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PAPER : CRP & CP

Q#1

RPUG :- Retrograde pyelography is also reffered as Retrograde pyelowrathr graphy. in this Study the Collecting system as evaluted by diretly intected Radiographic Contrast through catheters, rather then utlized to exocrtory phase of contrast exreation after intervenous injection with a CT uragram (C.T.U) or intravenous urogram (i.v.u)

Normall urine produce in the Kidney and Travels down the ureter an antgrade fashion then stored in the bladder. the Term Retograde "Moving backword" is used in reference to direction the contrast is intreduced.

The Test is performed in the Hospital radiology department by A urologist and its typically carried

out under general anesthesia.

INDICATIONS:

* Demonstration of the side, length lower limit and if possible the nature of obstractive lession
* Demonestration of pelvicalyceal system after an unsatisfactory excretion urogram.
* Non visulazation of urathedal segment on (IVU) and (CTU) (if there is still clinical concern for evaloting the collecting system after in (I.V.U) or (CTU).
* To Aid is stant placment.
* patient who is allergy on iodinated contrast media and have renal insufficiency in indicated for evalution of retrograte urogram but because the contrast media is not introduced intravenously the possible reaction is low.

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CONTRAINDICATIONS

- Acute urinary tract infection.
- ~~Pregen~~ pregnency.
- Recent instrumentation.

CONTRAST MEDIA

- HOCM or LOCM 150-200 ie Not to dense to abscure small lession, 10 ml.

EQUIPPMENT

- Fluoroscopy unit.

PATIENT PREPRATION

- As for surgery.

PRELIMINARY FILM

- Full length Supine AP abdomen when an examanation is performed in the x-ray department.

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TECHNIQUE :

* After the patient has been Anestizied. the procedure being by insuring proper position of the patient in the dorsal Lithotomy position.

* once positioning is complete, cystoscopy ~~is~~ is perfomed. the physician uses the cyestoscopy to identify the left and Right urethral orifices.

* The physican then uses of 5F or 6F open ended ore cone-tipped catheter to cannulate the ureter that needs to be imaged.

* at this point radiographs are Taken to ensure proper placement of the catheters.

* once placement is conformed. the physician may ~~inj~~ inject contrast through catheter. Typically 5-8 mL of contrast is needed to to completly opacify the ureter & renal collecting system. As contrast inject & taken film using fluroscopy

* if there is pelviccretesic injection obstruction. the contrast medium in the pelvis is apperatied the film are eximiend and starfactory, the cathetor is with drawn: first 20 cm below the renail pelvic. about 2ml of contrast medium are injected each of these level and film taken.

FILMS

using the under couch tube:

* Supine PA the ureter.
* both 35° anterior obliques of the ureter.

NB: The catheter may be left the pelis to drain pelviuretetic Abstractive. In this case with drawal uretrograms are not possible.

AFTER CARE

* post-anaesthetic observations.
* prophylactic antibotics may be used.

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COMPLICATIONS

* Due to the anaesthetic complication of general Anesthesia

* Due to the techinaque.
① introduction of injection
② Mucosal damage to the ureter.
③ performation of the ureter or pelvis by the catheters.

* Due to the contrast medium

① Contrast medium can be obserbed from the intect renal pelvis. giving rise to adverse reactions the risk are much less whith excreation urography.

② ~~Chemi~~ chemical pyelitics - if there is ~~stat~~ stasis of contrast medium

③ Extravation due to over distenation of the pelvis. this is ussally Asymptomatic but may result in pain. fever and rigors.

Q # 2

INTRA VENOUS PYELO GRAPHY
(I.V.P)

* An intra venous pyelo graphy (ivp) Also Called is (IVU) intra Venous Urogram or Excceretory urography (E.U) is a radiological procedure used to visulized abnormalities of the urinary system. including the kidney (renal perenchyma pelvic alyceal system) ureters and bladder.

INDICATION:

* Check a normal function of kidney.
* Check for anatomical varinats or Congitanl anomalies (eg horse. shoe. kidney)
* check the course of ureters.
* detect and local ized urethric abstruction (urolithiasis)
* assess for synchrones upper tract disease in those with bladder tranzitional cell carcinoma (TCC).

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CONTRINDICATIONS:

- Contrast allergy.
- Hepto renal syndrome
- thyrotoxicosis
- Rised serum creatnine.

CONTRAST MEDIA:

- HOCM or LOCM 370 are Accetable but The following high risk group should recive LOCM.

① infants and small children and the elderly.
② Those with renal and / cardic failure.
③ Poorly dydrated Patient.
④ With diabetes myelomatosis or Sickly cell - enemia.
⑤ Patients who have had previous Severe contrast medium reaction with LOCM or those with stronge allergic history.

