



CLINICAL STUDY AND MANAGEMENT OF NON TRAUMATIC HOLLOW VISCUS PERFORATION IN A TERTIARY CARE CENTER

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INTRODUCTION:

About 5 to 10 percent of the patients who come to the emergency room are for acute abdominal pain.¹ About 25% of acute abdominal emergencies are caused by perforations in the gastrointestinal tract.² A life-threatening emergency usually results from gastrointestinal tract perforation in any location. To detect visceral perforation early, a strong index of suspicion is required.³ In the most recent medical literature, non-traumatic gastrointestinal perforations have gotten much less attention than inflammatory lesions, tumours, or traumatic lesions of solid abdominal organs. Gastroduodenal peptic ulcer illness is the most common cause of hollow viscus perforation.⁴ According to reports, peptic ulcer disease patients have a 2% to 5% perforation incidence rate.⁵ Early diagnosis, prompt intervention, and skilled post-operative care are key components for therapeutic success.

AIMS & OBJECTIVES :

To evaluate the clinical profile of patients with non traumatic hollow viscus perforation and its management.

METHODOLOGY:

This observational study was held in a hospital. In the study period from June 2021 to May 2022, there were 63 cases total, and all patients who met the inclusion and exclusion criteria and provided written informed consent were clinically diagnosed as having nontraumatic hollow viscus perforation with radiological evidence by abdominal erect X-ray showing free gas under the diaphragm and/or per surgical confirmation.

Inclusion criteria

All Patients above 12 years age clinically diagnosed as non traumatic hollow viscus perforation with radiological investigation

Exclusion Criteria

- i) Patients not giving consent for the study.
- ii) Patients with traumatic hollow viscus perforations diagnosed clinically and radiologically.
- iii) Patients sealed with hollow viscus perforation treated conservatively.
- iv) Patients below 12 years of age.

Statistical Analysis : The data collected was tabulated on Microsoft Excel. The categorical variables were summarized as proportions and percentages and continuous data was presented as Mean \pm SD. Diagrammatic presentations were also made wherever suitable.

RESULTS AND OBSERVATIONS:

The study was a hospital based observational study conducted on patients with non traumatic hollow viscus perforation admitted in different units of the Department of General surgery, Assam Medical College & Hospital, Dibrugarh during the period of study. The study period was from June 2021 to May 2022. A total of 63 cases were selected. The result and observation have been recorded in the following tables and figures

The youngest patient in our study was 22 years old and the oldest was 64 years old. Peak age of incidence was between 30-40 years and mean age was 34 years. There were 58 males (92.06%) and 5 females (7.94%) cases out of 63 cases with Male:Female ratio being 5.3:1.

Among risk factors associated with non traumatic hollow viscus perforation 22.22% cases had history of smoking, alcohol in 15.87% cases and history of NSAIDS consumption in 12.70% cases.

The minimum presentation duration of perforation was at 16 hours and the maximum duration was 116 hours. Peak incidence was between 48-72 hours and mean duration was 65.05 \pm 14.56 hours.

TABLE 1: CLINICAL FEATURES NON TRAUMATIC HOLLOW VISCUS PERFORATION

CLINICAL FEATURES	NUMBER (n = 63)	PERCENTAGE
Pain	63	100.00
Guarding/Rigidity	56	88.89
Distension of Abdomen	48	76.19
Obliterated Liver Dullness	46	73.02
Inaudible Bowel Sound	42	66.67
Constipation/Diarrhoea	37	58.73
Vomiting	34	53.97
Fever	27	42.86
Shock	3	4.76

TABLE 2 : DISTRIBUTION AMONG SITE OF PERFORATION

SITE OF PERFORATION	NUMBER	PERCENTAGE
Duodenum	41	65.08
Gastric Antrum	3	4.76
Jejunum	1	1.59
Ileum	5	7.94
Appendix	13	20.63
TOTAL	63	100.00

The most common etiology of non traumatic hollow viscus perforation was Peptic Ulcer Disease in 69.84% cases, followed by Acute Appendicitis in 20.63% cases, Abdominal Tuberculosis in 7.94% cases and Typhoid fever in 1.59% .

The most common surgical procedure performed was Modified Graham Patch Repair in 65.08% cases, followed by Appendectomy in 20.63% cases, Laparoscopic Modified Graham Patch Repair was done in 4.76% cases, Resection and Anastomosis with ileostomy done in 3.17% cases, Primary repair in 3.17% cases, Ileostomy in 1.59% cases and jejunostomy in 1.59% cases.

The minimum duration of hospital stay was 9 days and maximum was 22 days, most common duration of hospital stay was between 8-14 days

The most common postoperative complication was wound infection in 33.33% cases followed by respiratory infection in 26.98% cases.

