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Research Article

**STATISTICS OF PRIMARY REPAIR FOR TREATMENT OF
ENTERIC PERFORATION****¹Dr. Chandf Javaria, ²Dr. Maria Rasool, ³Dr. Sana Rana**
^{1,2,3}Bahawal Victoria Hospital, Bahawalpur Pakistan.**Abstract:**

Objective: The purpose of our study was to find out the results of primary repair for treatment of enteric perforation and to relieve the panic of doctors about leakage of enteric perforation repair.

Study Design: Randomly case control study.

Place and Duration: This study was carried out in the time period of one year from November, 2017 to October, 2018 in surgical ward of Bahawal Victoria Hospital (BVH), Bahawalpur.

Methodology: A total number of 100 patients of single enteric perforation with signs of peritonitis were selected for the study. The age of the selected patients was from 18 years to 60 years. After informing about operative and study procedures, took a written consent from all selected patients. Included all those patients who were hemodynamically stable and having signs of peritonitis and with a single enteric perforation having short duration of symptoms (48Hrs). All those patients were not selected in our study who were having Diabetes Mellitus or renal failure, having features of septic shock at the time of presentation along with comorbid conditions like ischemic heart disease, unfit for surgery as by pre-anesthesia assessment, age more than 60 years and having multiple perforations. For at least seven days or until the discharge of patients the postoperative proceedings were recorded.

Results: The quantity of males and females were 60 and 40 respectively. There were maximum patients having age up to 30 years with a percentage of 58 percent followed by 20 percent up to 40 years of age. Out of several complications, wound infection was the most common as in 23% patients, fecal fistula was in 14 percent patients, whereas, other complications were septicemia and wound dehiscence leakage. Through x-ray abdomen in standing position found the evidence of presence of Pneumoperitoneum in 91% of cases. Leucopenia and leukocytosis were present in all patients with a rate of 29% and 67% respectively. Wound infection and fecal fistula were the complications noticed in majority as 23% and 14% accordingly. Whereas, minor complications found were anastomotic leakage, septicemia and wound dehiscence. Percentage of mortality was 06 percent during our study.

Conclusion: It was concluded that primary repair is among the best choice for the treatment of enteric perforation. As compared to other procedures, the primary repair of perforation is the finest method as it is having lower complication rates and cost effectiveness.

Key words: Patients, primary repair, enteric perforation, surgery.

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INTRODUCTION:

In developing countries, the most alarming complication of enteric fever which is leading to diffuse peritonitis is intestinal perforation [1,2]. Approximately 13-17 million people are yearly affected, and 6 million casualties are caused by acute feverish infection of enteric fever caused by Salmonella Typhi [3]. In second- and third-decades perforation was common and occurring often in the terminal ileum [4]. For prevention from the source of supplementary fecal contamination of the peritoneal cavity, early surgery is the most suitable option of treatment [5]. As far as the morbidity and mortality are concerned, a large number of surgical methods were adopted but none of them produced satisfactory results [6].

Patients with pre-operatively minimal fecal contamination of the peritoneal cavity and short history of symptoms should be treated through primary repair [7]. Since the patient has to suffer surgery for a single time in simple repair of the perforation in two layers, hence it might be selected as best treatment method for enteric perforation [8]. We conducted this study to relieve the panic of doctors about leakage of enteric perforation repair and to govern about the outcomes of primary repair.

METHODOLOGY:

We conducted this study in surgical ward of Bahawal Victotia Hospital (BVH), Bahawalpur, in the time