- Adult dose 50 ml
- Paediatric dose 2ml kg-1.

PATIENT PREPRATION

* No food for 5 houre prior to the eximination. Dehydration no necessory and dose not improve image quality.

* Patient should Perferamble be ambulant 2h perior to the examanation to reduce bowel gas.

* the routine administration of bowel prepration file to improve the diagnostic Quality for the eximanation.

* the eximanation is performed a patient who has prevesoly had severe contrast mediam reaction. Considration should be given to adminstring methyl predonisolone 32 mg 12 and 2 H perior injection of contrast medium in addition ensuring that LOCM used.

PRELIMINARY FILM

① Supine full length AP of the abdomen in inspiration. the lower border of cassette at the level of the symphesis pubic and X-ray beam contred and mid line at the level of iliac crests.

② Supine AP of the renal areas in expiration. the x-ray beam is ~~contrated~~ Contred the mid line at the level of ~~of~~ the lower costal margin. ③. 35% Posterior obliaue view.

④ Tomography of the kidney at the level of third of the AP diameter patient (approx. 8-11 cm the optimal angle of swing is 25-40°.

TECHNIQUE

* The median antecubital vein is the preferd injection side b/c flow is ratherted the cephlic vein a it perices the clavipectorl fassia.

* A 19.G Needle advanced up the vein reduce the risk Prevenious injection and injection is given rapidly bolus minimize the density of nephrogram.

* upper arm shulder pain may be due to stasis of contrast media in the vein this is reveled abduction of the arm.

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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 time) it aims show nephrogram, the renal parenchyma, opacified by contrast medium in the renal tubles.

② **5MIN FILM :-** AP of the renal areas taken determine of excretion symmetrical and its inavaluble of assessing the need to modify techinique eg further injection of contrast medium if there has been poor initial opacification.

③ **15 MIN FILM :** AP of the renal areas there is usualy adaquate the pelvic alyceal system with opaque urine by time. Compression relesed when statisfactory demonstration of the pelvic alyceal system has been achiveed.

④ **RELEASE FILM :-** supine ~~ap~~ AP abdomen the film taken to show the whole urinary ~~tract~~ tract. the patient has asked to empty their bladder.

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(5) AFTER MICTURITION FILM

Based on clinical fanding the Radiological fending on the earlier film ~~to~~ this will ~~the~~ be either full length abdomine film or coned view of the bladder with the tube angled 15° caudad and ~~cent~~ cantred 5 cm above the symphysis pubis.

* The principal value of the film assess bladder emptying to demonstrate a return to normal of dialated upper tracts relaf bladder pressure Aid and diagnosis of bladder tumors to confirm uretroviscal junction calculi and un commonly to demonstrate urethral diverticulum in femele.

ADDITIONAL FILM:

(1) 35° posterior obliqune of kidney, ureters or bladder.

(2) Tomography when their confusing ovelying shadows.

(3) 30° cauded angulation the tube of the renal age this throw faecal laden transverse clon clear of kidney.

(4) prime abdomen: May provide better vissulization of the ureter by making then more depertement.

(5) Delyed films: may be necessary for up to 24 H after injection causes of obstoactive uropathy.

COMPLICATION

* due to the Contrast media

* Due to techinale in correctly applied abdominal compression may produce ~~intoable~~ intolerable discomforte or hypotension.

Q # 3.

(ERCP) ENDOSCOPIC RETROGRADE COLANGIOPANCREATOGRAPHY

* Endoscopic retrograde colangio pencreato Graphy. is a techinqe that Combine the use of endoscopy and Fluroscopy and diagnose and treat Certain problems of the billary or pencretic ductal system.

* Althought precutanous tranehpetic Colongiography (PTC) has a higher success rate for demonstrating bile duct (ERCP) has ~~these~~ three advantages over PTC.

① the ability to ~~vis~~ visulize and biopsy ampullary lesions.
② the demonstration of billiry tree and Penceratic duct.

③ Greater threaputic potential (ERCP) is ussaly performed by Physicians or surgeons rather then radiologist.

INDICCATION

* Investagation of extra hepatic billiary obstruction.
* Post-cholecystectomy syndrome.
* Investigation of diffuse billary disease e.g sclerosing cholangitis.
* Pancreatic disease.

CONTRAINDICATION:

1. Australian antigen - positive HIV positive.
2. oesphegeal obstruction varices polyric stenosis
3. previous gestric surgery.
4. Acute penceratitcis.
5. pencreatic pseudocyst.
6. When glucogen or Buscopan contrain dicated.
7. Severe cardio respiratory disease.

CONTRAST MEDIA

* Pancreas LOCM 240
* Bile ducts LOCM 150 dilute contrast medium ensures that calculi will not be obscured.

