

Study of various clinical parameters in peptic ulcer perforation and its relation with outcome

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Abstract

Introduction: To evaluate the age and sex incidence, associated clinical history, risk factor involved, time of surgical intervention done after the onset of illness, postoperative complication, total duration of hospital stay, mortality and its relation with outcome of the patient.

Materials and Method: This study has been based on analysis 100 cases of peptic ulcer perforation (gastric and duodenal) admitted in M.L.B. Medical College, Jhansi from March 2014 to December 2015. The cases were collected at random, which were admitted in emergency and treated in various surgical units. After admission a detailed history was taken and clinical examination was done and possible immediate investigations were done. All 100 cases admitted, and were subjected to emergency laprotomy. At the time of laprotomy, the site of perforation, size of perforation, nature of peritoneal fluid, peritoneal fluid culture and amount of peritoneal contamination were determined. All cases have been treated by simple closure with Graham omental patch repair.

Summary and Conclusion: Peptic ulcer perforation (Acid peptic disease) is one of the common acute abdominal emergencies, The peak incidence was between 41-50 years age groups, Smoking and NSAIDS was commonest risk factor for peptic ulcer perforation. In most of the patients operative time was 1-2 hrs. Most patients have bilious intraperitoneal fluid and culture was sterile. Outcome was good in most of the post- op cases who have no complication and discharge satisfactorily from hospital within 8-10 days of normal hospital stay.

Introduction

Perforation is one of the most important complications of a peptic ulcer (Acid-peptic disease). In spite of modern management, it is still a life threatening catastrophe. The sudden release of gastric or duodenal contents into the peritoneal cavity through a perforation leads to a devastating sequence of events which if not properly managed, is likely to cause death. Perforation may occur in a patient with a known chronic peptic ulcer or it may happen without any preliminary symptoms at all (20%). Recent statistics indicate that roughly 10% of the population develops a gastric or duodenal ulcer in lifetime. About 1-3% of population above the age of 20 yrs have some degree of Acid peptic disease during any annual period. Acute perforation is one of the complications of chronic duodenal ulcer (DC) and occurs in about 10-15% of all recognized chronic peptic ulcers. Lort Moynihan has stated that "perforation of duodenal or gastric ulcer is one of the most serious and most overwhelming catastrophes that can befall a human being. A detailed history with regard to the symptomatology of the patient, a meticulous examination of the patient, radiological and biochemical investigations help to arrive at a correct diagnosis of perforation. Operative method is still the treatment of choice and simple closure of perforation is the method followed in most of the surgical centers. Conservative treatment is definitely unsuitable for routine use. But few of the patients who are brought to the hospital at a late stage, have major concurrent illness and preoperative shock, may improve with conservative treatment with Herman

Taylor's regimen. Immediate treatment for perforated peptic ulcer disease has been an established procedure for sometimes now. It can be stated that immediate definitive surgery like truncal vagotomy with a drainage procedure or Proximal Gastric Vagotomy (PGV) after simple closure for perforated duodenal ulcer offers the prospects of a permanent cure with a mortality and morbidity comparable to that of patients with elective surgery. The recent studies show that whenever a definitive surgery is deemed an appropriate addition to a simple closure of perforated DU, PGV is the procedure of choice. If the condition is not diagnosed properly and not adequately treated, it progress in a definite manner with a typical course and may lead to the death of the patient due to Bacterial peritonitis in about 7-8 days. The mortality increases with delay in Operating. The mortality rate when operation is performed within 6 hours of onset of pain approaches zero, from 6-12 hours the rate is 5-10%, 12-24 hrs it is 25% or higher and in the course of 3rd day after, operations are seldom successful. Hence it is said that "there is no intra-abdominal catastrophe where a successful outcome is more dependent upon early diagnosis and prompt treatment (surgery)". This is achieved by prompt transportation of the patient to a major surgical centre. The role of H2 antagonists in the incidence of ulcer complications (perforation and hemorrhage) was unchanged between 1974 and 1984 before and after the induction of H2 receptor antagonists.

Aims and Objectives

To evaluate the age and sex incidence, associated clinical history, risk factor involved, time of surgical intervention done after the onset of illness, postoperative complication, total duration of hospital stay, mortality and its relation with outcome of the patient.

Materials and Method

This study has been based on analysis 100 cases of peptic ulcer perforation (gastric and duodenal) admitted in M.L.B. Medical College, Jhansi from March 2014 to December 2015. The cases were collected at random, which were admitted in emergency and treated in various surgical units. After admission a detailed history was taken and clinical examination was done and possible immediate investigations were done. All 100 cases admitted, and were subjected to emergency laprotomy. At the time of laprotomy, the site of perforation, size of perforation, nature of peritoneal fluid, peritoneal fluid culture and amount of peritoneal contamination were determined. All cases have been treated by simple closure with Graham omental patch repair, peritoneal lavage, and flank drainage procedure. Patients were followed up every day with continuous bedside monitoring of vital data in immediate post-operative period. Due attention was paid to note the development of any complication. Suitable and appropriate treatment was instituted from time to time according to the needs of the patients. After satisfactory improvement patients were discharged from the hospital with advice regarding diet, rest, drug to be taken and need for periodic checkup. Patients who came for regular checkup were examined in detail. A general physical examination and examination of the abdomen was carried out to note the condition of operative scar and for evidence of tenderness over the various regions of the abdomen and patients were advised necessary treatment.