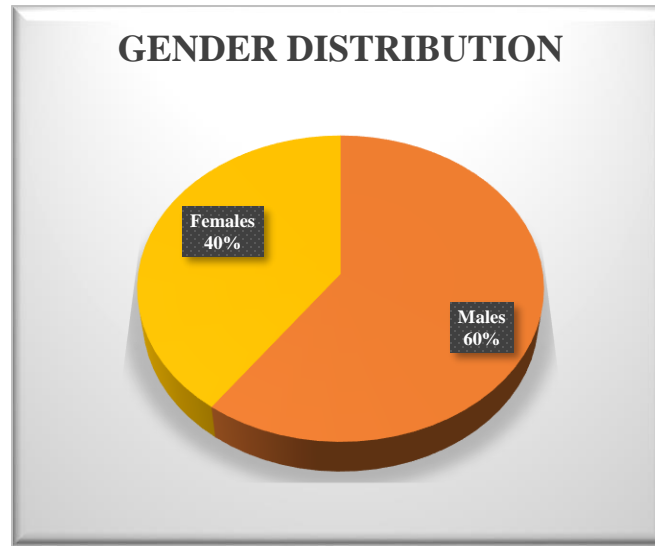
period of one year from November, 2017 to October, 2018. A total number of 100 patients of single enteric perforation with signs of peritonitis were selected for the study. The age of the selected patients was from 18 years to 60 years. After informing about operative and study procedures, took a written consent from all selected patients. Included all those patients who were hemodynamically stable and having signs of peritonitis and with a single enteric perforation having short duration of symptoms (48Hrs). All those patients were not selected in our study who were having Diabetes Mellitus or renal failure, having features of septic shock at the time of presentation along with comorbid conditions like ischemic heart disease, unfit for surgery as by pre-anesthesia assessment, age more than 60 years and having multiple perforations. For at least seven days or until the discharge of patients, the postoperative proceedings were recorded. Noted the results of procedure for example wound dehiscence, septicemia, wound infection and leakage from the repair.

RESULTS:

The occurrence of enteric perforation was a little bit lower in females as compared to males. With a ratio of 1.5:1 males and females were 60 and 40 accordingly with a total number of 100.

Table No 01: Gender distribution of patients

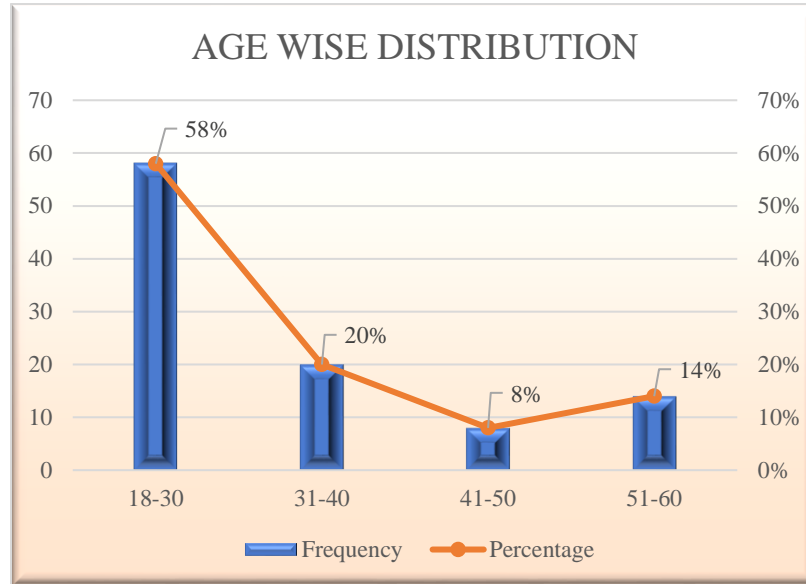
Variables	Males	Females	Total
Quantity	60	40	100
Percentage	60%	40%	100%



Patients with age of 18 years to 60 years were selected in this study. There were maximum patients having age up to 30 years with a percentage of 58 percent followed by 20 percent up to 40 years of age. Tabular and graphical information in this regard is shown below.

Table No 02: Patients' Age wise distribution

Age (Years)	Frequency	Percentage	Mean±SD
18-30	58	58%	25±10.470
31-40	20	20%	
41-50	08	08%	
51-60	14	14%	



