The demonstration of billary tree and pancreatic duct.
3) Greater the therapeutic portential ERCP is usally performed by physicians or surgeons rather than radiologist.

CONTRAINDICATION

1) Australia Antigen - positive HIV positive
2) Oesophagel obstruction, varice,
3) previous gastric surgery.

TECHNIQUE

The pharynx is anaesthetized with 4% xylocaine spray and the patient is given diazepam 5mg min-1 - i.v until sedated

→ The patient then lies on the left side and the endoscope is introduced.

→ The ampulla of vater is located and the patient is turned prone

protocol

1) You will not be allowed any heavy meal 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.

2) plan to take the day off from work

3) plan to have someone you know drive you home.

4) ~~te.~~

4) Let your physician know about any special needs medical conditions

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allergies and all current medications you are taking.

) The North Shore GI lab will try to contact you the evening before your procedure to answer any question you may have

s:- Explain in detail the conventional radiological procedure used for diagnosing the disorders of joints, ligament and tendons

Arthrography

Method
Single contrast (contrast)
Double contrast (air)

Indication

joint capsule torn
joint cavity
Synovial membrame
Articular cartilage
Contra indication
Active Aarthritis
joint infection
Bleeding problem

Equipment
Fluoroscopy with spot film devices

Complication
Allergic reaction
Synovitis
Pain capsular rupture

Arthrography is a type of medical imaging used in the evaluation and diagnosis of joint condition and pain. it is very effective at detecting disease within the ligaments, tendons and cartilage Arthrography may be indirect, where contrast material is injected into the joint CT scanning, MRI or Fluoroscopy a form of real time X-ray may be performed after arthrography to image the joint your preparation may vary depending on which imaging method your exam will use. Tell your doctor if there's a possibility that you are pregnant youre taking and allergies especially any allergies.

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