

## Acute Appendicitis in Port Harcourt, Nigeria

By

MANGETE EDO AND KOMBO BB

*Department of Surgery, University of Port Harcourt Teaching Hospital, PMB 6173, Port Harcourt Nigeria*

### SUMMARY

**Objective:** To determine the pattern of occurrence of acute appendicitis in the University of Port Harcourt Teaching Hospital, Port Harcourt, Nigeria.

**Methods:** A prospective study of patients who were admitted for acute appendicitis at the University of Port Harcourt Teaching Hospital in the 6 year period from 1984 to 1989 was undertaken.

**Results:** Appendix pathology was confirmed in 76.6% of the patients admitted for acute appendicitis during the study period. A false diagnosis of acute appendicitis led to Appendicectomy in 23.4% of the patients, mostly females with pelvic pathology. Acute appendicitis was found to be commoner in females than males and the commonest age range was in the 11 to 30 years old group. Acute Appendicitis was also found to be commoner in the better educated social classes. The duration of hospitalization and postoperative complications were affected by late presentation to surgery but not by the status of the operating surgeon.

**Conclusion:** Acute appendicitis was diagnosed more often in females than in males in the ratio of 2:1. Over the period of study, the incidence of acute appendicitis showed a rising trend.

*Key Words: Acute Appendicitis, Appendicectomy, Acute Surgical Abdomen*

### INTRODUCTION

This article reports a study of 387 consecutive cases of acute appendicitis at the University of Port Harcourt Teaching Hospital during the period 1984 to 1989 and compared the findings with other reports.

### MATERIALS AND METHODS

All patients admitted into the surgical wards of the University of Teaching Hospital during the period 1984 to 1989 for acute appendicitis were recruited for the study.

A pre-prepared proforma was completed by resident doctors noting the sex, age of the patient, year of occurrence, time interval from onset of symptoms to time of surgery, operative findings, status of surgeon, postoperative complications and duration of hospital stay. All histopathological reports were also studied.

### RESULTS

Of the patients admitted into the surgical wards during the period of study 387 were admitted for acute appendicitis. Table 1 gives the yearly distribution of patients admitted for acute appendicitis. There is gradual increase in incidence over the years except for breaks in the trend in 1984 and 1989. Females outnumber males in the ratio of 2:1.

**Table1: Annual Occurrence of Acute Appendicitis\***

Year	Male	Female	Total
1984	11 (8.5)	23 (8.9)	34 (8.8)
1985	22 (17.1)	46 (17.8)	68 (17.6)
1986	25 (19.4)	49 (19.0)	74 (19.1)
1987	16 (12.3)	31 (12.0)	47 (12.1)
1988	26 (20.2)	51 (19.8)	77 (19.9)
1989	29 (22.5)	58 (22.5)	87 (22.5)
<b>Total</b>	<b>129 (100.0)</b>	<b>258 (100.0)</b>	<b>387 (100.0)</b>

\*Figures in parenthesis are percentages

### Correspondence Author:

*Dr. E. D. O. Mangete, Department of Surgery  
University of Port Harcourt Teaching Hospital  
PMB 6173, Port Harcourt Nigeria  
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Table 2 gives the age distribution of the patients. It is seen that 78.8% of the patients were in the 11 – 30 years age bracket.

**Table 2: Age Distribution of 387 Patients Admitted for Acute Appendicitis**

Age (Years)	Frequency	%
2 – 10	32	8.3
11 – 20	182	47.0
21 – 30	123	31.8
31 – 40	26	6.7
≥ 41	24	6.2
<b>Total</b>	<b>387</b>	<b>100.0</b>

In table 3 we present the distribution of the patients with regard to their educational level. Most of the patients (73.4%) either had attended secondary school or tertiary education or had parents in these educational categories.