EQUIPEMENT

* Side viewing endoscopy.
* polythene catheters
* Fluoroscopy unit with spot film facilities.

PATIENT PREPRATION

* Nil orally for ~~4H~~ 4 H prior to procedure.
* premedication
* Antibiotic cover.

PRELIMINARY FILM

* prone AP and LAO of the upper abdomen to check for obscure gall stones and pancreatic calcification ~~and~~ calculi.

TECHNIQUE :

* The Pharynx is anesthezied with 4% Xylocine spary and the patient given diazepam 5mg min.

* then patient then ~~lies~~ lies on the left side and the endoscopy intruduced.

* the ampulla of vater is located and the patient turned prone.

* A polythene cathater prefilled with contrast medium is insurted into the ampulla, having ensured all air bubbles are exclude.

* A small test injection of contrast under fluroscopy controll made to determine position of the cannula.

* is impottant avoid of ~~contrast under fluroscopic~~ over filling of the pancrease discrible to opacify both the billiary tree and and pancreatic duct then the latter should be cannulated first. A simple should be sent a culture and sensitivety avadance of billiary abstruction.

FILMS

⇒ **Pancrease** (using fine focal spot)

* prone both posterior obliames.

⇒ **Bile ducts.**

* Early filling to shows calculi.
* ~~Sah~~ prone. stright and posterior oblique.
* Supine: Stright both oblique
  Trendelenburge to fill intrahepatic duct semi erect to fill lower end of common bile duct and gall bladder

* Film following removel of the endosapy which may absure the duct.

* Dalyed film to assess the gall bladder and empty of common bile duct.

AFTRE CARE

* Nil orally until sensation has returend to the ~~phagyro~~ pharynx. (0.5-3 H)

* pulse temprature and blood pressure half hourly for 6 H.
* Mantain Anti biotic there is billary or pancreatics.
* serum / urinary amylese pencreatitis suspected.

~~AFTER CARE~~

COMPLICATION

* Due to the Contrast media.

① Ealergic reaction - rare.

② Acute pancreatitis - more likely with large volumes high pressure injuction

Due to the techinque.

* **Local:**

Damage by the endoscopy e.g reptu re of the oesophagus damage to the ampulla proximal pancreatic duct and distal common duct.

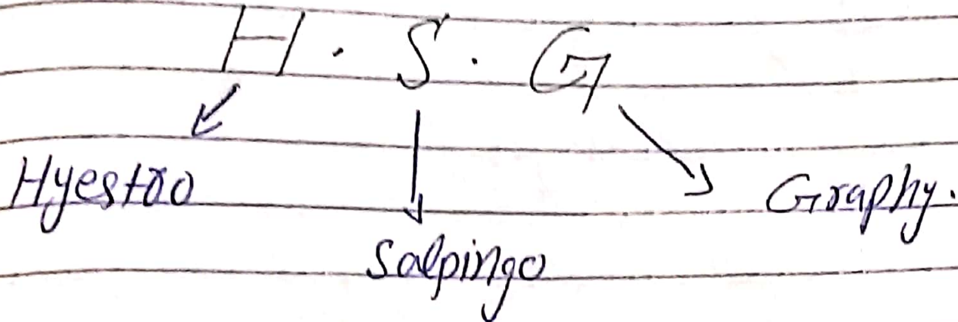
Distant:

Backrimia, septicemia, aspiration pneumontiee, hyperamylassemia

(approx 70 %) Acute pancreatitis

(0.7 - 7.4 %)

Q # 4



H.S.G procedure in which we use the female infertility.

* Hystro salpaingo graphy (H.S.G) also know as uretro salpingo graphy it is a fluoroscopic eximanation of the utrel and the Fallopin tubes.

* it is Perfromed to investagate the shape of utrine cavity and shape patency of the fallopin tubes.

* Hestro means ~~uterus~~ uterus.
* ~~SP~~ Salpingo means Fallopian tubes
* Graphy means to draw.

INDICATIONS

* Infertility
* Recurrent miscarriges.
* following ~~tub~~ tubal surgery.
* Assessement of the integraty of a caesrean uterine scar.

CONTRA INDECATION

1. Pregnancy.
2. A purulent discharge on inspication of valva or cervix or diagnosed pid in the preeending (6) months.
3. Recent dialtation and curratage or abortion immediatly past - menstratution this applies only to oily contrast medium because of the risk of intra vistation.
4. Contrast sensitivity.

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CONTRAST MEDIUM

* Oily contrast media is no longer recommended.

* HOCM have not advantages with regard to image Quality or Side effects but non-ionic dimmer iotrolan is associated with lower incidence and decreased severity of delayed pain.

EQUIPEMENT

* Fluoroscopy unit with spot film divice.

* Vaginal speculum.

