

SPECTRUM OF PERFORATION PERITONITIS IN WESTERN NEPAL

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ABSTRACT

INTRODUCTION

Despite advances in surgical technique, antimicrobial therapy and perioperative care morbidity and mortality in perforated peritonitis is still high. Aim of this study was to highlight the clinical presentation, intra operative findings and postoperative complications and mortality among patient who has undergone emergency surgery for perforated peritonitis in tertiary care center in western Nepal.

MATERIAL AND METHODS

This was a retrospective descriptive study carried out in Universal College of Medical Sciences, Bhairawha, Nepal. All patients who underwent emergency exploratory laparotomy for perforated peritonitis in one year period (from April 2014 to March 2015) were included in the study.

RESULTS

Total 90 cases met inclusion criteria and were analyzed. Most common presenting symptom was pain abdomen. Pneumoperitoneum was seen in 86 (95.6%) patients. Most common site of perforation was prepyloric perforation followed by duodenum. Most common cause of perforation was Acid peptic disease. Most common surgical procedure performed was Omentopexy. There were total of 11 (12.2%) mortality.

CONCLUSION

The spectrum of perforation peritonitis in our study differs from western countries whereas it is similar to that of other research from Indian subcontinent. Majority of perforations are noticed in the duodenum and stomach due to acid-peptic disease and small bowel typhoid followed by trauma. Overall mortality was seen in 12.2%.

KEYWORDS Exploratory laparotomy, perforation, peritonitis, spectrum

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INTRODUCTION:

Perforation peritonitis is one of the most common surgical emergency in the world.¹ Despite advances in surgical technique, antimicrobial therapy and perioperative care, morbidity and mortality in perforated peritonitis is still high. Aim of this study was to highlight the clinical presentation, intra operative findings and postoperative complications and mortality among patient who has undergone emergency surgery for perforated peritonitis in tertiary care center in western Nepal.

MATERIAL AND METHODS

This was a retrospective study carried out in Universal College of Medical Sciences, Bhairawha, Nepal. All patients who underwent emergency exploratory laparotomy for perforated peritonitis in one year period (from April 2014 to March 2015) were included in the study. Cases with primary peritonitis and postoperative peritonitis were excluded from the study.

Variables analyzed were patients age, sex, clinical presentation, admission vitals, laboratory value at the time of admission, surgery performed, site of perforation, cause of perforation, postoperative morbidity, mortality and total hospital stays. IRC approved this study.

RESULTS

Total 90 cases met inclusion criteria and were analyzed. 70(77.8%) were male and 20 (22.2%) were female. Age of the patients ranges from 9 to 85 years with mean age of 43.03. Most common presenting symptom was pain abdomen followed by vomiting and distension. Pneumoperitoneum was seen in 86 (95.6%) patients (table 1).

Most common site of perforation was prepyloric perforation followed by duodenum and Ileum. Most common surgical procedure performed were Omentopexy followed by primary repair of perforation. Most common cause of perforation was acid peptic disease followed by enteric perforation and trauma. Other perforations were caused by adhesive bowel obstruction or malrotation of gut. Few were of unknown origin (table 2).

Post operative surgical site infection occurred in 42 (46.7%) of the patients. Burst abdomen occurred in 14 (46.7%) patients. There were total of 11 (12.2%) mortality (table 3).

Table 1. Preoperative findings

S.No.	Variable	Number	Percentage (%)
1.	Clinical presentation		
	Pain Abdomen	90	100
	Vomiting	47	52.2
	Distension	38	42.2
	Fever	13	14.4
	Diarrhoea	1	1.1
	Constipation	18	20
	Tachycardia	39	43.3
	Hypotension	21	23.3
	Tachypnea	36	40
2	Positive findings on investigations		
	Pneumoperitoneum	86	95.6
	Hypokalemia	2	2.2
	Raised Creatinine	7	7.8
	Raised Urea	37	41.1
	Leukocytosis	32	35.6
	Leucopenia	10	11.1
3	Associated comorbidity		
	Tuberculosis	3	3.3
	Respiratory Problem	1	1.1
	Hypertension	1	1.1

