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A STUDY ON ACUTE APPENDICITIS IN A TERTIARY CARE HOSPITAL

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ABSTRACT

BACKGROUND: Acute appendicitis is a frequent surgical emergency that causes considerable morbidity and death globally. Accurate diagnosis remains difficult, sometimes leading to unneeded procedures. This study was conducted to evaluate the clinical profile acute appendicitis and complications of acute appendectomy in a tertiary care hospital.

MATERIALS AND METHODS: This observational study was conducted among 50 patients diagnosed as acute appendicitis in tertiary care hospital. Age, sex, clinical profile, and complications after surgery were all documented. All patients underwent appendectomy and follow up was done postoperatively.

RESULTS: In this study, all patients had reported Abdominal pain. Nausea and vomiting were the predominant presenting symptom for 40 (80%) cases. 66% had pain originating in and around the umbilicus, 26% in the right iliac fossa. Tenderness was the predominant clinical sign seen in all patients of acute abdomen. Rebound tenderness was seen in 26 patients (33.33 %). Superficial surgical site infections occurred in 4% of cases. Intra-abdominal collection in 2% of cases and complete wound dehiscence with intra- abdominal collection in 2% of cases.

CONCLUSION: Acute appendicitis placesa major burden on emergency surgical services. The majority of patients undergo successful appendectomy, despite the challenges associated with diagnosis. Enhanced use of imaging techniques and meticulous intraoperative evaluation lead to positive results.

KEYWORDS: Appendicitis, appendectomy, Clinical Signs.

INTRODUCTION

Appendicitis is the predominant surgical etiology of abdominal pain globally [1,2].Acute appendicitis is a prevalent issue in older children and young adults. Appendicitis is histologically characterized by inflammation of the mucosal lining of the vermiform appendix. This inflammation may disseminate to other regions of the appendix as a result of venous stasis, organ ischemia, and bacterial translocation. These processes result in the manifestation of many symptoms and signs related to the illness [4].

The patient exhibits a quick onset of abdominal discomfort and often seeks emergency medical attention. Occasionally, appendicitis may result in the perforation of the appendix. This may result in life-threatening situations. A multitude of individuals have characteristic clinical manifestations such as stomach discomfort, fever, and emesis. Challenges in attaining accurate diagnoses are common because not all patients exhibit the typically seen clinical features. An appendectomy is universally acknowledged as the conventional therapy. The lifetime prevalence of acute appendicitis is around 7%. [5]. In the early phase of presentation, acute appendicitis is treated conservatively. Appendectomy, performed either an open laparotomy with a restricted right lower quadrant incision or via laparoscopy, is the standard therapy for acute appendicitis [6].

The present study was conducted to find out the common symptoms, clinical signs, and post-operative complication of acute appendicitis.

MATERIALS AND METHODS

This observational study was carried out in the Department of Surgery at a tertiary care hospital over the course of one year after taking approval from the Institutional Ethics Committee. Atotal of 50 patients were chosen for the purpose of studyduring the study period.

Inclusion criteria: Patients with acute abdominal conditions who had surgical intervention Exclusion criteria: Pediatric population (12 years and below). Traumatic incidents (blunt and piercing). Acute abdomen during pregnancy and gynecologicaletiologies of acute abdomen. Urological conditions. Conservatively managed cases.

Patients were first assessed in the adult emergency department by trained surgical residents using several predefined clinical factors, including medical history and physical examination. The physical examination includes the assessment of vital signs (temperature, blood pressure, pulse rate, and respiration rate) and an abdominal examination.

The abdominal examination sought evidence of direct and rebound discomfort, guarding, and a palpable lump in the right lower quadrant. The parameters for diagnosing acute appendicitis via abdominal ultrasound include the presence of an edematousappendiceal wall exceeding 6 mm, a peristaltic and non-compressible appendix, appendiceal fat stranding, right lower quadrant free fluid, sonographic tenderness at McBurney's point, and the visualization of an appendicolith. Aside from the definitive visualization of appendicolith, the presence of a single parameter indicated likely acute appendicitis, while the presence of two or more parameters indicated definite acute appendicitis. In the absence of all aforementioned characteristics and without alternative diagnoses, a normal or unremarkable result was reported.

The AIR score criteria, including right lower quadrant pain, severity of rebound tenderness or muscle defence, CRP concentration, WBC count, percentage of neutrophils, body temperature, and history of vomiting, were prospectively documented. The duration of symptoms and the physician's degree of experience upon the patient's arrival were recorded.

All 50 patients underwent appendectomy and were monitored in the hospital for both immediate and remote complications. All patients have been given antibiotics for a duration of 3 to 7 days, along with standard care. Suitable therapy was administered if a complication was observed. Data was entered into Microsoft exceldata sheet and was analyzed using SPSS 22 version software. Data were presented as frequency and percentage for discrete variables.

