Original article:

Evaluation of Etiology of Abdominal Wound Dehiscence in a Tertiary Care Hospital

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ABSTRACT

Background: Abdominal wound dehiscence (burst abdomen, fascial dehiscence) is a severe postoperative complication. The present study was conducted to assess etiology of abdominal wound dehiscence in a tertiary care hospital.

Materials and Methods: The present study was conducted to assess etiology of abdominal wound dehiscence in a tertiary care hospital. A detailed proforma of the etiological factors, examination findings and investigations were prepared. The subjects were followed after laparotomy till their wound healed or abdominal wound dehiscence occurred. Statistical analysis was performed with IBM SPSS Statistics for Windows.

Results: The present study showed total no. of patient's laparotomy operated 290 during study period. The patients included in the study belongs to age group 20-50yrs. Out of total patients, 55 patients have developed abdominal wound dehiscence. In our study majority of patients belongs to the age group 20-30 years (45.45%). The major cause of abdominal wound dehiscence in this study was perforation peritonitis (41.81%).

Conclusion: The present study concluded that the major cause of abdominal wound dehiscence in this study was perforation peritonitis.

Keywords: Laparotomy, Abdominal Wound Dehiscence, Perforation Peritonitis.

INTRODUCTION

Abdominal wound dehiscence (AWD) is a terminology that is commonly used to explain the separation of different layers of an abdominal wound before complete healing has taken place. Other terms used are acute laparotomy wound failure and burst abdomen.[1] It usually occurs when a wound fails to achieve the required strength to withstand stresses placed upon it.[2,3] Dehiscence of the wound after abdominal surgery is a serious complication that continues to plague the surgeon and threaten the patient. Burst abdomen is an inescapable responsibility of the surgeon who made the wound. Dehiscence is the disruption or breakdown of a wound.[4,5] No single cause is responsible for wound dehiscence and as a rule a combination of factors is operating. If the support system fails before the functional and structural integrity is regained, then the wound edges break apart. Many such factors like anemia, jaundice, uremia, diabetes, hypoalbuminemia, chronic obstructive pulmonary diseases, advanced malignancy, steroid use, obesity, wound infection and emergency surgery have been defined.[6,7] Some

factors like jaundice, obesity, anemia, emergency surgery and diabetes have recently been challenged.[8] Wound infection is the most important single factor in the development of burst abdomen and incisional hernia.[9] The present study was conducted to assess etiology of abdominal wound dehiscence in a tertiary care hospital.

MATERIALS AND METHODS

The present study was conducted to assess etiology of abdominal wound dehiscence in a tertiary care hospital. The study was conducted over a period of 6 months. Before the commencement of the study ethical approval was taken from the Ethical committee of the institute and informed consent was obtained from the patients. All patients who have developed wound dehiscence after any abdominal incisions with or without abdominal evisceration were included in the study. Patient less than 20 years of age and previous history of laparotomy were excluded from the study. Total no. of patient's laparotomy operated 290 during study period. A detailed proforma of the etiological factors, examination findings and investigations were prepared. The subjects were followed after laparotomy till their wound healed or abdominal wound dehiscence occurred. The complete record of all the patients were maintained. Statistical analysis was performed with IBM SPSS Statistics (International Business Machines Corporation (IBM), New York, USA), for Windows.

Table 1: Distribution of patients according to age

Age group(yrs)	N (%)
20-30	25(45.45%)
31-40	12(21.81%)
41-50	18(32.72%)
Total	55(100%)

Table 2: Distribution of patients on basis of primary disease leading to burst abdomen

Disease	N (%)
Perforation peritonitis	23(41.81%)
Obstruction	13(23.63%)
Tumor	5(9.09%)
Upper gastrointestinal bleeding	3(5.45%)
Necrotising Pancreatitis	4(7.27%)
Trauma	5(9.09%)
Others	2(3.63%)
Total	55(100%)

RESULTS

The present study showed total no. of patient's laparotomy operated 290 during study period. The patients included in the study belongs to age group 20-50yrs. Out of total patients, 55 patients have developed abdominal wound dehiscence. In our study majority of patients belongs to the age group 20-30 years (45.45%). The major cause of abdominal wound dehiscence in this study was perforation peritonitis (41.81%).

DISCUSSION

A fresh wound has no strength of its own and regains artificial support with sutures. Strength of wound is of two types. Intrinsic strength is that which is due to collagen deposition and extrinsic strength is one which is bestowed on the wound by its sutures. Intrinsic strength is zero at first postoperative day and increases gradually with the passage of time. The support of sutures must be maintained for sufficient time so that normal functional and structural continuity is restored.[10]

The present study showed total no. of patient's laparotomy operated 290 during study period. The patients included in the study belongs to age group 20-50yrs. Out of total patients, 55 patients have developed abdominal wound dehiscence. In our study majority of patients belongs to the age group 20-30 years (45.45%). The major cause of abdominal wound dehiscence in this study was perforation peritonitis (41.81%).

Various studies have described emergency surgery as a risk factor for wound dehiscence.[11,12]

In recent years there has been a considerable drop in the incidence of burst abdomen in many reports, a result of spread in popularity of mass closure technique usually combined with the use of non-absorbable suture material and with closely placed, wide bites of the abdominal wall.[13]

Study conducted on 107 patients with abdominal wound dehiscence over a period of 7 years in Department of Surgery, Cleveland Veterans Affairs Medical Centre, Case Western Reserve University USA by Graham et al, showed that patients with Intra-abdominal infection were more likely to have undergone an emergency operation ($p < 0.02$), wound dehiscence is more common in emergency operations and operations with higher wound classification.[14]

CONCLUSION

The present study concluded that the major cause of abdominal wound dehiscence in this study was perforation peritonitis.

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