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Assignment # CRP & CP

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QUESTION No # 1

Which contrast is ideal for IV administration? What are favourable characteristics to be used as IV contrast?

ANSWER No # 1 :

Iodine based contrast material injected into a vein (intravenously) are used to enhance xray and CT images. Gadolinium injected into a vein (intravenously) is used to enhance MR images typically they are used to enhance the :

- Internal organs, including the heart, lungs, liver, adrenal glands, kidneys, pancreas, gallbladder, spleen, uterus and bladder.
- Gastrointestinal tract, including the stomach, small intestine and large intestine.
- Arteries and veins of the body, including vessels in the brain, neck, chest, abdomen, pelvis and legs.
- Soft tissue of the body, including the muscles, fat and skin.
- Brain
- Breast

Characteristics :

- Rapid onset of effect
- Usefulness in situation of poor gastrointestinal absorption
- Avoidance of tissue irritation if present with in or other routes
- Ability to administer large volumes over time by a slow infusion
- Ability to administer drugs at constant rate over a long period of time.

QUESTION No # 2

How is venography performed? Explain.

Answer No # 2 :

Venography is a procedure in which xrays of the veins, a venogram, is taken after a special dye is injected into the bone marrow or veins. The dye has to be injected constantly via a catheter, making it an invasive procedure.

Procedure :

Venography can be divided into following section :

1 : peripheral venography

- Lower limb venography
- Upper limb venography
- Peripheral varicography

2 : central venography

- Inferior vena cavography
- Superior vena cavography

3 : selective visceral venography

- Renal venography
- Hepatic venography
- Portal venography

Patient preparation :

- NPO for 4-6hrs prior to examination
- Check serum creatinine and urea level
- Taking proper medical history
- Signing informed consent

Contraindications :

- Contrast media allergy
- Impaired renal function
- Blood clotting disorder
- Anticoagulant medication

Contrast media :

- Low / iso osmolar contrast media 240 mgI /ml
- Volume about 50 - 150ml

Procedure :

- Patient is placed supine on the xray table with all elastic wrappings removed from the leg
- Preliminary radiograph of leg and thigh is taken in order to ascertain optimum exposure.

Images :

- Anterior -posterior (AP) of calf
- Both oblique of calf (internal and external)
- AP of popliteal, femoral and iliac veins.

After care :

- The limb should be exercised.

QUESTION No # 3

What is loopogram? Explain.

Answer No # 3 :

Loopogram :

This is a test to show the loop of bowel (conduit) that has been used as a substitute for your urinary bladder.

Loopogram procedure :

- Patient lies supine on the examination table.
- The stoma bag will be removed.
- The radiologist will clean the urostomy stoma and insert a catheter.
- Contrast (xray dye) will be injected through the catheter and several images will be taken.
- This exam usually takes about 30 min to 1 hour.

Examination shows :

- Kidneys
- Ureters

- Ileum
- Stoma

this procedure is also known as illeal conduitogram and ileal loopography.

QUESTION No # 4

What is the role of radiologic technologist in performing fluoroscopic procedure?

ANSWER No # 4 :

The technologist essentially performs the procedure :

- Change patient into gown and empty bladder
- Take scout KUB and show film to radiologist
- Check lab values and report them to radiologist
- Measure patient with calipers to determine tomography slices
- Draw up contrast into syringe, attach and flush tubing
- Start IV line, inject contrast
- Inform patient they may experience a warm flushed feeling
- Contrast reaction usually occurs in the first 5 minutes
- Take 0 minute nephrogram image
- Take tomos or plain KUBs at 5, 10, 15 min are directed by a radiologist
- At radiologist direction have patient empty the bladder
- Take a post-void plain film, show to radiologist
- Discontinue IV line.

QUESTION No # 5

What are catheters and guidewires? Why and how are they used? What are their types?

ANSWER No # 5 :

Guidewires :

A catheter over a stiffer wire also may facilitate passage of the catheter into the vessel and prevent guidewire kinking.

Guidewires working :

Guidewires are designed to navigate vessels to reach a lesion or vessel segment. Once the tip of the device arrives at its destination, it acts as a guide that larger catheter can rapidly follow for easier delivery to the treatment site.

Catheter :

A catheter is a tube that is inserted into your bladder, allowing your urine to drain freely.

Working :

It is designed to deliver radiopaque media, guidewires and therapeutic agents to selected sites in the vascular system.

Used for :

Guidewires and catheters are used during minimally invasive interventional procedures to traverse in vascular system and access the desired position.

Types catheters :

- Indwelling catheters
- External catheters
- Short term catheters

Types of Guidewires :

- Solid core wire
- Mandrel wire
- Ribbon wire.

The End