Observation and Discussion

The peptic ulcer perforation (gastric and duodenal perforation) was one of the commonest emergencies. This study was done on the patients of peptic ulcer perforation admitted in M.L.B. Medical College, Jhansi from March 2014 to December 2015. All of 100 cases were studied and analyzed and observation and discussion have been tabled.

Age Incidence: In the present series of 100 cases of peptic ulcer perforation the age of the patients varied from 22-77 years. The peak age incidence was between 41-50 years (41%), No case seen in children or adolescent age group. The youngest patient was 22 years old male patient and oldest was 77 years old patient.

Sex Incidence: Out of 100 patients 93 were MALE patients. Only 7 patients was Female, The male predominance can also be explain on the basis of

greater hardship, smoking, alcoholic, anxiety, strain and intake of NSAIDS.

Clinical history: Smoking was highest risk factor which was 17.9%, next was NSAIDS & SteroidS, then peptic ulcer disease, two or more clinical history was present in a single patient, most common symptom was sudden onset of epigastric pain. Which was found in 84 patients out 100 patients and second was abdominal distension which was seen in 82 patients. Fever had been seen in 12 patients. Vomiting was seen in only 2 patients.

Nature of Peritoneal Fluid: Out of 100 patients, 54 patients have bilious nature of peritoneal fluid, 40 patients have purulent nature of peritoneal fluid and 10 patients have serosanguinous nature of peritoneal fluid.

Peritoneal Fluid Culture: Out of 100 patients, 60 patients have sterile peritoneal fluid culture and 40 patients have culture positive result. Most common organism was Staph. aureus, E.coli, Klebisella.

Duration of Hospital Stay: Most of the patients have hospital stay about 9 -14 days which have bilious peritoneal fluid and sterile culture, Shortest duration of hospital stay was 8 days and longest duration of hospital stay was 23 days.

Time of Surgical Intervention: Out of 100 cases, most of the patients came in emergency after 3 days of onset of illness. Those patients came after 3 days have taken more operative time.

Postoperative Complications: Most common complication was wound infection which was seen 22 patients out of 100 patient of peptic ulcer perforation. This was probably due to intraperitoneal fluid contamination. 18 patients have chest infection either in pre- operative or post -operative condition. Few of them managed by only neubalisation, chest physiotherapy, steam inhalation etc. and some need proper I.C.U. Care with ventilatory support depending upon seriousness of the patients., All patients with wound infection or wound dehiscence managed by regular cleaning and dressing of wounds and if required resuturing, then secondary suturing of wound done after healthy granulation tissue.

Pulse Rate: Out of 100 patients, 48 patients had pulse between 100-120 beats/min, 42 patients had pulse below 100 beats/min. and rest had more than 100 pulse.

Blood Pressure: B.P. was within normal limit in 85 cases (85%). 15 cases had B.P. 90/60mmhg or less which was managed by intravenous fluid or vasopressor drugs.

Respiratory Rate: The respiratory rate varied from 20-24 in 88 cases (88%). In the rest it was more than 24 per minute.

Serum Sodium Level: Out of 100 patients, 70 patients had normal level of sodium, 24 patients was hyponatrimic and rest 6 patients was hypernatrimic. Hypernatrimia and hyponatrimia was managed by hypotonic and hypertonic solution respectively.

Mortality: Total 7 patients (7% mortality) expire within one week out of 100, in post-operative period due to low general condition, severe anemia, chest infection renal failure etc.

General Examination: Almost all cases had pallor to some extent. Icterus & lymphadenopathy was absent in all cases.

Examination of Abdomen

1. **Movement with respiration:** In all the 100 cases the movement of the entire abdomen with respiration was restricted.
2. **Abdominal Distension:** All cases had abdominal distension.
3. **Tenderness:** In all 100 cases generalized tenderness was elicited over whole abdomen due to widespread peritonitis.
4. **Guarding and Rigidity:** In majority of cases guarding and rigidity was present due to protective spasm of abdominal muscle in response to peritoneal irritation from leaking gastro duodenal content.
5. **Bowel sound:** On auscultation bowel sound was absent in majority of cases. Few patients had sluggish bowel sound.

Systemic Examination- Associated medical illness: No cases have any history of Diabetes Mellitus, Hypertension, Bronchial asthma or any drug allergy. Few cases had history of osteoarthritis.

Summary and Conclusion

Peptic ulcer perforation (Acid peptic disease) is one of the common acute abdominal emergencies. The peak incidence was between 41-50 years age groups. Peptic ulcer perforation was common in lower socio-economic group. Male have higher incidence than female, no perforation was found in children. The youngest was 22 years old male patient and oldest was 77 year old male patient, Smoking and NSAIDS was commonest risk factor for peptic ulcer perforation. Most of cases came with history of sudden onset of epigastric pain, Most of patients came after 3days after onset of illness. The general condition of majority of the patients was satisfactory at the time of admission. Most of the cases had generalized guarding, rigidity tenderness and abdominal distension. All cases had gas under right dome of diaphragm. Only two cases have no gas under right dome of diaphragm, almost all cases treated by primary repair of perforation with omental patch. Most of the cases had hospital stay about 8-10 days in which no post-op complication found. Most patients have bilious intraperitoneal fluid and culture was sterile, tachycardia and normal blood pressure was present in most cases. Outcome was good in most of the post- op cases who have no complication and discharge satisfactorily from hospital within 8-10 days of normal hospital stay. The Total Mortality was 7%.

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