RESULTS

Out of 50 patients, 62% belong to the age group of 13-30 years, 16% belong to the age group of 31-40 years, 10% belong to the age group of 41-50 years, 8% belong to the age group of 51-60 years and 4% belong to the group of >60 years as shown in Table 1

TABLE 1: AGE DISTRIBUTION

Age (years)	Frequency (%)	Percentage (%)
13-20	11	22
21-30	20	40
31-40	8	16
41-50	5	10
51-60	4	8
>60	2	4
TOTAL	50	100

In this study, 56% were males and 44% were females as shown in Table 2

TABLE 2: GENDER DISTRIBUTION

Gender	Frequency (n)	Percentage (%)
Male	28	56
Female	22	44
TOTAL	50	100

In this study, all patients had presented with Abdominal pain. Nausea and vomiting were the most common presenting symptom for 40 (80%) cases. Anorexia was the next most common presenting symptoms accounting for 39 (78%) cases. Constipation was found in 8(16%) of the cases and diarrhoea in 3 (6%) cases as shown in Table 3

TABLE3: DISTRIBUTION OF SYMPTOMS

SYMPTOMS	FREQUENCY (n)	PERCENTAGE (%)
Abdominal pain	50	100
Anorexia	31	62
Nausea and Vomiting	39	78
Fever	21	42
Constipation	8	16
Diarrhoea	3	6

In this study, 66% had pain originating in and around the umbilicus, 26% in the right iliac fossa, 4% in the epigastrium, and 4% of them had diffuse pain all over the abdomen as shown in Table 4

TABLE4: ORIGIN OF PAIN ABDOMEN

ORIGIN OF PAIN	FREQUENCY (n)	PERCENTAGE (%)
Peri-umblicus region	33	66
Right iliac fossa	13	26
Epigastrium	2	4
Diffuse pain over abdomen	2	4

In our study, Tenderness was the most common clinical sign observed in all patients of acute abdomen. Rebound tenderness was observed in 26 patients (33.33 %) and Tachycardia was present in 26 patients (33.33%), Guarding/rigidity was observed in 18 patients (23.08%) as shown in Table 5

TABLE 5: DISTRIBUTION OF CLINICAL SIGNS

CLINICAL SIGNS	FREQUENCY (n)	PERCENTAGE (%)
Tenderness	50	100
Rebound tenderness	19	38
Tachycardia	18	36
Guarding/rigidity	14	28
Distention	11	22

Out of 50 cases, there were few complications. Superficial surgical site infections occurred in 4% of cases. Intra-abdominal collection in 2% of cases and complete wound dehiscence with intra-abdominal collection in 2% of cases as shown in Table 6

TABLE 6: COMPLICATIONS

COMPLICATIONS	FREQUENCY (n)	PERCENTAGE (%)
Superficial surgical site infection	2	4
Intra-abdominal collection	1	2
complete wound dehiscence with intra-abdominal collection	1	2
Total	4	8

DISCUSSION

The current study included 50 patients diagnosed with acute appendicitis and found a higher prevalence in males (56%) compared to females, indicating a considerable male predominance in acute appendicitis, consistent with the 60% male prevalence reported by Chaudhar YP et al. [7]

This study revealed that the majority of sufferers were aged between 15 and 30 years, corroborated by research done by Chaudhar YP et al. [7] The current study found that abdominal pain was present in 100%, consistent with the research done by Kamath P et al. [8]. In a research conducted by Reddy et al. [9] and Arora et al. [10], vomiting was identified as the second most prevalent symptom, while anorexia ranked third, after stomach discomfort. In a research conducted by Mominet al.[11], the most prevalent symptoms accompanying stomach discomfort were nausea and vomiting.

Among 50 patients, 33 (66%) exhibited classical symptoms with pain emanating from the umbilical region, while 13 cases (26%) reported pain beginning in the right iliac fossa. Roy et al. [12] observed in their study that pain around the umbilicus occurred in 42% of cases, and pain in the right iliac fossa was noted in 24%. In the right lower abdomen, 7.4%; in the upper abdomen, 3%; and in the whole abdomen, 3%.

Tenderness was the predominant clinical manifestation found in all individuals with acute abdomen in our investigation. Rebound discomfort was seen in 26 individuals (38%). Tachycardia was noted in 18 (36%) instances, whereas rigidity was seen in 14 (28%) individuals. Findings from the research conducted by Arora et al. [13] indicated that the most prevalent clinical symptom was tenderness, followed by guarding, tachycardia, stiffness, and rebound tenderness. A research conducted by Momin et al. [14] and Al-Aquli HA et al. [15] identified abdominal soreness as the most prevalent clinical symptom, followed by voluntary guarding and rebound tenderness.

The current study indicated that the complication rate was 8%, aligning with previous studies [16,17,18]. The predominant outcome seen post-surgery was a superficial surgical site infection, consistent with previous study. [19,20]

CONCLUSION

Acute appendicitis placesa major burden on emergency surgical services. The majority of patients undergo successful appendectomy, despite the challenges associated with diagnosis. Enhanced use of imaging techniques and meticulous intraoperative evaluation lead to positive results.

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