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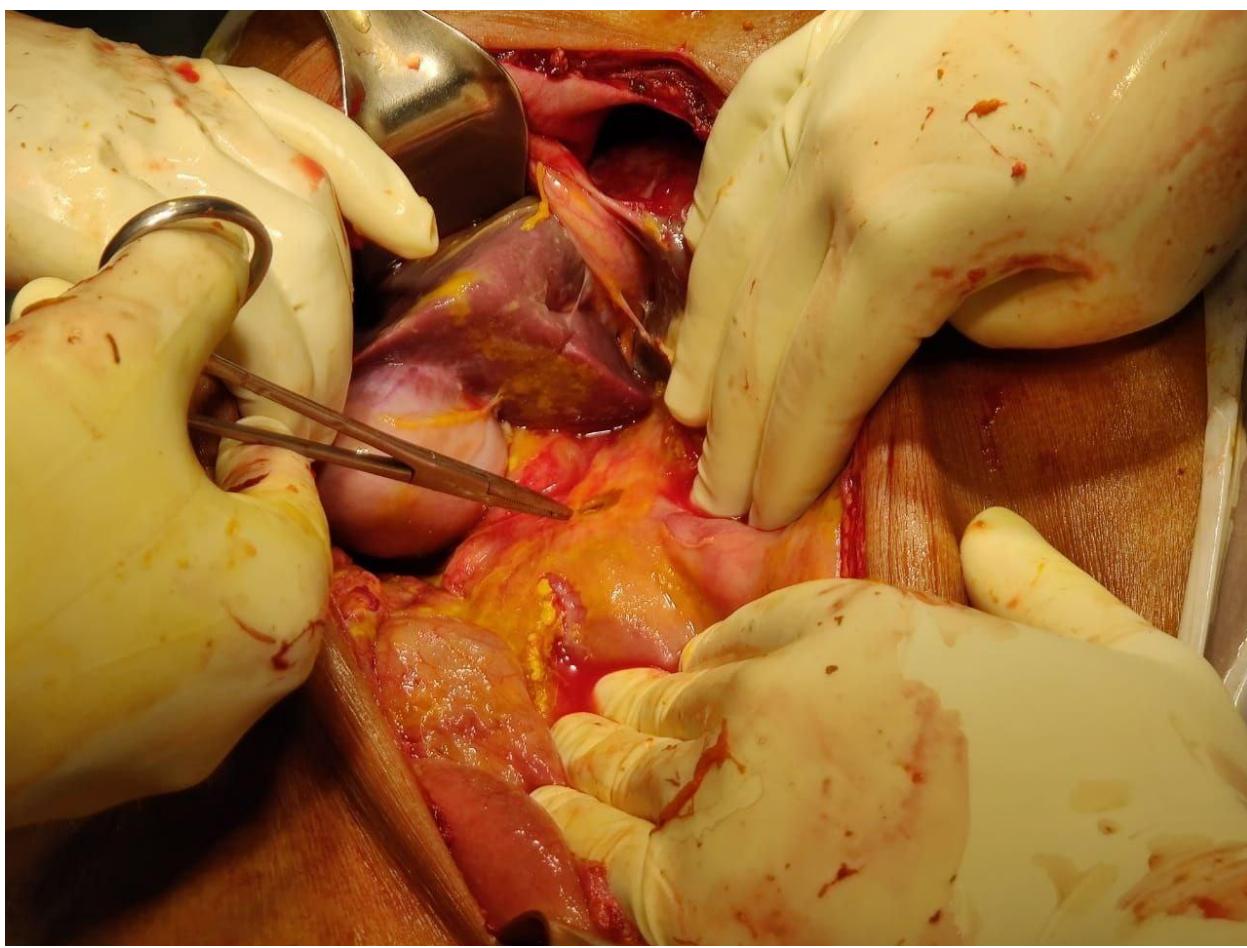


Fig 1: Duodenal Perforation

DISCUSSION:

In our study, The peak incidence was in the 30-40 years age group. There were 58 males (92.06%) and 5 females (7.94 %) and male to female ratio was 5.3:1.

Anjaneya T et al in 2019(6) In their study found that the most common age group affected was 30 to 39 years and male (82%) than female- 9 cases (18%)

Smoking was found in 22.22% cases, alcohol consumption in 15.87% cases and history of NSAID intake in 12.70% cases. **Neeraj Kumar Jain et al** in 2017(7) found smoking in 20% cases, history of medications in 9.09% cases and alcohol consumption in 5.45% cases as a risk factor in their study.

Minimum duration of perforation presented was 16 hours and maximum was 116 hours and most commonly presented between 48-72 hours after perforation and mean duration was 65.05 ± 14.56 hours.

Anjaneya T et al in 2019(6) found that the maximum duration of perforation was 5 days and minimum duration was 1 day with mean duration of perforation being 3 days.

