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BS RADIOLOGY 4TH SEMESTER

ASSIGNMENT CRP CP

Question No.1

IODINATED CONTRAST :-

iodinated Contrast is ideal for IV administration.

The non-ionic dimers are the most ideal Contrast agent for IV administration. As they are very less toxic and delivers more iodine with the least effect on osmolality.

All radiological procedures are performed with the injected Contrast agents which involves the administration of iodine-containing Compounds.

Use those Compounds that are iodine containing are related with low toxicity and have great radio-opacity.

There are also some characteristics by which this Contrast media is

Considered better than the compounds with higher atomic number.

It is a form of intravenous Contrast media which contains iodine and enhances the visibility of the vascular organs or structures during radiographic examinations. There are some pathologies which have improved visibility upon using an iodinated Contrast such as cancer.

Iodinated Contrast media have two types.

Ionic Contrast agents:-

- Ionic dimer
- Ionic monome

Non ionic Contrast agents:-

- Nonionic dimer (low or isoosmolar Contrast media)
- Nonionic monomer (low osmolar Contrast media)

CHARACTERISTICS:-

Iodinated favourable Characteristics to be used as IV Contrast.

- iodinated Contrast enhances the tissue structures of organ.
- Iodinated Contrast highlights blood vessels.
- It spread throught the body easily.
- Once it is injected into blood stream through IV route, Contrast media then circulates through the heart and passes into the arteries, then the body capillaries and then pass into the veins and back to the heart.
- Adverse effects of these Contrast media are usualy mild-or self-limiting.
- Intravenously Contrast medias are commercially availabe at a wicle range.
- There is no barrier for Contrast media if injected through IV (except skin which is then eliminated by needle).

Question No. 2

VENOGRAPHY:-

A venogram is an x-ray test that involves injecting contrast material into a vein to show how blood flows through your veins. This allows a physician to determine the condition of your veins.
An x-ray is a noninvasive medical test that helps physicians diagnose and treat medical conditions.

BEFORE PROCEDURE:-

Your doctor may tell you that to not eat or drink anything for several hours before your procedure.

You may be allowed to drink clear liquids on the day of your procedure

You should inform your physician of any medications being taken if there are any allergies, especially to iodinated contrast material. Also inform your doct about rescent illnesses or other medical conditions.

Women should always inform their x-ray technologist if there is any possibility that they are pregnant.

How Procedure Is Performed:-

This examination is usually done on an outpatient basis

A venogram is done in hospital x-ray department.

You will be asked to remove your jewelry or other objects that might get in the way of the test.

You will be asked to remove clothing. You will be given a gown to wear.

You will lie on an x-ray table. Depending on the body part being examined (eg the legs) the table may be situated to a standing position. if the table is repositioned during the procedure, you will be secured with safety straps.

The physician will insert a needle or catheter into a vein to inject the contrast agent.

As the Contrast material flows through the veins being examined Several x-ray are taken.

You may be moved into different

positions so that the x-rays can take pictures of your veins at different angles.

AFTER THE PROCEDURE:-

After the procedure, the medical team will watch your heart rate, breathing rate and blood pressure.
They will also check the pulse in your feet, as well as temperature, color, and sensation in your legs.
They will watch the injection site for redness warmth swelling and tenderness.

You can go back to your normal activities and diet as directed by your healthcare provide.

Question No.3

LOOPOGRAM:-

A loopogram is a diagnostic test that is performed on the section of bowel that function is ~~replaced~~ place of the urinary bladder it is also known as urogram antegrade.

- Patients who do not have bladder or have malfunctioning bladder may undergo a surgical

procedure called a urinary diversion to reroute the flow of urine through an opening in abdomen. The opening is called a stoma.

- The stoma has no muscle and cannot control urine flow, so that urine flows continously through it.

- Sometimes a section of bowel, usuall the small intestine is removed and repositioned to enable urine to flow from the ureters to the stoma. This section of bowel is called an ileal conduit.

- The urine that flows through the conduit to stom is collected in an external pouch called a a stoma bag.

Loopogram Examination Show:-

The loopogram examination shows
1. kidneys.
2. Ureters
3. illeum
4. Stoma (the opening on the outside of your abdomen.

it is done to ensure that the conduit and surrounding organs are functioning efficiently.

This procedure is also known as ileal Conduitogram and ileal loopography

BEFORE EXAM:-

Take nothing by mouth 8 hours prior to your exam. You may take your medications with minimal amount of water

What happens during the exam:-

You will be asked to dress in a patient gown.

Loopography involves inflating the ileal Conduit with a 14 French foley Catheter and a 5ml balloon. To prevent Contrast media from leaking out at the Stoma site, the Catheter is inserted a 5ml balloon inflated, and gentle traction applied.

