Journal Of Nursing And Midwifery Vol 2, No. 1 December 2019 e-ISSN 2656-0739

CT examination Scanupper And Lower Abdomen on suspicion of Ileus Obstruction Columbia Asia Hospital in Medan

Fitler[1], Parsaoran Pardede[2], Franky Sihotang[3]

[1.2]ATRO lecturer Amal Bhakti Yayasan Sinar Medan, Jl. Haji Muhammad Joni No.50, Medan, North Sumatra 20 216

[3]College student Amal Bhakti ATRO Yayasan Sinar Medan, Jl. Haji Muhammad Joni No.50, Medan, North Sumatra 20 216

Abstract- *The abdominal cavity in the body go round, oval shaped and extends through the diaphragm to the pelvis down. Ileus is a blockage of the small intestine to show the anatomical shape and abnormalities in the small bowel CT scan performed Upper and Lower Abdomen, tools used brand philips, generation III No. Series 129536.- results showed visible widening of the small intestine in the proximal part with multiple water fluid level (ileus obstruction).*

Keywords : *Abdomen, CT Scan, ileus obstruction.*

1. Introduction

The abdomen is the largest in the body cavity. Is oval shaped and extends from the diaphragm to the pelvis down. Described the abdominal cavity into two parts, namely the upper cavity (upper abdomen) that is bigger and pelvis is the cavity bottom (lower abdomen) that is smaller (Pearce, 1999). The boundaries of the abdominal cavity is at the top of the diaphragm, in the bottom of the pelvic, at the front of the abdominal muscles, bones and ribs iliac-ribs, in the back of the spine, the psoas muscle and quadratus lumborum. In the abdominal cavity are the organs that have their respective functions such as the digestive system, urinary system, biliary system. Many things can disrupt the digestive process one of them is due to ileus obstructive or a situation where the rest of the food in the intestine can not be out as usual so as to cause the symptoms were very severe eg thirst, dehydration, abdominal pain, like vomiting, stomach bloat that is one indication of an acute abdomen. Acute abdomen is a sudden circumstances in the abdomen requiring urgent action (Rasad, 2005). Ileus is more common in small bowel obstruction than colon. Both have a slightly different way of handling the different purposes. Small bowel obstruction that left unchecked can cause intestinal vascularization and triggers ischemia, necrosis, perforation and death, so that the handling of small bowel obstruction is addressed to decompress and eliminate the cause to prevent death.With the ComputedTomography (CT) ability to diagnose abnormalities in the abdomen, especially in the abdominal ileus obstruction has improved very well. Therefore, for the process faster and more accurate results, CT scans more effectively used for examination of abdominal disorders such as obstructive ileus. Computed Tomographiadalah picture constructed by computer using X-rays collected various points around and form part of the so-called scanned so as to produce a picture of the cross-sectional plane tomography (slice) is sliced body parts (Ballinger, 1986).

2. Inspection method

A. Patient identity

Name	: Haskel EDERNEZ
Age	: 12 years old
Gender	: Man
No. MR	: 108 740
Inspection Date	: February 2016
examination of a	: CT SCAN UPPER and LOWER ABDOMINAL
doctors Sender	: HENDRIK CHANDRA, DR, SPB
doctors Readers	: Buter SAMIN, Sp, Rad

B. A CT-scan procedures upper + lower abdomen at Columbia Asia Hospital-Terrain

1) patient preparation

There is no special preparation on a CT scan of the abdomen on suspicion of obstruction ileus, because this is an action that checks carried out immediately, but the use of contrast media that is inserted through the oral and anal.

2) Preparation tools and materials

Preparation tools and materials used in a CT Scan of upper + lower abdomen in cases of ileus in radiology installations Columbia Asia Hospital Medan is as follows:

a) Preparation tools and materials are
   1) CT Scan plane ready to use (stand-by)
   2) Contrast positive media 12cc
   3) 25cc syringe 2 set
   4) 5cc syringe 1 set
   5) Catheter 1 set
   6) jelly
   7) tissue
   8) Aqua

b) CT Scan ready for flight type multi slice with the specifications:
   Brand: Philips
   Model / Type: 989000085881
   No.Seri: 129 356
   Maximum voltage: 120 kV
   Output: 60 mA
   Generation Tool: III / Development
   Filter Default: Al

3) Mechanical Inspection

a. Entry of contrast media

Patients come to the radiology installation on doctor's orders that one-half to two hours before had been drinking the contrast media, then before the examination the patient drinks contrast media ± 200cc (4cc contrast media + 200cc water aqua). Then pesien up on the examination table subsequent ± 400cc contrast media (contrast media 8cc + 400cc water) is passed through anal.

b. patient position

The patient is positioned supine on the examination table, the upper limb of the patient and then lifted in place on the head and lower extremities second straight on the examination table. Adjust the position of the patient in order to Mid Sagittal Plane body parallel to the longitudinal positionin lights.

Fig 1. Position the patient lying flat on the table pemerisaan

c. position of the object
Abdominal area is positioned in the area that will be in the scanning by arranging the examination table and light indicators to determine the upper limit and lower limit.

