A COMPARATIVE STUDY OF ILEAL PERFORATION AT A PERIPHERAL HOSPITAL

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ABSTRACT

BACKGROUND & OBJECTIVES

Ileal perforation is one of the commonest occurrence in our hospital setup, with the majority of cases having an aetiology of trauma. The aim is to study the various causes of ileal perforation and its presentation and various surgical procedure and its complications and factors affecting the outcome.

METHODS

Seventy cases of ileal perforation were included in this study. Factors were tabulated and statistically analysed to study their contribution.

RESULTS

Trauma was the most common cause of ileal perforation in this study followed by nonspecific perforations. Patients presented primarily in the third and fourth decades of life with a male preponderance. Many patients had air under diaphragm in x-rays and underwent surgery within 24 hrs. of onset. 70% of patients underwent 2-layer closure with complication rate of 67% and mortality rate of 5.7%.

CONCLUSION

We found trauma as the most common aetiology for ileal perforation. Incidence of typhoid induced perforations seems to have significantly reduced. Faecal peritonitis, age, shock, lag period were found to be significant in contributing to mortality and morbidity.

KEYWORDS

Perforation, Blunt Injury, Penetrating Injury, Air Under Diaphragm, Faecal Peritonitis

HOW TO CITE THIS ARTICLE: Thulasi A, Karunaharan T, Arunan. A comparative study of ileal perforation at a peripheral hospital. J. Evid. Based Med. Healthc. 2016; 3(35), 1728-1730. DOI: 10.18410/jebmh/2016/385

INTRODUCTION: Ileal perforation is one of the commonest problem seen in tropical countries. The commonest cause being trauma. In western countries, the causes are malignancy, trauma and mechanical aetiology in the order of frequency.[1,2,3]

Injury to small intestine occurs in 25-30% of penetrating injuries. Injuries of the small intestine occur in approximately 15 -20% of patients who require laparotomy after blunt trauma. The postulated mechanisms are:[4]

- Crushing injury of bowel between the spine & the blunt object such as steering wheel or handlebars.
- Deceleration shearing of the small bowel at fixed points such as ileocecal valve & around superior mesenteric artery.
- Closed loop rupture caused by increased intra-abdominal pressure.

Ileal perforation is known to be one of the complication of enteric fever.[5,6] Vomiting, sudden worsening of abdominal pain and distension warns the onset of perforations. These signs and symptoms will be masked in a toxic patient making a delay in diagnosis.[7]

Absence of localisation in patients have led Hook et al[8] to recommend surgical treatment for enteric perforations. Surgical treatment[9,10] is the best option available as conservative management is associated with significant mortality.

Various surgical options for ileal perforation are drainage of peritoneal cavity, simple closure, wedge resection and closure, resection anastomosis, or diversion and anastomosis.[5,11,12,13]

MATERIALS AND METHODS: 70 patients of ileal perforation who were admitted in MGMGH have been included in this study. All cases of ileal perforation of age >14 yrs. were included. Perforation of hollow viscus other than ileum were excluded. Clinical features, investigations operative procedures done were studied.

RESULTS & OBSERVATIONS: The commonest cause of ileal perforation in our study was trauma accounting for 87% of the total, 6 patients had non. sp. perforations and is the second most common.

Financial or Other, Competing Interest: None.
Submission 23-03-2016, Peer Review 13-04-2016,
Acceptance 23-04-2016, Published 30-04-2016.
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DOI: 10.18410/jebmh/2016/385

Cause	No.	Percentage
Traumatic	61	87%
Tuberculosis	2	3%
Typhoid	1	1%
Nonspecific	6	9%
Total	**70**	**100%**
Causes of Ileal Perforation		

Of the traumatic perforations, 34 patients were admitted with history of blunt injury and 27 patients for penetrating injury.

Mode of injury		No.	Percentage
Blunt injury		34	55.7
Penetrating injury	Stab injury	17	27.9
	Accidental	6	9.8
	Bull gore	4	6.6
Total		**61**	**100.0**
Traumatic Causes of Ileal Perforation			

The age of patients ranged from 16 to 65. 58% of patients were between the ages of 30 & 50. Male-female ratio was 6.7:1. Traumatic perforation occurred in third decade with 35.57%.

Majority of patients presented with symptoms and signs of peritonitis. Pneumoperitoneum was seen in 75% of patients in abdomen erect x-ray. Simple 2-layer closure was the commonest procedure done 70% of cases.

Procedure	Ileal perforation (70)	
	No.	%
Two-layer Closure	49	70
Resection & Anastomosis	13	18.57
Closure with Omental patch	7	10
Tube drainage	1	1.43
Surgical Procedures Done in Ileal Perforation		

About 70% of patients presented with a single ileal injury (perforation). Complications like wound infection, wound dehiscence, pelvic abscess and respiratory complications were observed and wound infection was the commonest complication seen in about 61% of patients.

DISCUSSION: The commonest cause of ileal perforation in this series was trauma accounting for about 87% of cases. The increasing rates of road traffic accidents and civil violence have contributed to this rising incidence of traumatic perforation.

Nonspecific infection was second commonest cause accounting for 9% of cases. Typhoid perforations were commonly seen in second week of illness in accordance with studies done by Keenan et al[7] and Lizzaralde.[14] Male to female ratio was 6.7:1. Earlier literatures also shows a similar picture[15,7]. Majority of patients presented with features suggestive of peritonitis.

Free air under diaphragm was seen in chest & abdomen x-ray in 76% of cases. In this study, patients underwent either simple 2-layer closure, omental patch closure or resection anastomosis. No patient was treated conservatively. Overall complication rate for all patients was 78% with wound infection being the commonest cause accounting for 61.4% of patients.

CONCLUSIONS: Trauma is the most common cause of hollow viscus perforation followed by nonspecific perforation. Patients have male preponderance & are usually in third & fourth decades of lives. All patients presented with abdominal pain. X-ray abdomen erect view is a useful tool to make in diagnosis of hollow viscus perforation. Many patients underwent 2-layer closure followed by resection anastomosis. Most patients developed complications with wound infection being the commonest.

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