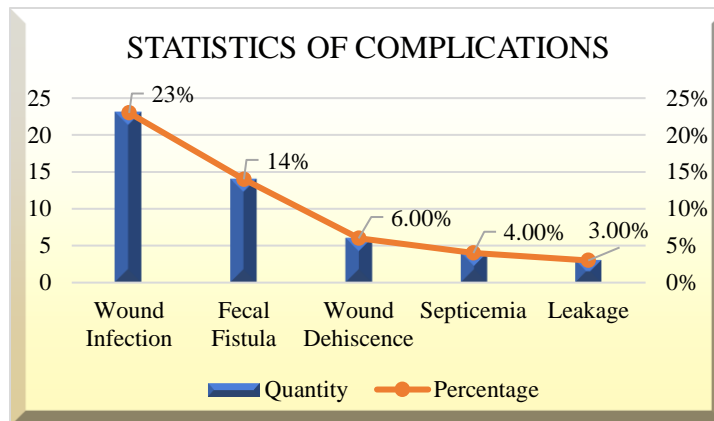
With the highest figure in the months of July and August, patients of enteric perforation were admitted throughout the year. Followed by unexpected start of aching in the abdomen, majority of patients (95%) showed up with history of fever. Vomiting, diarrhea, constipation and abdominal distension were other common findings. Among all patients found clinically comprehensive tenderness, rigidity and guarding. Through x-ray abdomen in standing position found the evidence of presence of

Pneumoperitoneum in 91% of cases. Leucopenia and leukocytosis were present in all patients with a rate of 29% and 67% respectively.

Wound infection and fecal fistula were the complications noticed in majority as 23% and 14% accordingly. Whereas, minor complications found were anastomotic leakage, septicemia and wound dehiscence. During the 30 days of surgery, 06 patients died overall. Statistic data is presented below in the table.

Table No 03: Statistics of Complications

<i>Complications</i>	Quantity	Percentage
<i>Wound Infection</i>	23	23 %
<i>Fecal Fistula</i>	14	14 %
<i>Wound Dehiscence</i>	06	6.0 %
<i>Septicemia</i>	04	4.0 %
<i>Leakage</i>	03	3.0 %
<i>Morbidity</i>		50 %
<i>Mortality</i>		6.0 %



DISCUSSION:

Considerably higher risk of morbidity rate as 84% and mortality rate as 40% was found in ileostomy for enteric perforation as per findings of several international researches held on patients of enteric perforation and the various treatment options. Additionally, it also holds the illness related with the subsequent operation done for closure [9]. 'Segmental resection and anastomosis' and 'wedge resection and anastomosis' are the other surgical options for treatment. According to previously done international researches, risk of complications with average of 20% and mortality as 54%, is expressively greater in both of the aforementioned procedures [10]. It is considered globally that best treatment for typhoid perforation is surgery [11].

There are several types of surgical treatments which were got in practice like end to end anastomosis, resection, ileostomy and primary repair. And the best choice for treatment of enteric perforation is still primary repair. According to the findings of our study, primary repair of enteric perforation was proven as very useful for patients in many ways. Therefore, it was counted as the most effective method of treatment. Primary repair of enteric perforation is quick, cost effective and simple method. On the other hand, ileostomy is much costly and because of reoperation for closure, the risk of disease is always there for all patients and furthermore, prior to closure, extreme care is needed. Before selecting the type of surgical method, operating surgeons have to take various aspects into consideration. Most likely, for all patients with enteric perforation there is no appropriate single surgical method as applicable to all at a time. Each method has its own disadvantages and advantages, anyhow, with healthy bowel, negligible infectivity

and single perforation primary repair has been proven as the best choice of treatment in our study.

According to findings of the studies of Bhansali, Purohitg and Adesun kanmill, rate of mortality was as 48%, 14.6% and 28% respectively [12]. With overall mortality rate as 14.2% in patients of enteric perforation treated with temporary ileostomy was reported by K.P Sinh and Kohli [13]. With resection anastomosis, mortality was found as 37.5% in a study by Shah A.A Wani and Wazir [14]. Hence, as patients treated with primary repair of enteric perforation in our study the mortality rate was found very low as compared to the other studies.

Concisely, there is always only the surgical way for the treatment of enteric perforation. With appropriate antibiotic therapy and related dynamic resuscitation, patients should be operated upon as soon as possible. With least mortality rate, trouble free postoperative care, simplest and quickest technique, short hospital stay and least rate of complications, primary repair of enteric perforation is the best treatment method for all patients of perforation.

CONCLUSION:

The best treatment for typhoid perforation is primary repair of perforation in two layers. General methods like right hemicolectomy and resection anastomosis might be eschewed in cases with toxemia and poor general condition. For effective treatment of patients with typhoid perforation suitable resuscitation and initial surgery are obligatory. Owing to its lower rate of complications and cost effectiveness as compared to other surgical methods the primary repair of perforation is the best method of treatment in enteric perforation.

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