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"BS - RADIOLOGY:-"

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PAPER CRP & CP

INU PESHAWAR

OXO _____ OYO

"ANS QNO 2:-"

=> "INTRAVENOUS PYELOGRAPHY:-"
(IVP)

IVP is a radiological procedure which is commonly performed for renal system.

-> IVP is a procedure that used to visualize abnormalities of urinary system, including (renal parenchyma pelvicalyceal system), ureters and bladder.

=> "INDICATIONS:-"

- > Check for normal kidney function.
- > Check for anatomical variants or congenital anomalies.
- > Check the course of ureters.

FEBRUARY 2019

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11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28			

MARCH 2019

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APRIL 2019

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MAY 2019

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JUNE 2019

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→ Detect & localize a ureteric obstruction.

→

⇒ "CONTRAINDICATIONS:-"

→ Contrast allergy

→ Hepato-renal Syndrome.

→ Thyrotoxicosis.

→ Raised Serum Creatinine.

⇒ "CONTRAST MEDIA:-"

HOcm or LOcm 370 are acceptable but following "high risk" groups should receive LOcm:

(i) Infants and small children and the elderly.

(ii) Those with renal and/or cardiac failure.

(iii) Poorly hydrated patients.

(iv) Patients with diabetes, myelomatosis.

(v) Patient with previous severe contrast medium reaction with LOcm or those with a strong allergic history.

=> "CONTRAST MEDIA:-"

→ Adult dose - 50ml.

→ paediatric dose - 1ml kg⁻¹.

=> "PATIENT PREPARATIONS:-"

(i) → NO food for 5h prior to the examination. Dehydration is not necessary and does not improve image quality.

(ii) → Patients should, preferable, be ambulant for 2h prior to the exam, to reduced bowel gas.

(iii) → The routine administration of bowel preparation fails to improve the diagnostic quality of examination and its use makes the examination more unpleasant for the patient.

(iv) → If the examination is to be performed on a patient who has previously had a severe contrast medium reaction, consideration should be given to administering methylprednisolone 32 mg orally 12 and 2

2h prior to injection of contrast medium in addition to ensuring that Locom is used.

=> "PRELIMINARY FILM:-"

- (1) → Supine full length of AP of the abdomen, in inspiration. The lower border of the cassette is the level of the symphy pubis and x-ray beam is centred in the mid-line at the level of the iliac crests
- (2) → The supine AP of renal area, in expiration. The x-ray beam is centred in the mid-line at the level of lower costal margin.
- (3) → 35° posterior oblique views.
- (4) → Tomography of kidney at the level of third of the AP diameter of the patients.

The optimal angle of swing is 25-40°

=> "TECHNIQUE:-"

The median ante-cubital vein is the

day preferred injection site because

week 36

Flow is retarded in the cephalic vein as it pierces the clavipectoral fascia.

=> A-19-G needle is advanced up the vein to reduced risk of a previous injection and the injection is given rapidly as a bolus to maximize the density of the nephrogram.

=> upper arm or shoulder pain may be due to stasis of contrast medium in the vein.

=> "FILMS:-"

(1) Immediate film:-

AP at the renal areas. This film is exposed 10-14 s after the injection. It aims to show the nephrogram i.e. the renal parenchyma opacified by contrast film in the renal tubules.

(2) => "5-MIN FILM:-"

AP of the renals areas. This film

is taken to determine if excretion is symmetrical and is invaluable for assessing the need to improve technique.

(3) => "15-Films:-"

AP of the renals area. There is usually adequate distention of the pelvicalyceal systems with opaque urine by the time. Compression is released when ~~std~~ satisfactory demonstration of pelvicalyceal system has been achieved.

(4) => "Released 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.

(5) "After micturition Film:-"

This film will be either a full length abdominal film or a lord view of the bladder with tube angle 15° caudad and centred 5cm above the

Symphysis pubis.

=> "ADDITIONAL FILMS:-"

- 35° posterior oblique of kidneys.
- Tomography when any confusion on overlying shadows.
- prone abdomen - may provide better visualization of the ureters by making them more dependent.
- Delayed Films. may be necessary for up to 24 h injection cases of obstructive uropathy.

=> "COMPLICATIONS:-"

- Due to the contrast medium.
- Due to technique.



Ans Q No 3

For the investigation of extrahepatic biliary obstruction we performed "Endoscopic Biliary Drainage" another hand we can say ERCP.

Endoscopic retrograde cholangiopancreatography is a technique that combine the use of endoscopy and fluoroscopy to diagnose the certain problem of biliary and pancreatic ductal system.

