Combined Gastric Emptying

Similar Studies & Variations

- Solid Gastric Emptying, Liquid Gastric Emptying

Indications

- For determining gastric dysmotility.

Equipment & Supplies

- One egg, two slices of bread, a plate covered by paper towel, gloves for patient, a container to cook the egg in, chuck for a patient bib, 120 mL of water, a camera with medium collimator
- 1.0 mCi Tc99m SC +/- 10%
- 0.100 to 0.125 mCi In-111 DTPA

Preparation

- Set up the camera to acquire multiple energy pictures
  - First window set for 140 keV with a 10% range
  - Second window set for 171 keV with a 10% range
- Acquire an initial "scatter image".
  - Same acquisition parameters as the study images
  - Image ~0.10 mCi In-111 DTPA with multiple windows, as above.
- While preparing the meal, have the patient void for comfort.
- Put the In-111 in the 120 mL of water, being careful not to splash.
- Gently mix the liquid for 10-30 seconds with a wood dowel or syringe.
- Place paper towel upon the plate; unwrap the slices of bread and place upon the plate
- Crack the egg, placing it into the cooking container
- Inject the TcSC into the yolk of the egg
- Mix the egg
- Microwave the egg in small (30-60 sec) increments
  - Continue until the egg is fully cooked
- Put the egg on the bread

Administration

- Have the patient wear gloves and cover thier chest with an absorbent pad
- Have the patient eat the sandwich and drink the water within five minutes
- The water and the egg portion **must** be eaten, the bread is strongly encouraged
- While the patient is eating, prepare the camera for acquisition

Acquisition

- Immediately after eating, lie the patient on the acquisition table
- Position the camera in a LAO acquisition.
- Acquire a 120 second static image every 15 minutes
  - Images should have at least a 128x128 matrix
- Write down the time of the first acquisition
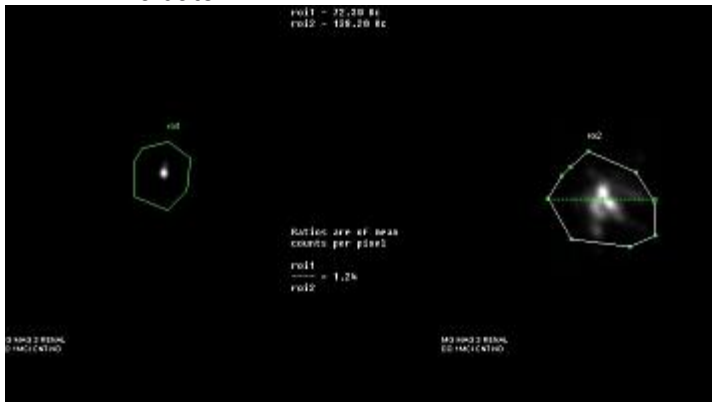- Images should be labeled:

IMMEDIATE LAO	15 MIN LAO	30 MIN LAO
45 MIN LAO	60 MIN LAO	75 MIN LAO
90 MIN LAO	105 MIN LAO	120 MIN LAO

- The study may be ceased by the nuclear medicine physician after 90 minutes if the stomach is completely empty.
- Patient movement between images is possible, but should be strongly discouraged
- Patient emesis halts and completes the test.

Required History

- Is the same as for Liquid or Solid Gastric Emptying

Processing

- It is imparative that the images are correctly labeled in Xeleris. If you do not see all nine images, click on the image and ensure that **both** sets of image names are correctly labeled.
- Process the In-111 DTPA images as per the **Liquid Gastric Emptying** protocol and the Tc99m SC images as per the **Solid Gastric Emptying** protocol, ensuring that the lag time and end time indicators are set to the same position in both studies.
- Select both portions of the "scatter image". Click on **ROI Comparative Analysis** in the **Miscellaneous** section.
- Click on a ROI tool and draw an ROI around the Tc99m image. Click on the ROI so that it is selected.
- Click on **(ROIa)** on the left. The button should now say "roi1".
- Click on a ROI tool and draw an ROI around the In-111 image. Click on the ROI so that it is selected.
- Click on **(ROIc)** on the left. The button should now say "roi2".
- Click **Evaluate**. Print this film.

- NON-Xeleris processing is not addressed in this protocol.

Hand in Study

- Fill out the Liquid/Solid Gastric Emptying Excel sheet The data from roi1 goes in "Counts in Tc99m Window", the data from roi2 goes in "Counts in Tc-99m Window". The calculated correction for the Tc window will **not** be the same as the computed ratio.