ORIGINAL RESEARCH PAPER
VOLUME-6 | ISSUE-5 | MAY - 2017 | ISSN No 2277 - 8179 | IF : 4.176 | IC Value : 78.46
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

DIAMETER OF APPENDIX ON ULTRASOUND AS A PREDICTIVE MEASURE FOR ACUTE APPENDICITIS.

General Surgery

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ABSTRACT

Despite extraordinary advances in diagnostic laboratory investigations and modern radiography imaging the accurate preoperative diagnosis of acute appendicitis remains a challenge. Commonly used diagnostic aids for appendicitis are diagnostic scores, USG, CT abdomen and laparoscopy. By using diagnostic aids for acute appendicitis, prolonged observation, negative appendicectomy and incidence of perforation can be reduced dramatically resulting in decreased financial cost of the systems employed. USG has various advantages being the most suitable modality in recognition of acute appendicits .we present a study of 100 patients which were suspected of acute appendicitis purely on clinical basis,ultrasound suggested that majority of the case of acute appendicitis had a diameter between 7-9 mm.

KEYWORDS:

INTRODUCTION

The appendix a cul-de-sac is crudely referred as “worm of the bowel” in ancient medical books and also called as" abdominal tonsil”.

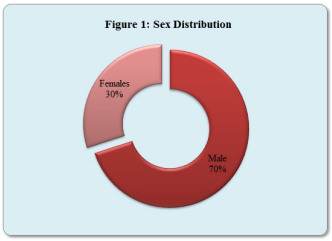
Acute appendicitis is one of the most common surgical emergencies with a lifetime prevalence of approximately 1 in 7. Its incidence is 1.5 - 1.9 / 1000 in male and female populations.Surgery for acute appendicitis is the most frequently performed operation (10% of all emergency abdominal operations).

Prior to surgery the diagnostic accuracy of acute appendicitis remains unsatisfactory, ranging from 25 to 90% and being worse in females than in males. Also a negative appendectomy rate of 20-40% has been documented and many surgeons would accept a rate of 30% as inevitable. As this is an acute condition; it is impractical to have a definitive diagnosis by a gold standard test (histopathology) before surgery.

Removing a normal appendix is an economic burden on both the patients and health resources. Misdiagnosis and delay in surgery can lead to morbidity and complications like perforation, appendicular lump, abscess, obstruction, and finally peritonitis. The risk of mortality in uncomplicated appendicitis is less than 1% but it rises to as high as 5% in cases of perforation.8 However in the elderly, where symptoms can be masked as being mild despite very severe findings on surgery, the mortality rates remain in the 5% to 15% range. Hence most surgeons are inclined to operate when the diagnosis is probable rather than wait until it is certain.

In this study ,we randomly selected 100 paients in which 70 were males and 30 females who came to the opd wih right lower quadrant pain of short duration and were suspected acute appendicitis at conclusion of clinical examination and findings and proposed for ulrasonographic evaluation using 5-7.5 mhz probe .

REPORT



Ultrasound findings	No. of cases
Acute Appendicitis	88
Normal	7
Right renal calculi	2
Cholelithiasis	1
Ovarian Cyst	1
Mesenteric adenitis	1

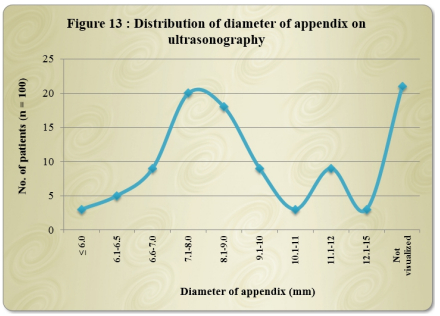
Ultrasound was suggestive of acute appendicitis in 88 % of the cases (Table 13). In 5 % cases, other positive findings included right renal calculi in 2 cases and ovarian cyst, cholelithiasis, mesenteric adenitis in 1 patient each.

Diameter of Appendix	No. of patients (n =100)
≤ 6.0 mm	3
6.1 - 6.5 mm	5
6.6 – 7.0 mm	9
7.1 – 8.0 mm	20
8.1 – 9.0 mm	18
9.1 - 10 mm	9
10.1 – 11 mm	3
11.1 – 12 mm	9
12.1 - 15 mm	3
Not visualized	21

Diameter of AppendixNo. of patients (n =100)≤ 6.0 mm36.1 - 6.5 mm56.6 – 7.0 mm97.1 – 8.0 mm208.1 – 9.0 mm189.1 - 10 mm910.1 – 11 mm311.1 – 12 mm912.1 - 15 mm3Not visualized21

Table shows distribution of diameter of appendix on ultrasono graphy. Majority of the cases of acute appendicitis had an app endiceal diameter in the range of 7-9 mm on ultrasound. One patient had a visualized appendix of diameter 5.8 mm but had histopathologically normal appendix removed at surgery. Four patients with appendix measuring 6 – 6.2 mm in diameter had subacute appendicitis on histopathology.

Amongst the perforated appendices (6 cases) – appendix was obscured in 2 cases and seen in 4 cases with a mean diameter of 9.3 mm. Amongst the gangrenous appendices (6 cases) - appendix was obscured in 2 cases and visualized in 4 cases with a mean diameter of 11.63 mm.



CONCLUSION

Appendicectomy is the most frequently performed surgery (10% of all emergency abdominal operations).[5,6]Each year, over 250,000 appendicectomies for presumed appendicitis are performed in the United States, with approximately 15% negative appendicectomy rate.[104]Such negative explorations have been accepted as an unavoidable consequence of the principle of early exploration to prevent morbidity arising from complications, but this practice is being questioned increasingly. Considerable effort has gone into strategies aimed at decreasing the negative appendicectomy rate.

Thus our study tries to analyze the utility and diagnostic accuracy of compression graded ultrasonography and the outcome is if the diameter of appendix ranges between 7-9 mm then the diagnosis of acute appendicitis can be assured and preventing delay in surgical procedure as well as avoiding complication and negative appendicectomies.

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