

PERFORATED APPENDICITIS VS NON-PERFORATED APPENDICITIS

Pages with reference to book, From 325 To 326

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Abstract

Of 156 patients with acute appendicitis, seen during 24 months, 21 had perforated. Age over 30 years especially in males, duration of symptoms over 48 hours, pulse rate on admission exceeding 100/minute, generalised abdominal tenderness, leucocyte count in excess of 10,000 mm³ and a neutrophilia in excess of 70 percent, characterized patients with appendicular perforation. The rate of complications was twice as much in the perforated group (JPMA 37: five times greater and the mean hospital stay nearly 325 , 1987.

MATERIAL AND METHODS

This is a retrospective study of 156 patients who had appendicectomy during the 2 year period (1983-84) in Surgical Unit II of Rawalpindi General Hospital. These patients represent 10 percent of all admissions to the Unit, during this period. Twenty one patients had per. forated appendicitis while in 135, the appendix was inflamed but not perforated.

To determine the differentiating features of perforated appendicitis, age, sex, duration of symptoms before admission to hospital, physical signs, total and differential white cell count, the. incidence of post operative complications as well as duration of hospitalization were analyzed.

RESULTS

Age and sex (Table I)

TABLE – I
Age & Sex distribution of Appendicitis–Perforated
Vs Non–Perforated.

Age in years	Total cases	<u>Perforated</u>		<u>Non –Perforated</u>	
		Male	Female	Male	Female
< 10	6	–	01	03	02
11 – 20	53	04	03	30	16
21 – 30	55	–	01	48	06
31 – 40	20	05	01	13	01
41 – 50	12	01	–	06	05
51 – 60	07	02	01	03	01
Above 60	03	01	01	01	–
Total	156	13	08	104	31

There were 117 males and 39 females. Thirteen out of 117 males (11.1%) and eight out of 39 females (20.5%) had perforated appendicitis.

Twelve out of 21 patients with perforation, as compared to 30 out of 135 with unperforated appendicitis, were over 30 years old. This difference is statistically significant ($P > 0.005$). Of ten patients in this series five, who were over 50 years, had perforated appendicitis.

Duration of Symptoms (Table II)

TABLE – II
Duration of Symptoms.

Duration in hours	Total cases	<u>Perforated</u>	
		Number	Percentage
< 12	24	–	–
13 – 24	45	03	6.77
25 – 48	32	05	12.5
49 – 71	22	03	30.0
Above 96	23	06	26.1
Total	156	21	13.5

The incidence of perforation increased with duration of symptoms exceeding 48 hours.

Pulse Rate

The pulse rate on admission was 100 per minute, or more, in 14 out of 21 patients with perforated, and in 35 out of 135 patients with unperforated appendicitis. This difference was statistically significant ($P > 0.001$).

Total Leucocyte Count

Leucocyte count greater than 10,000/mm³ was observed in 10 out of 21 patients with perforated appendicitis, and in 26 out of 135 with unperforated appendicitis.

Thirteen of 21 patients with perforation, and 32 of 135 with unperforated appendicitis, had a polymorphonuclear leucocytosis in excess of 70 percent. A comparison of the two groups is made in Table III.

TABLE – III
Differentiation between Perforated and Unperforated
Appendicitis.

Clinical and Laboratory Features		Per- forated	Unper- forated	X^2
Both Sexes	>30 yrs	12	30	>0.005
Males	>30 yrs	09	23	>0.001
Duration of Symptoms	>48 hrs	14	41	>0.005
Pulse rate on admission	>100/min	14	35	>0.001
WBC Count	>10000/mm ³	10	26	>0.005
Neutrophil Count	> 70%	13	32	>0.001

Post-operative complications

The incidence of complications in the perforated was 81%, and in non-perforated 4.3%. The commonest complication, wound infection, occurred in 14 of 31 patients with perforation and 3 of 135 patients in the unperforated group (Table IV).

TABLE – IV
Post-Operative Complications.

Complications	Per- forated (21)	Non-Per- forated (135)
Wound Infection	10	3
Wound Deheiscence	4	—
Paralytic Ileus	1	—
Haematoma in the wound	1	—
Residual Abscess	1	—
Intestinal Obstruction	—	3
Fistula Formation	—	1
Total	17(80.95%)	7 (5.18%)

Stay in hospital

The mean hospital stay was 6.5 days in the unperforated, compared to 11 .5 days in the perforated group.

DISCUSSION

In the present series, perforation was observed in 13.5% patients with acute appendicitis. A perforation rate of 18.9% has been reported by Silberman¹

The peak age group for appendicitis is 11 to 30 years in both sexes; as age further advances, the risk of appendicitis is reduced. Over the age of :30 years, appendicitis is less frequent, the risk of perforation, however, increases disproportionately. In this series, 10 patients were over 50 years and five had perforated. The inordinately increased risk of perforation at this age is attributed variously, including thickening of vessel wall, delay in reporting and mis-diagnosis due to poor physical signs. In females, perforation is more common, 20.5% compared to 11.11% in males in the present series. Delay in diagnosis due to close resemblance of symptoms to pelvic inflammatory diseases could be a contributory factor.

Based on our observations, profile of a person with perforated appendix may be constructed as follows: Age over. 50 years, a history of acute abdominal pain of classical onset lasting more than 48 hours, a pulse rate greater than 100 per minute, generalized abdominal tenderness in addition to maximum tenderness at McBurneys point, a white cell count in excess of 10,000/mm³ and a polymorphonuclear leucocytosis of more than 70 percent. In such a case, urgent surgical intervention should be sought.

REFERENCES

1. Silberman, V.A. Appendicectomy in a large metropolitan hospital. *Amer. J. Surg.*, 1981; 142: 615.