

COMPLICATED JEJUNAL DIVERTICULA AS SURGICAL EMERGENCY: EXPERIENCE AT A TERTIARY CARE HOSPITAL IN PESHAWAR, PAKISTAN

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Background: Diverticula of small intestine are rare. Jejunal diverticula can be single or multiple. Diverticula in the jejunum tend to be large and multiple. Clinically they may be asymptomatic or may give rise to symptoms like pain, flatulence and borborygmi, may produce malabsorption syndrome or may present in emergency with different acute pathologies like perforation, haemorrhage, obstruction, enterolith formation and inflammation. The Objective was to see the pattern of complications in jejunal diverticula presenting as a surgical emergency. **Methods:** This descriptive study was conducted at Surgical Units of the 3 tertiary care Hospitals of Peshawar, for 7 years from January 1, 2002 to December 31, 2008. Study included all patients presenting to and admitted in Surgical Unit, Hayatabad Medical Complex, Peshawar with complicated jejunal diverticula during the above mentioned period. Name, age, sex, other relevant data, history and examination findings and results of investigation were recorded. Uncomplicated jejuna diverticula were excluded from study. The operative findings and the type of complication were recorded. **Results:** Ten patients were admitted during 7 years of study. Out of all patients 9 were male and 1 was female. Eight out of 10 patients presented with perforation of diverticula while 1 patient had severe inflammation of diverticulum causing pain, ileus and acute abdomen. One patient had acute pain due to adhesion formation. **Conclusion:** It is seen that complicated jejunal diverticulacae are quite rare and the most common complication is perforation. Inflammation and adhesion are other complications with which jejunal diverticula presented during this study.

Keywords: jejunal diverticula, perforation, diverticulitis, complication

INTRODUCTION

One meaning of diverticulum is a wayside house of the ill-famed, certainly these wayside houses give rise to many pathological conditions. Diverticula can occur from the stomach to the rectosigmoid. They can be of congenital or acquired type. In the congenital diverticula all 3 coats of bowel are present while in acquired diverticula muscular layer is absent.¹

Diverticula of small intestine are rare. Jejunal diverticula can be single or multiple. Diverticula in the jejunum tend to be large and multiple. Clinically they may be asymptomatic or may give rise to symptoms like pain, flatulence, and borborygmi, may produce malabsorption syndrome, or may present in emergency with different acute pathologies like perforation, haemorrhage, obstruction, enterolith formation and inflammation.¹⁻⁵ They have been reported in patients with connective tissue disorders.^{1,6,7}

In patients with major malabsorption problems giving rise to anaemia, steatorrhea, proteinemia or vitamin B₁₂ deficiency, resection of the affected segment with end-to-end anastomosis can be effective. In patients presenting in emergency with perforation, obstruction, haemorrhage and inflammation resection and anastomosis is the treatment of choice if the condition is not advanced.⁸

The objective of the present study was to find out the frequency with which the jejunal diverticula present in surgical emergencies and the type of pathology with which they present.

PATIENTS AND METHODS

The study was conducted in Surgical Unit, Hayatabad Medical Complex, Peshawar, from January 1, 2002 to December 31, 2008 over a period of 7 years. All patients who were admitted with surgical emergencies caused by complications of jejunal diverticula were included in the study. Patients with diverticula found in other parts of the gut like duodenum, ileum and large intestine were excluded from the study. Patients with uncomplicated and asymptomatic diverticula were also excluded from the study.

Patients' age, sex and address were recorded, accurate history of their disease was elucidated, complete physical examination performed and investigations carried out. Plain x-rays of abdomen were carried out as a part of investigations along with baseline and other relevant investigations required to correct co-morbidities. Patients were followed up till one month in the post-operative period for assessing outcome.

All patients were counselled about their conditions. Informed consent was taken for their

management from history taking to surgical procedures. All patients were admitted on emergency basis for their condition.

Data was collected on a pre-designed proforma. The analysis was performed using SPSS-10. Frequency of various complications of jejunal diverticula presenting as emergency was recorded.

RESULTS

A total of 10 patients were received during the 7 years of this study. Out of all patients presenting with complicated jejunal diverticula there were 9 male and 1 female. Four patients belonged to 60–69 years age group, 2 patients belonged to 50–59 years age, 1 was in the 40–49 years age group, 2 belonged to 20–29 years

age, while 1 patient was below 20 years of age. Thus 60–69 years age was the commonest age group in which complications of jejunal diverticula were observed.

Eight out of 10 patients had perforation of jejunal diverticulum while 1 patient had inflammation of diverticulum leading to ileus and acute adynamic intestinal obstruction accompanied by severe pain. One patient had the diverticulum adhered to hepatic flexure (probably due to chronic inflammation) and causing severe pain abdomen. Perforation was found to be the commonest complication of jejunal diverticula. Treatment options used were resection and primary anastomosis, resection and primary repair, and resection and jejunostomy, as given in Table-1.