Pain abdomen was the most common presenting symptom in all the 63 cases (100%), distention of abdomen in 48 cases (76.19%), constipation/diarrhea in 37 cases(58.73%), vomiting in 34 cases (53.97%), fever in 27 cases (42.86%), shock in 3 cases (4.76%), guarding/rigidity found in 56 cases (88.89%), followed by obliterated liver dullness in 46 cases (73.02%), then inaudible bowel sounds in 42 cases(66.67%).

AnjaneyaT et al. in 2019 (6) found pain in the abdomen(100%) cases was a universal symptom, abdominal distention was seen in 80% cases, vomiting in 50% cases, and raised temperature in 56% cases and shock in 4% cases.

Neeraj Kumar Jain et al in 2017(7) found that guarding/rigidity was seen in 90% cases, obliterated liver dullness in 63.63% cases and absent bowel sounds in 69.1% cases.

The most common site of perforation was Duodenum in 41 cases (65.05%) ,followed by appendix in 13 cases(20.63%) ,5 cases (7.94%) of ileal perforation ,3 were gastric antral perforation (4.76%) and 1 case of jejunal perforation (1.59%)

Anjaneya T et al in 2019(6) found that Duodenum was the most common site of perforation 70% cases, followed by appendix 10 % cases ,ileal 8% cases ,jejunal 6% cases , gastric 6% cases.

The most common etiology of perforation was Peptic ulcer disease in 69.84% cases, followed by Acute appendicitis in 20.63 % cases.

Sachin Sharma et al in 2019(8) found that Acid peptic disease (48.92%) was most common etiology, followed by typhoid (13.21)

In our study 44 cases of gastroduodenal perforation found out of which 41 cases (65.05%) underwent Modified Graham Patch Repair, 3 cases (4.76%) underwent Laparoscopic modified Graham Patch repair , 2 cases (3.17%) underwent Primary repair, 2 cases (3.17%) underwent Resection and anastomosis with Ileostomy for ileal perforation ,1 case of ileal perforation was managed with ileostomy and for 1 case of jejunal perforation jejunostomy was done. Appendicectomy was done in 13 cases (20.63%),

Laxmi Narayan Meena et al in 2017 (9) had performed most commonly Simple closure with or without omental patch in 63.80% cases ,followed by stoma formation in 17.42% and appendicectomy in 7.91% cases.

Wound infection was the most common postoperative complication in 21 cases (33.33%), Respiratory infection in 17 cases (26.98%), Dyselectrolyemia in 12 cases (19.05%) and Sepsis in 11 cases (17.46%).

Neeraj Kumar Jain et al in 2017(7) found that wound infection was the most common complication in 26.36% cases, electrolyte imbalance in 21.81 % cases, septicemia in 10.09% cases and respiratory complications in 9.09% cases .

CONCLUSION:

Acute abdominal pain and rigidity/guarding are the most typical symptoms of non-traumatic hollow visceral perforation, which is a prevalent cause of acute abdominal discomfort. The most frequent location for non-traumatic hollow viscus puncture was the duodenum. The most frequent cause of Non Traumatic Hollow Viscus Perforation is still perforations from peptic ulcers. Postoperative morbidity is increased by delayed presentation, lowered immunity, and patients in poor general health.

REFERENCES:

1. Kauffman Jr GL. Acute abdomen In: Corson JD Williamson RCN. editors surgery Mosby. UK. 2001;3:3-1.
2. Bhansali SK. Gastrointestinal perforations. A clinical study of 96 cases Journal of postgraduate medicine. 1967 Jan;13(1):1
3. VinodKB, Mathew AS .Clinical study of abdominal hollow visceral perforation-nontraumatic .Journal of Evolution of Medical and Dental Sciences .2014 Jul 28;3(30):8366-72.
4. Kolhar BA, Lamani YP, Goudar BV, Kalburgi EB, Bhavi BK, Karikazi M. Change in trend of hollow viscus perf retrospective study. Medica. 2016 Jul;5(1):32.
5. Silas M, James W JE, Fischer. Perforated duodenal ulcer, In: Wilkins LW, editor. Fischer's Mastery Sanat printers; 2012. p. 1030-1040.
6. Anjaneya T, HV VC. Clinical evaluation, management and outcome of hollow viscus perforations. International Surgery Journal. 2019 Jul 25;6(8):2780-4.
7. Jain NK, Jain MG, Maini S, Khobragade V. A study of clinical profile and management of perforation peritonitis in a tertiary health centre located in Central India. International Surgery Journal. 2017 Feb 25;4(3):981-7.
8. Sharma S, Kaneria R, Sharma A, Khare A. Perforation peritonitis: a clinical study regarding etiology, clinical presentation and management strategies. International Surgery Journal. 2019 Nov 26;6(12):4455-9.
9. Meena IN, Jain S, Bajiy P. Gastrointestinal perforation peritonitis in India: A study of 442 cases. Saudi Surgical Journal. 2017 Sep 1;5(3):116.

Conflict of interest: None

Key words: hollow viscus perforation, pain, abdomen