The Conduit is then filled with Contrast media through a Gravitational drip.

Drainage films and fluoroscopy are performed to show the positions, lengths and Condition of the ileal Conduit but also to determine the ability or inability of the Conduit to practice reflux.

You will be positioned for your exam based on the area of the body to be x-rayed. This could be standing, sitting or lying down in various positions on the exam table.

Most exams require multiple views or positions of the body part for adequate evaluation.

Fluoroscopic imaging is done with contrast called x-ray dye.

The contrast dye shows up on the images and allows the radiologist to clearly see and check the internal organs.

This exam usually takes about 30minutes to 1 hour.

AFTER EXAMINATION:

The radiologist will review your images and final report will go to your ordering physician in 24 to 48 hours.

A fresh stoma bag will put on and you may resume your normal activities

Question No 4

Role Of Radiologist Technologists In Performing Fluroscopy Procedure :-

Role of radiologist technologist in in performing fluroscopy procedure are

Tech Radiologist Contribute to specific new equipment and preparation.

During fluoroscopy procedure lead garment should be used by radiologist.

Dosimeter should be used.

Radiologist making sure alignment and working of procedure should be Correct.

Radiologist must Collimate the field of view because they want to ~~exam~~ ~~that~~ focous on that anatomy which they examine.

Radiologist must Control kvp or mAs for image quality.

Radiologist should be trained to understand and operate the procedure

Technologist sh must adjust the distance between the patient and x-ray tube to reduce the Patient radiation dose.

Radiologist should take a record a patient doses.

Question No. 5

What is Catheter and Guidewire :-

Catheter is a thin tube made from medical grade materials serving a broad range of fuctions.

- Catheters are medical devices that can be inserted in the body to treat diseases or perfor a surgical procedures.

Urinary Catheters are hollow, flexible tubes placed in the body drain and collect urine from the bladder.

The process of inserting a catheter is Catheterization.

Guide wires are Stainless steel metalic structure that guide that guide the Catheters through the blood vessels for placement.

Guide wires are relatively simple spring type wires that provides necessary firmness and the control to to site where angiogram will be taken.

As the name suggests it guides the Catheter.

Why and how Catheters and Guide-wires are Used:-

- Urinary Catheters are used to drain the bladder.
- Your health Care provicle may recommend that you use a Catheter
- if you have urinary incontinence (leaking urine or being unable to control when you urinate) Urinary retention (being unable to empty your bladder when you need to).

"How" Catheter is inserted through the urethra.
This is the tube that carries urine from the bladder to the outside of the body.
Somtimes the provicles will insert a Catheter into your bladder through a small hole in your belly.

This is clone at hospitals.

"Why" Guidewires is the clevice used to guicle the Catheter into place during CVC insertions.
- The purpose of a guidewire is to gain access to the blood vessels using a minimally invasive technique.
- Guicle wires are used for both

Cardiology and radiology angiographic procedures.

(How) Guide wire is a single straight wire with a hub at one end which is inserted into the catheter prior to placement.
The stylet is used to add stiffness to the catheter during insertion.
After placement, the stylet is removed from the catheter.

Types Of Catheters:-

There are three main types of catheters

Indwelling Catheters (urethral or Suprapubic Catheters):-

- An indwelling catheter is a catheter that resides in the bladder: it may also be known as a foley catheter. This type can be useful for short and long period of time.
- A nurs usualy inserts an indwelling catheter into the bladder through a tiny whole in the abdomen. This type of indwelling catheter is known as Suprapubic Catheter.
- A tiny balloon at the end of the catheter is inflated with water to prevent the tube from sliding out of the body. The balloon can

then deflate when Catheter needs to be removed.

External Catheters (Condom Catheters):-

A Condom Catheter is a Catheter placed outside the body. its typically necessary for men who don't have Serious functional or mental disabilities Such as dementia. A device that looks like a Condom Covers the penis head. A tube leads from the Condom device to drainage bag.

Short Term Catheters (Intermittent Catheter)

A person may only need a et Catheter for a short period of time after surgery until the bladder empties.
After the bladder empties its necessary to remove the Short-term Catheter.
Health Care providers refers to this as an in and out Catheter.
It Can be done through the urethra or through a hole Created in the lower abdomen for Catheterizat

Types Of Guide Wire:-

wire

SOLID CORE WIRE :-

The central wire is encased by a metal Spring Coil.

The advantage of solid guide wires are that it reduces the possibility of Catheter tip flaring, Blood clotting on the guide wire, Abrasion of the vessel and the danger of unravelling. The disadvantage of this type is its lack of versatility.

MANDREL WIRE :-

The outer spring Coil is at one end.

RIBBON WIRE :-

The Spring Coil encases both the Core wire and ribbon wire.