=> "INDICATION:-"

- Investigation of extrahepatic obstruction.
- post-cholecystectomy syndrome.
- investigation of diffuse biliary disease.
- pancreatic disease.

=> "CONTRA-INDICATION:-"

- HIV-positive.
- Previous gastric surgery.
- Acute pancreatitis
- pancreatic pseudocyst.

→ Severe cardiorespiratory disease.

⇒ "CONTRAST MEDIA:-"

→ Pancrease Locm 240.

→ Bile ducts.

Locm 150; dilute contrast medium

ensure that calculi will not be observed.

⇒ "Equipment:-"

(1) Side-viewing endoscopy.

(2) Polythene catheters.

(3) Fluoroscopy unit with spot film.

⇒ "PATIENT PREPARATION:-"

→ Nil orally for 4 hour prior to procedure.

→ Pre medication.

→ Antibiotic cover.

⇒ "PRELIMINARY FILM:-"

Prone AP and LAO of the upper abdomen, to check for opaque gallstone and pancreatic calcification calculi.

⇒ FILMS:-

(1) Pancrease:-

Prone, both posterior oblique.

(II) Bile ducts:-

Early filling film to show calculi

(a) prone - straight and posterior oblique.

(b) supine - straight both oblique.

(2) Film following removal of the endoscopy, which obscure the ducts.

(3) Delayed film to assess the gallstone and empty of the common bile duct.

⇒ "COMPLICATIONS:-"

(A) Due to the Contrast medium:-

(I) allergic reaction

(II) Acute pancreatitis

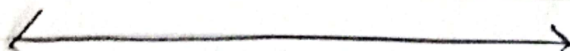
(B) Due to Technique:-

(I) Local:-

Damage by the endoscopy e.g. rupture of oesophagus damage of ampulla etc.

(II) Distant:-

Baeteriaemia Septicaemia, aspiration pneumonitis etc.



Ans Q No 4:-

"HYSTERO SALPINGOGRAPHY (HSG):-"

→ Hystero mean uterus:-

→ Salpingo mean Fallopian Tube.

→ Graphy mean To draw.

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

⇒ "INDICATIONS:-"

→ Infertility.

→ Recurrent miscarage

→ Following tube Surgery.

→ Assesment of the integrity of a Caesarean uterine scar.

⇒ "CONTRA-INDICATION:-"

→ Pregnancy.

→ A purulent discharge on inspe of the vulva or cervix, or diagnosed PID in the preceding 6 months.

- Recent dilation and curettage or abortion or post menstruation. This applies only to oily contrast medium because of the risk of intra-vascularisation.
- Contrast sensitivity.

⇒ "CONTRAST MEDIUM:-"

- Oily 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.

⇒ "EQUIPMENT:-"

- Fluoroscopy unit with spot film
- Vaginal Speculum.
- Vulsellum Forceps.
- Uterine Cannula.

⇒ "PATIENT PREPARATION:-"

The patient should be obtain from intercourse between booking the appointment and the time of the examination unless she use reliable method of contraception, or the exam can be blocked between the fourth and tenth days in a patient with regular 28-days cycle.

⇒ Apprehensive patient may need premedication.

⇒ Preliminary Film:-

→ Loned PA view of the pelvic cavity.

⇒ "Technique:-"

The patient lies supine on the table with knee flexed, leg-abducted and heels together.

⇒ usually aseptic technique insert a speculum and cleans the vagina and cervix with chlorhexidine.

⇒ The anterior lips of cervix is steadied with the vulsellum forceps and cannula is inserted into the cervical canal. If Foley catheter is used, there is usually no need to grasp the cervix with vulsellum forceps.

⇒ Spasm of the uterine cornu may be relieved by iv glucagon.

⇒ NB: opiates increase pain by stimulating smooth muscle contraction.

⇒ "FILMS?"

Using the undercouch tube.

→ As the tubes begin to fill

→ when peritoneal spill has occurred and with all the instrument removed.

⇒ "AFTER-CARE?"

It must be ensure that the 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 and pain may persist for up to 2 weeks.

=> "COMPLICATIONS:-"

(1) => "DUE TO TECHNIQUE:-"

=> Pain may occur at following time.

→ Using the vulsellum forceps

→ during the insertion of cannula

→ with tubal distension proximal to a block.

→ with peritoneal irritation during

following days and up to 2 weeks.

=> Bleeding from trauma to uterus or cervix.

=> Transient nausea, vomiting and headache.

=> The following factors predispose to intravasation:-

→ Direct Trauma to the endometrium.