4) The checking procedure
a. Enter the personal data of patients include: name, age, gender, number RM (Medical Records), and select for scanning the abdomen in the available space on the screen to fill in the patient data.
b. Click exam protocol by choosing Abdomen Helical group.
c. Click the "Go", waiting for the hold and manually sign appears and press.
d. Then came the scannogram image on the monitor.

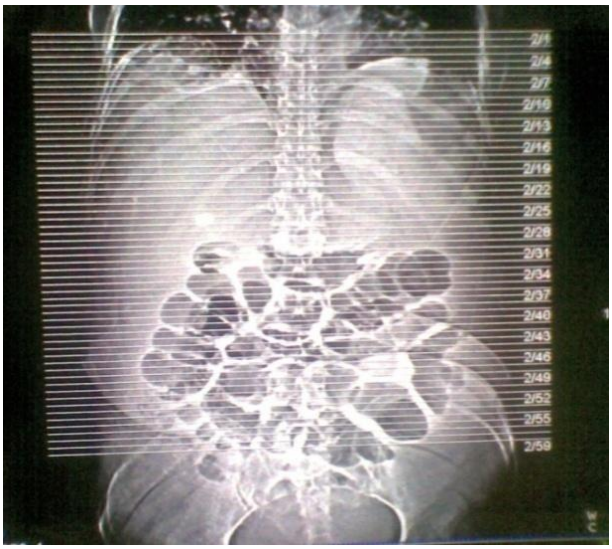

Fig 2. Abdominal Scannogram Colombia Asia Hospital Medan

e. Arrange the pieces of axial start processus xypoideus the upper limit to the lower limit of the pubic and draw a line syimpisis FOV (field of view) to the middle of the object and set the area to be scanned and then press the OK button.
f. Click the option to hold the breath hold during the X-ray, then a picture of each slice will appear until the last slice.
g. Shrink picture per slice and then click OK, wait for the picture in the record. The examination is complete and the patient was sent down from the examination table.

5) printing pictures
a.overview Axial
Set the slice thickness at a thickness of 5mm, adjust the picture so symmetrical, and select a picture from the top of the diaphragm to the bottom of sympisis pubis to be incorporated into the film with a number of 79 slice + 1 slice topogramnya, then click the filming and adjust the size of the image and right in the middle column of each slice. Select the size of the film used 14 x 17 inches, and then click Print to print the image.

b. Coronal picture
Set the slice thickness at a thickness of 5mm, adjust the picture so symmetrical, and select a picture from the front of the abdomen to the rear transverse procesus to be put into the film with a number of 20 slice. Then click filming and adjust the size of the image and right in the middle column of each slice. Select the size of the film to be used is 11 x 14 inches, and then click Print to print the image.

C. Evaluation Examination

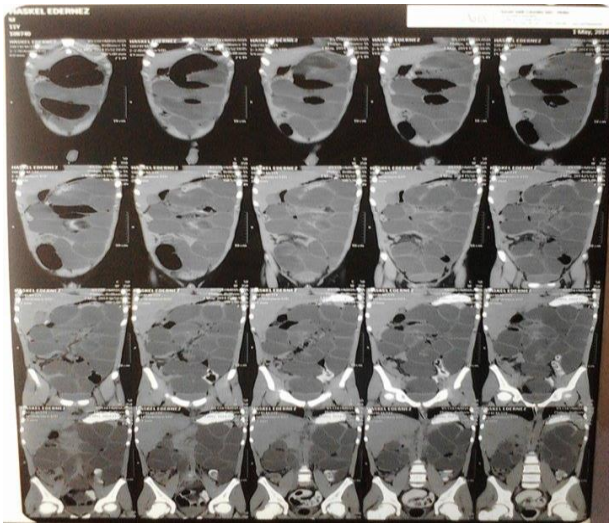

Fig 3. Abdominal CT Examination in Colombia Asia Hospital Medan

3. Results and Discussion

3.1 Abdomen Examination Results

NCCT + CECT:

Created spiral scan through the abdomen. Liver has a normal size and did not appear homogeneous parenchyme focal liver mass.
Gallbadder normal size and did not appear to impede stone in it.
Pancreas and spleen has the size and parenchyme normal.
Both kidneys of normal size, not visible stones or signs of damming.
There does not appear intraperitoneal free fluid.
Vesica urinary smooth-walled and does not look rock / mass therein.
There does not appear enlarged para-aortic nodes lymphe and parailiaca.
Looks widening proximal small intestine with multiple airfluid level.
Distal small intestine and colon looked collapse.
Nothing seemed free intraperitoneal air.

Conclusion:

Obstructive ileus high layout.

3.2 discussion of Problems

Taking into account the problem identification and formulation of the problem, the authors formulate the problem is "What efforts made to get an overview of the CT Scan of upper + lower abdomen on suspicion of ileus obstruction so as to provide optimal diagnostic information and picture quality?"