* vulsellum forceps

* uterine Cannula, Leech Wilkinson cannula, olive, or 8 paediatric Foley Catheter.

PATIENT PREPRATION

* the patient should obtain from intracause b/w booking appointment and the time of the examinatioan unless she

uses reliable method of contraception or the examination can be booked b/w the fourth and tenth day in a patient with regular 28 days cycle.

(2) Apprehensive (fearful) patients may need premedication.

PRELIMINARY FILM

* Coned PA view of the pelvic cavity.

TECHNIQUE

* The patient lies supine on table, knee flexed and heels together.

* Using aseptic technique operators inserts a speculum and cleans the vagina and cervix with chlorhexidine.

* the anterior lip of cervix is steadied the vulsellum forceps and cannula is inserted in cervix canal. if foley catheter is used, usually no need graph the cervix the vulsellum forceps.

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4. Care must be taken expel all air bubbles the syringe and cannula thes would other wise cause confussion in interpretation. Contrast medium injucted slowely under intermittent. fluoroscopy control.

5. Spasm of the uterine cornu may be relived by i.v glucagon.

* NB opiates increase pain by stimulating smooth muscle contraction.

FILMS

* Using under couch tubes.

1. As the tubes begin to fill
2. when peritoneal spill has occuried and with all the instrument removed.

AFTER CARE

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

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② the patient must be advisted that she may have bleeding per vigena for 1-2 day and pain may presist for up to 2 weeks.

COMPLICACTIONS

☆ Due to the techinique.

① Pain may occure at the following times.

- using the vulesellum forceps.
- during inseration of the cannula.
- with ~~double~~ tuble distension of uterus if there is tubal spasm.
- with perotineal irritation during the following day and up to 2 weeks.

② Bleeding from trauma the utreous or cervix.

③ Transient nausia, vomating and headache.

④ intravasation of contrast medium into the venous system of the utreus. result in fine lack pattren with in utrine wall. Intravasation outlines larger vein. it is little signifance when water soluble contrast media are used.

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- direct trauma to the endometrium
- timing of procedure near menstruation.
- Timing of procedure with in few days after curratage
- double occlusion because of the high pressure generated with the uterine cavity.
- uterine abnormalities eg uterine tuberculosis, carcinoma and fibroids

(5) infection which may be delayed occurs up to 2% pt and more likely there previous pelvic infection.

(6) Abortion the operator must ensure that the patient is not pregnant.

Due to contrast medium

* Allergic phenomena especially if contrast medium forced into the circulation.

DETECTABLE PATHOLOGY.

* Conditions which may be detected with (H.S.G)

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UTERINE PATHOLOGY.

- Uterine ~~congi~~ congential anomalies.
- Sub mucosal utrine fibroids.
- utrine maligency
- adenomyosis
- intra utrine adhesione.
- utrine (endo meterial) Polyps.

TUBAL PATHOLOGIES

- obliteration of fallopin tube ussuly secondary to previous pelvic inflamation it must be differenatite incomplete tubal spasm. or under filling of the utreus with contrast.
- tubal polyps.
- tubal maligency
- Hydro salpixn.
- Salpinitis isthmica nodes (SIN)
- salpingectomy.

Q # 5

The procedure in which we use diagnosing the disorder of joint, laigament and tendon.

=) Shoulder joint

=) elbow joint

=) Hip joint

=) Knee joint

=) Ankle joint

=) wrist joint.

INDICATION

* joint capsule toorn.
* joint cavity
* synoual membrane
* Laigament.
* Tendons

* loose bodies with in joint
* prosthesis assessment (loosing, infection)

CONTRA INDECATION

* Active Arthritis
* joint infection
* Bleeding ~~problems~~ problems
* previous sensitivity to contrast media

EQUIPEMENT

* Fluoroscopy with spot film devices.

PRELIMINARY FILM

* Routine plain film radiographs
* AP and true lateral of the joint view / inversion eversion in ankle

* Radial and ulnar deviatation in wrist joint.

AFTER CARE

* Avoid driving for Two days.
* joint pain may occure.

COMPLICATION

* Allergic Reaction.
* Synovitis (inflamation of synovil membrane)
* Pain capsular rupture.
* Trauma to adjacent structure e.g Nerves and vessels.

C.G SHOULDER JOINT

* The patient is lying supine with arm of side under exmination close to the body external rotation so That the head of biceps is out of the path of needels.

* using sterial techinique the skin and soft tissue are anisthezied 2cm inferior and one(1) cm lateral

is insurted vertically to the joint space under flouroscopy queicness and test dose contrast is injected ~~following~~ followed by full injection 15ml for single contrast or air. (12ml) to distend

by synovial sic (double contrast)

* The needle then removed and joint is excrisied for unifrom

distribution of ~~all~~ contrast medium.