Use of Contrast Media in X-Rays

Body parts look the same on an X-ray. Contrast media create a contrast between the organ your caregiver wants to see and the surrounding tissue. X-ray contrast media are a non-toxic (not harmful) solution. They contain material that shows up on x-ray. Iodine is one example of contrast media. When x-rays hit iodine, the area appears white on the X-ray film. This highlights the detail of the organ your caregiver wants to see.

HOW ARE CONTRAST MEDIA USED

There are many x-ray exams in practice today that use contrast media. A few of the most common are:

- **ANGIOGRAPHY** - The x-ray procedure which looks at blood vessels is called angiography. There are 2 kinds:
  - Arteriography, means arteries are being looked at.
  - Venography, means veins are being looked at.

DIGITAL SUBTRACTION ANGIOGRAPHY (DSA) - Looks at vessels filled with contrast media free from overlying structures.

- **INTRAVENOUS UROGRAPHY (INTRAVENOUS PYELOGRAPHY, IVU, IVP)** - Intravenous urography remains the basic x-ray examination of the urinary tract. Its main purpose is to look at the kidney:
  - Shape.
  - Structure.
  - Function.

  A series of x-ray taken after the injection will highlight the urinary tract. This includes the:
  - Kidney.
  - Ureters.
  - Bladder.

COMPUTED TOMOGRAPHY (CT) - CT look at cross-sections of organs in a patient. Most involve the use of a contrast medium. In recent years, an advanced CT technique called spiral or helical CT has become important.

- **INTERVENTIONAL TECHNIQUES** - Contrast media are often required to monitor the course and success of procedures. Contrast media are used in techniques for treating:
  - The widening of narrowed arteries (angioplasty, percutaneous transluminal angioplasty, PTA).
  - Deliberate closure of arteries supplying abnormal areas such as lumps (*tumors*), a ballooning of a weak spot in the vessel wall (*aneurysms*).
  - Vascular malformations.
  - Stopping a bleeding artery.

SAFETY OF CONTRAST MEDIA

Adverse reactions to contrast media are uncommon but do occur. Adverse reactions are usually mild to moderate. They usually last a short time. They often resolve themselves without medical treatment. Among the most frequently observed reactions to contrast media are:

- Feeling sick to your stomach (*nausea*).
- Vomiting.
- Allergy-like symptoms.

More rare serious adverse reactions have been observed. To decrease the risk of adverse reactions, healthcare professionals ask questions about individual patient's medical history, including:

- Are you taking any medication (prescribed or over the counter)?
- Have you ever had a reaction to contrast media or any other substance containing iodine?
- Do you have allergies such as hay fever, or to medications?

- Do you have a pre-existing condition like diabetes, kidney (renal) or liver disease?
- Are you pregnant?
- Are you breastfeeding?

PREPARATION FOR AN X-RAY

Before an examination, it may become necessary to remove some items including:

- Dentures.
- Jewelry.
- Any material that may interfere with the x-ray.

Should you have any further questions please do not hesitate to consult your caregiver.

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