

THE PHARMA INNOVATION

Detection of cases of ascites using ultrasonography

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Background: Ascites turn out to be clinically evident when no less than 1500 ml of liquid needs to a mass as regularly around 50 ml of liquid is available in the peritoneal depression. The present study was done to detect the cases of ascites using Ultrasonography.

Materials & Methods: This study was conducted in department of Radiodiagnosis. It included 110 patients with ascites. In all patients USG was performed and interpretation was done to see the cause of ascites.

Results: Males were 50 and females were 60. The difference was non significant. Normal patients had total protein 8.2g, total albumin 3.6g and serum ascites albumin gradient 0.3. While moderate had, 8.4g, 3.1g and 0.2 respectively. The SAAG ratio was significant (0.01). Common causes were inflammatory (40), tumor (10), renal diseases (20), liver diseases (10), cardiac disease (8) and portal hypertension (22). The difference was significant (0.01).

Conclusion: Ascites, Liver cirrhosis, Ultrasonography

Keyword: Benzimidazoles, Microwave, Antimicrobial Activity

INTRODUCTION: Ascites turn out to be clinically evident when no less than 1500 ml of liquid needs to a mass as regularly around 50 ml of liquid is available in the peritoneal depression. As meager as 10 ml of free liquid can be recognized ^[1].

venous impediment, pericarditis, malignancies, tuberculosis, pancreatitis, renal diseases and other diverse causes. Ascites arrangement in malignancies of the belly and pelvis for the most part has been credited to expanded rates of development intra peritoneal liquid and diminished rates of evacuation ^[2]. Appraisal of the volume of ascites is fundamental in observing the advance of the infection and in choosing fitting strategies for treatment. As of late the employments of ultrasound was observed to be expanded in assessing ascites and deciding its area. Transvaginal is very touchy in the recognition of free liquid in the pelvis ^[3]. Modernized Tomography assessment of the

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The reasons for ascites are: liver cirrhosis, entry hyper strain, heart disappointment, hepatic

midriff is considered of high affectability in recognizing as meager as 100 ml of ascitic [4, 9]. liquid, Magnetic Resonance Imaging (MRI) may uncover illnesses causes. History and physical examination discoveries are of less affectability yields fluctuating outcomes. Stomach paracentesis is vital for deciding the reason for a patient's ascites. This examination occurred with a specific end goal to assess the etiology of ascites [4].

The present study was done to detect the cases of ascites using Ultrasonography.

Materials & Methods

This study was conducted in department of Radiodiagnosis. It included 110 patients with ascites. All were informed regarding the study and ethical approval was obtained prior to start of study. In all patients, Scanning was obtained according to the international scanning guidelines and protocols using Aloka SSD-500 with frequency (3.5 MHz) convex probe, and Honda SSD-500 with frequency (3.5 MHz)convex probe.

For the evaluation, hepatic recesses and around the peripheral hepatic borders, splenic recesses and around the peripheral splenic borders, right subphrenic space. Left sub-phrenic space, Sub-hepatic space. Patients were scanned in supine position in right lateral decubitus and in left lateral decubitus. During scanning the abdomen, the largest ascites pockets or pools were located, the ultrasound images in both transverse and longitudinal planes were taken, then the volume of ascites were estimated by applying the ultrasound volume function 2-axis (A and B) or 3-axis (L,W, and H) to determine the distances, using tract ball and set knob the volume value immediately display in ultrasound screen representing pool 1, then measured the second largest pocket representing pool 2 and the third largest pocket representing pool 3 and so on. Lastly the summation of (pool1, pool2, pool3...) representing the total estimated abdominal ascites

(TEAA) is recorded. This was similar Szkodziak [6]. *et al.* in measuring the amniotic fluid [17]. The volume was classified as follows:-If TEAA recorded (<200-600) ml the Ascites is of grade 1 (mild) and (>600-800) ml it is of grade 2 (moderate), (>800-1000) ml is grade 3 (severe/gross). IF TEAA recorded (>1000-2000) ml is grade 4 massive. Results were subjected to statistical analysis. P value < 0.05 was considered significant.

Results

Table I shows that males were 50 and females were 60. The difference was non significant. Table II shows that normal patients had total protein 8.2g, total albumin 3.6g and serum ascites albumin gradient 0.3. While moderate had, 8.4g, 3.1g and 0.2 respectively. The SAAG ratio was significant (0.01). Table III shows that common causes were inflammatory (40), tumor (10), renal diseases (20), liver diseases (10), cardiac disease (8) and portal hypertension(22). The difference was significant (0.01).

Table 1: Distribution of patients

Total- 110		
Males	Females	P value
50	60	1

Table 2: Analysis of ascitis fluid

Fluid	Total protein	Total albumin	SAAG
Normal	8.2	3.6	0.3
Mild	8.4	3.1	0.2
Moderate	7.8	2.8	0.9
Severe	6.8	2.5	1.3
Massive	6.9	2.2	1.8
P value	0.1	0.13	0.01

Table 3: Causes of ascites

Causes	Number	P value
Inflammatory	40	0.01
Tumor	10	
Renal disease	20	
Liver disease	10	
Cardiac disease	8	
Portal hypertension	22	

Discussion

Ascites is a gastroenterological term for an accumulation of fluid in the peritoneal cavity that exceeds 25 mL. Although most commonly due to cirrhosis, severe liver disease or metastatic cancer, its presence can be a sign of other significant medical problems, such as Budd–Chiari syndrome. Diagnosis of the cause is usually with blood tests, an ultrasound scan of the abdomen, and direct removal of the fluid by needle or paracentesis (which may also be therapeutic) [5].

Ultrasound investigation is often performed prior to attempts to remove fluid from the abdomen. This may reveal the size and shape of the abdominal organs, and Doppler studies may show the direction of flow in the portal vein, as well as detecting Budd-Chiari syndrome (thrombosis of the hepatic vein) and portal vein thrombosis. Additionally, the sonographer can make an estimation of the amount of ascetic [4,9]. fluid, and difficult-to-drain ascites may be drained under ultrasound guidance [6]. An abdominal CT scan is a more accurate alternate to reveal abdominal organ structure and morphology. The present study was done to detect the cases of ascites using Ultrasonography.

In this study, males were 50 and females were 60. In this study we found that normal patients had total protein 8.2g, total albumin 3.6g and serum ascites albumin gradient was 0.3. This is in agreement with Goldberg *et al* [7]. While moderate had 8.4g, 3.1g and 0.2 respectively. The SAAG ratio was significant (0.01).

We also looked for reasons of ascites and found that common causes were inflammatory (40), tumor (10), renal diseases (20), liver diseases (10), cardiac disease (8) and portal hypertension (22). This is in agreement with Khalife *et al*. [8].

Scanning by ultrasound and measuring the ascites volume may reflected the etiology and the issue appears to affect the spread of intraperitoneal fluid including peritoneal compartments, intraperitoneal pressure, area from which the fluid originates, rapidity with which fluid accumulates, the presence or absence of

adhesions, ligamentous attachments, cancers, inflammations or other findings. [9].

Conclusion

Ultrasonography is a useful tool in detection of ascites. Various causes are liver diseases, renal diseases, cirrhosis if liver etc.

References

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