- timing of procedure.
- Timing of procedure within few days after curettage.
- Tubal occlusion because of high pressure generated within the uterine cavity.
- Uterine abnormalities.
- ⇒ Abortion:- The operator must ensure that the patient is not pregnant.
- ⇒ Due to contrast media:-
 - Allergic phenomena: especially contrast medium is forced into circulation
- ⇒ "Detectable Pathologies:-"
 - Uterine pathologies:-
 - Uterine Congenital anomalies.
 - Submucosal uterine fibroids.
 - Uterine malignancy.
 - Adenomyosis
 - Uterine polyps.

=> "Tubal pathologies:-"

- Tubal Polyps.
- Tubal malignancy.
- hydrosalpinx.
- Salpingitis isthmica nodosa.
- Tubal Spasm: Can be physiological
- Salpingectomy.



"ANS QNO 5:-"

"Arthrography:-"

Arthrography is a type of imaging test used to look at the joint such as the shoulder, knee or hip. It may be done if the standard x-ray do not show needed details of the joints structure and function.

- It may be single contrast and double contrast (air) methods.

=> "INDICATIONS:-"

- Joint capsule torn
- Joint cavity and Synovial membrane.
- Articular cartilage, labrum.
- Ligaments and Tendons.
- Loose bodies within joints

=> "CONTRA-INDICATIONS:-"

- Active arthritis.
- Joint infection
- Bleeding problems
- Previous sensitivity to contrast.

=> EQUIPMENTS:-

Fluoroscopy with spots films devise.

=> "PRELIMINARY FILM:-"

- Routine film radiograph.
- AP and true lateral of the joint of interest.
- Axial in shoulder and oblique view / inversion / eversion in ankle.
- Rapid radial and ulnar deviation in wrist joint.

⇒ "COMPLICATION:-"

→ Allergic Reaction.

→ Synovitis.

→ Pain, capsular rupture.

→ Trauma to adjacent structure.

(I) | ←————→

"ANS QNO \$"

If there is no visualization of uterine segment on IIVU and CTU Test than we do a procedure called RPUG.

Retrograde - Pyeloureterography
(RPUG):-

RPUG is also referred to as retrograde pyeloureterography. In this study, the collecting systems is evaluated by directly injecting radiographic contrast through the catheters.

Normally urine is produced

in kidney and travels down the ureters in an antegrade fashion and is stored in bladder. The term retrograde is used in reference to the direction the contrast is introduced.

=> "INDICATIONS:-"

- Demonstration of site length and lower limit if possible.
- Demonstration of the pelvicalyceal system after an unsatisfactory excretion urogram.
- Better characterized of ureteral or pelvicalyceal abnormalities seen on IVU or CTU.
- To aid in stent placement.
- Patient who has allergy on the iodinated contrast media and have renal insufficiency is indicated for evaluating of retrograde urogram, but because the contrast is not introduced intravenously, the possible

reaction is low.

⇒ "CONTRA-INDICATIONS:-"

- Acute urinary tract infection.
- Pregnancy.
- Recent instrumentation.

⇒ "Contrast media:-"

→ HOCM or LOCM 150-200

⇒ Equipment.

→ Fluoroscopy unit.

⇒ Patient Preparation.

→ As for surgery

⇒ Preliminary Film:-

→ Full-length supine AP abdomen

when the examination is performed in the x-ray department.

⇒ Film.

"Using The undercouch tube:-"

(1) supine PA of the ureter.

(2) both 35° anterior oblique to the ureter.

(3) The catheters may be in the

pelvis to drain pelviureteric obstruction.

⇒ "General Protocol:-"

After the pt has been anesthetized the procedure begin by nursing

proper positioning of the patient in the ~~chest~~ dorsal lithotomy position.

The film are exam as satisfactory

the catheter is withdraw first

10cm below renal pelvis and

then lie just above 2ml of

contrast medium are injected at

each of these level and film

taken.

⇒ "COMPLICATIONS:-"

→ Due to anesthetic:-

Complication of general anesthesia.

→ Due to technique.

→ Introduction of infection.

→ mucosal damage to the urether

→ Perforation of urether or pelvis

2019

23

Anniv. Day* (Canterbury South-N.Z.) Autumnal Equinox Day (Japan)

by catheter.

→ "Due to Contrast media:-"

→ Contrast medium can be absorbed from the intact renal pelvis, giving rise to adverse reaction. However the risks are much less than with excretion urography.

→ chemical Pyelitis - if there is stasis of contrast media,



THE END