Table 2. Operative findings

S. No.	Variable	Number	Percentage (%)
1	Site of perforation		
	Appendix	7	7.8
	Duodenum	19	21.1
	Jejunum	15	16.7
	Gastric	1	1.1
	Ileum	21	23.3
	Colon	2	2.2
	Gall Bladder	3	3.3
	Pre Pyloric	22	24.4
2	Surgical Procedure		
	Appendectomy	7	7.8
	Cholecystectomy	3	3.3
	Omentopexy	43	47.8
	Primary repair	26	28.9
	Resection and anastomosis	8	8.9
	Stoma	3	3.3
3	Causes of perforation		
	Trauma	15	16.7
	Acid peptic disease	44	48.9
	Typhoid	17	18.89
	Other	12	13.33
	Tuberculosis	2	2.2

Table 3. Postoperative Complications

S. No.	Complication	Number	Percentage (%)
1	Burst Abdomen	14	15.6
	SSI	42	46.7
	Pelvic abscess	1	1.1
	Mortality	11	12.2

DISCUSSION

Perforated peritonitis is one of the most common surgical emergencies around the world. It remains one of the major causes of mortality and morbidity that requires urgent surgical interventions. Spectrum of causes of peritonitis in Indian subcontinent differs from its western counterpart. In our study most common site of perforation was prepyloric and duodenal secondary to acid peptic disease. Similar findings were noted by Partha sarathi et al. where they study 545 patients out of which 48.44% had gastroduodenal perforation secondary to peptic ulcer disease.² Other studies done in Indian subcontinent shows the similar findings with gastroduodenal perforation being the most common cause of perforation.³⁻⁵

Omentopexy (Classical gram's patch or modified gram's patch repair) was done for all peptic ulcer perforation patients. Incidence of gastroduodenal perforations have decreased significantly in western countries due to the widespread adoption of medical therapies for peptic ulcer disease as well as the use of appropriate stress ulcer prophylaxis among critically ill patients.⁶ Most common cause of peritonitis in west is related with appendicitis followed by colonic perforation. Jejunum is the most common site of traumatic perforation in our study whereas perforation of ileum was secondary to tuberculosis or typhoid. Jejunal or ileal perforations were managed by either primary repair or resection anastomosis.

Most common complication was surgical site infection (46.7%) followed by burst abdomen (15.6%). Mortality was seen in 12.2% of the patients. Most common cause for mortality was sepsis with multiple organ failure in patient with duodenal ulcer perforation. There was no mortality in patient with appendicular perforation or colonic perforation. Mortality was similar in other studies done in Indian subcontinent by Chakrabarti et al, where mortality was 13%.⁷ There are several limitations to this study. Because of its retrospective design, there are potential for bias in data gathering. Since the study population was from a single medical center, the results may be less generalizable than those from multi center studies.

CONCLUSION

The spectrum of perforation peritonitis in our study differs from western countries whereas it is similar to that of other research from Indian subcontinent. Perforations are seen mostly in the small bowel rather than the large bowel. Majority of perforations are noticed in the duodenum and stomach due to acid-peptic disease and small bowel typhoid followed by trauma. Major complications noticed were wound infection and burst abdomen. Overall mortality was seen in 12.2%.

REFERENCES

1. Ramakrishnan K, Salinas RC. Peptic ulcer disease. *American family physician*. 2007;76(7):1005-12.
2. Ghosh PS, Mukherjee R, Sarkar S, Halder SK, Dhar D. Epidemiology of Secondary Peritonitis: Analysis of 545 Cases. *Int J Sci Stud* 2016;3(12):83-88.
3. Yadav D, Garg PK. Spectrum of perforation peritonitis in delhi: 77 cases experience. *Indian Journal of Surgery*. 2013 Apr 1;75 (2) : 133-7.
4. Jhobta RS, Attri AK, Kaushik R, Sharma R, Jhobta A. Spectrum of perforation peritonitis in India-review of 504 consecutive cases. *World journal of Emergency surgery*. 2006 Sep 5;1(1):26.
5. Afridi SP, Malik F, Ur-Rahman S, Shamim S, Samo KA. Spectrum of perforation peritonitis in Pakistan: 300 cases Eastern experience. *World Journal of Emergency Surgery*. 2008 Nov 8;3 (1):31.
6. Malangoni MA, Inui T. Peritonitis the Western experience. *World journal of emergency Surgery*. 2006 Sep 5;1(1):25.
7. S Chakrabarti, PR Chakrabarti, SR Deolekar, J Shah. Spectrum of perforative peritonitis in Navi Mumbai: Analysis of 100 cases. *Indian Journal of Basic and Applied Medical Research*. 2014 Sep; 3 (4) :122-9.