**Table 3: Educational Level of 387 Patients admitted for Acute Appendicitis**

Educational Level	Frequency	%
Tertiary Education by patient or parents	95	24.6
Secondary Education	189	48.8
Primary Education	72	18.6
No Formal Education	31	8.0
<b>Total</b>	<b>387</b>	<b>100.0</b>

Table 4 presents the time lapse between onset of symptoms and surgery. About 61.8% of the patients had surgery within 24 hours of onset of symptoms. Of the 55 patients who had surgery after 48 hours, 13 (3.4%) reported a week after onset of symptoms. It is not uncommon for patients to have visited traditional medical practitioners and peripheral health centres before arrival at the hospital.

**Table 4: Duration of Symptoms before Surgery**

Duration of Symptoms	Frequency	%
0 – 24hrs	239	61.8
25 – 48hrs	93	24.0
>48hrs	55	14.2
<b>Total</b>	<b>387</b>	<b>100.0</b>

Table 5 shows the various pathologies found at surgery. It shows that there was no

pathology in 30 (7.8%) patients while 32 (8.3%) patients had gynaecologic pathologies including ruptured ovarian cysts and acute salpingitis. Multiple pathologies were found in 13 (3.3%) patients. This included patients who had both acute appendicitis and acute salpingitis.

**Table 5: Diagnosis at Surgery**

Diagnosis	No	%
Acute Appendicitis	211	54.5
Appendix Mass	20	5.2
Perforated Appendix	25	6.5
Generalized Peritonitis	32	8.3
Faecolith	15	3.9
Kinked Appendix	8	2.1
No Pathology	30	7.8
Multiple Pathology	13	3.3
Liver Abscess	1	0.3
Ovarian Cyst	24	6.1
Salpingitis	8	2.0
<b>Total</b>	<b>387</b>	<b>100.0</b>

In some patients the illness was far advanced and complications had already set in at the time of presentation. A third of the patients had their surgery done by a senior house officer or a registrar while the rest were done by either a senior registrar or a consultant. There were no differences in postoperative complications when the two groups were compared.

Hospital stay was usually not beyond two weeks though 8 (2.1%) patients stayed beyond this period. Complications observed included wound infection in 33 (8.5%) patients and postoperative peritonitis in 9 (2.3%) patients. No death was recorded in this series.

## DISCUSSION

Since the early report on appendicitis in West Africa by Udeh, the reported incidence of acute appendicitis has been increasing and from being a rare cause of acute surgical abdomen<sup>1, 2</sup> it is now the commonest cause<sup>3</sup>. In our series it accounted for 76.6% of the cases. This is similar to other reports from West Africa showing a slight upward trend<sup>4</sup>. The area studied is in the Niger Delta and is a predominantly fish consuming community as opposed to other areas

such as Ibadan, Enugu in the hinterland where root crop consumption is higher. Fish is highly proteinaceous and high incidence of acute appendicitis in this sub-region may be related to the high protein intake.

Further, the higher incidence in the educated social classes may be due to diet rich in protein available to most people of these classes<sup>5</sup>. The age distribution is in consonance with the usual finding of acute appendicitis as a disease of the 2<sup>nd</sup> and 3<sup>rd</sup> decades of life<sup>4,5</sup>.

Acute appendicitis in our study is commoner in females than in males in a ratio of 2:1. This is the reversal of the usual female:male ratio of 1:2 observed in other parts of the world but similar to Efem's report from Calabar<sup>6</sup>.

The study also shows a false diagnosis of appendicitis in 23.4%. This is within the acceptable 20 – 30% range. It is significant to note that about half of these false diagnoses are in women with pelvic inflammatory disease (PID) and ruptured ovarian cysts. A thorough pelvic examination in females with acute abdomen is essential.

Although a third of the surgeries were done by senior house officers and registrars, the complication rate and duration of hospital stay did not differ significantly from those operated by more senior surgeons. The mortality rate of zero is comparable to other reports<sup>6</sup>.

## CONCLUSION

This study has shown a rising incidence of diagnosis of acute appendicitis in the Delta region of Nigeria. The role of fish-rich diet is a possible cause. The predominance of the more educated social classes may be related to intake of dietary proteins. A male female ratio of 1:2 is noted, which is a different pattern from the usual reported pattern.

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