Table-1: Complications of jejunal diverticula received in surgical emergency

Case No.	Age (Yr)	Gender	Type of complication	Treatment	Follow-up
1.	62	M	MJD, one perforated	Resection and jejunostomy	Well at one month
2.	68	M	SJD, Perforated	Wedge excision and primary repair	Wound infection, otherwise well at 1 month
3.	18	M	SJD, Inflamed, pain, ileus	RPA	Well at one month
4.	57	M	SJD, Perforated	RPA	Died 1 month post-op due to myocardial infarction
5.	25	M	MJD, one perforated	Wedge excision and primary repair	Well at one month
6.	29	M	SJD, perforation	Resection and jejunostomy	Wound infection, otherwise well at one month
7.	58	M	MJD, one perforation	RPA	Well at one month
8.	63	M	MJD, one perforation	RPA	Well at one month
9.	66	M	MJD, one perforation	RPA	Wound infection, otherwise well at one month
10.	43	F	SJD, Adhesion, pain	RPA	Well at one month

MJD= multiple jejuna diverticula, SJD= single jejuna diverticula, RPA= resection and primary anastomosis

DISCUSSION

The purpose of this study was to find out the type of complications with which jejunal diverticula present in surgical emergency. Only 10 patients were received during a period of 7 years the condition being very uncommon. Gender distribution suggests that jejunal diverticula may be more likely to become complicated in males than in females. The condition affects patients of old age as most (6 out of 10) patients were above 50 years of age. The most frequent complication observed was perforation observed in 8 out of 10 patients.

Other authors have also reported it to be a rare condition. Geroulakos G⁹, in his study carried out over a period of ten years, observed only 13 cases out of which 7 patients had perforation of the diverticulum while 3 had inflammation and 2 had haemorrhage.

Wilcox RD¹⁰ reported 13 cases of complicated jejunal diverticula over a period of 10 years out of which there were 2 cases of perforation, 3 of obstruction and 2 cases of haemorrhage. Manouras AJ¹¹ in 1990 reported 3 cases of complicated jejunal diverticulae, all with perforation in Athens, Greece. Chendrasekhar A¹², in 1995, reported 2 cases of perforated jejunal diverticula in Morgantown, USA. Koger KE¹³ reviewed data of 23 years during which only 13 cases of complicated jejunal diverticula were received and all of

these were cases of perforation. His study was done in California and published in 1996.

Meagher AP¹⁴ got his study published in 2004, in which he described a case series of 20 patients received over a period of 8 years, 9 patients out of these 20 had perforation while 7 patients had chronic symptoms. Lempinen M¹⁵, from Finland, reported 8 cases of complicated jejunal diverticula out of which there were 2 cases of perforation.

Shahid Majeed¹⁶ from Sargodha and Telgote AV¹⁷ from Bombay reported 1 and 2 cases of perforated jejunal diverticula in 2004 and 2007 respectively. La Denise JP¹⁸ reported 2 cases of perforated jejunal diverticula in Paris, France. Durai R¹⁹ from UK and Basile G²⁰ from Italy also reported 1 case each, of perforated jejunal diverticulum in the year 2008.

The present study is in agreement with the published work. A comparison of previous studies with the present study is given in Table-2.

CONCLUSION

It is seen that complicated jejunal diverticulae are quite rare and the most common complication is perforation. Inflammation is the other complication with which jejunal diverticula presented in this study.

Table-2: Comparison of studies done on jejunal diverticula complications

Author	Year of publication/ location	Study duration	Total patients	Perforation	Obstruction	Inflammation	haemorrhage	other
Geroulakos G ⁹	1987/Nottingham	10 years	13	7	-	3	2	-
Wilcox RD ¹⁰	1988/Florida USA	10 years	13	2	3	-	4	Chronic 4
Manouras AJ ¹¹	1990/Athens Greece	-	3	3	-	-	-	-
Chendrasekhar A ¹²	1995/ Morgantown, USA	-	2	2	-	-	-	-
Koger KE ¹³	1996/ California, USA	23 years	13	13	-	-	-	-
Meagher AP ¹⁴	2004/ Australia.	8 years	20	9	1	-	3	Chronic 7
Lempinen M ¹⁵	2004/ Finland	4 years	8	2	1	1	1	Abscess 3, chronic 1
Shahid Majeed ¹⁶	2004/Sargodha	-	1	1	-	-	-	-
Telgote AV ¹⁷	2007/Bombay	-	2	2	-	-	-	-
La Denise JP ¹⁸	2008/Paris	-	2	2	-	-	-	-
Durai R ¹⁹	2008/UK	-	1	1	-	-	-	-
Basile G ²⁰	2008/Italy	-	1	1	-	-	-	-
Present study		7 years	10	8	-	2	-	-

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