A. Cause of the problem

The cause of the problems that arise in the implementation of the CT scan of the abdomen upper + lower optimal on suspicion of obstruction ileus is:

1. Patients who are less cooperative during the CT scan is in progress.
2. Patients do not perform the procedure fast that the image is less than optimal.
3. The use of multislice CT scan plane is less precise and the magnitude of the amount of radiation received patients.
4. Patients not taking contrast media in accordance with the recommended procedures.

B. Initiatives by

The efforts made to obtain the CT Scan of upper + lower abdomen on suspicion of ileus obstruction so as to provide optimal diagnostic information and picture quality are:

1) Before the exam begins officer must explain to the patient about the procedure to be performed, using restraining straps / seatbelt minimize the movement of the object.
2) Before the inspection is done should the officer ask the patient whether it is preparing (fasting) in accordance with the procedures recommended by the physician or attendant. It is expected that the patient has to do with good preparation, if the patient does not do the preparation, the authors expect the implementation of the examination should be considered.
3) Aircraft CT scans used in the examination of upper + lower abdomen at Columbia Asia Hospital Medan is using multislice CT scan plane which can produce sixteen slice each one scan, revealing sehinggakurang abdominal abnormalities image detail more optimal and less short time. To improve the quality of a CT scan, according to the authors recommend using multislice CT scans to produce sixty-four slice each one scanyang can increase the number of images and slice thickness thinner. Slice thickness influence on the ability to distinguish two objects that are very close / spatial resolution for a thick slice generate lower image resolution and thin slices produce high-resolution images.
4) On CT scan the upper and lower abdomen, patients are required to take the contrast media according to the dose / amount recommended in accordance with the examination, if the patient does not consume as directed, it will greatly affect the outcome of an idea that is less than optimal for revealing abnormalities. It is expected that doctors explain to patients the benefits and purpose of administration of contrast media, and before pemerisaan do officers asked the patient whether already taking appropriate contrast media are at the recommended, if not the authors suggest that repeated administration of contrast media.

4. Conclusion

After the authors follow and observe the CT scan upper + lower abdomen on suspicion of ileus obstruction in the installation Radiology Columbia Asia Hospital Medan and based on the discussion of issues that have been showcased in the form of this scientific paper, then take a few conclusions:

1) On CT scan upper + lower abdomen on suspicion of obstruction ileus, need to be done in cooperation with patients and provide sedation for patients who are not cooperative (agitated) for the smooth running of examinations and to avoid blurring bayanganakibat movement of patients on the examination results.
2) The abdomen is a large cavity in the body and are mostly found in the gastrointestinal tract which there are remnants of food, air and feces (stool). To reduce that remains of food, air and feces are then made preparations so that the abdominal cavity is fasting looks clean and easy to diagnose a disease.
3) CT scan of upper + lower abdomen Columbia Asia hospital in Medan using multisliceyang air produces sixteen slice each one scan, so the results are less than the maximum picture and scan time is slightly longer creates large amount of radiation received by the patient.
4) On CT scan the upper and lower abdomen on suspicion of obstruction ileus requires a contrast medium is very important to reveal the shape and anatomy clearly state, as well as revealing abnormalities that occur in the abdominal cavity.

5. Reference

[1] Akhadi, Muklis, (2000), Fundamentals of Radiation Protection, Jakarta: Rineka Reserved
[2] Ballinger, Philip W., (1986), Merril'sAtlas of Radiogrphic Position and Radiologic Procedures, Volume II, St. Louis: CV. Mosby
[3] Ballinger, Philip W., (1999), Merri's Atlas of Radiographic Position and Radiologic Procedure, Volume III, St. Louis: CV. Mosby
[4] BONTRAGER, Kenneth. L, (2001), Textbook of Radiography Positioning and Relted Anatomy, Fift Edition, St. Louis: CV Mosby Company
[5] Faiz, Omar, (2004), At a Glance Anatomy, Jakarta: PT Glora Literacy Primary
[6] Meredith, WJ and Mossey BJ (1972), Fundamental Phisycis Radiology, Issue I: Bristol, John Wright and son Ltd.

[7] Neseth, Roland (2000), Procedure and Documentation for CT and MRI, Kansas: Mc medical Grawhill Publishing Division
[8] Pearce, Evelyn C., (2007), Anatomy and Physiology for Paramedics, Jakarta: Gramedia
[9] Rasad, Syahrial, (2005), Diagnostic Radiology, Jakarta: FKUI
[10] Ridowahyudi, (2005), CT-Scan Generation I to Generation 7, Semarang: http://ridowahyudi.student-blog.undip.ac.id/downlot.php?file=CTscan-Ambar.pdf, access date July 7, 2014
[11] Ridowahyudi, (2010), principle component Kerjadan CT-Scan, F: // prinsipkerjadankomponenct-scan, access date July 7, 2014
[12] Sloan, Ethel (2004), Anatomy and Physiology, Jakarta: EGC
[13] Setiyanto, Eko Puji, (2011), Generation CT-Scan, http: // eco praise Setiyanto science.blogspot.com/2011/02/generasi ct-scan.html, access date July 14, 2014
[14] Syaifuddin, (1997), Anatomy Physiology for Nursing Students, 2nd Edition, Jakarta: EGC