



## General Surgery

## COMPARISON OF EMERGENCY SURGERY AND ELECTIVE SURGERY AS A RISK FACTOR IN CASES OF ABDOMINAL WOUND DEHISCENCE AT A TERTIARY CARE CENTRE

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**ABSTRACT** **INTRODUCTION :** The burst abdomen or the wound dehiscence of the abdomen can be explained as the postoperative type of separation from the musculo-aponeurotic layers of abdomen that is also recognized within some days post the surgery and is also in need of a particular type of intervention. Whenever there is hindrance in the normal cascade of abdominal wound process, it results in the disruption of the abdominal wound that is also known as wound dehiscence. **OBJECTIVES:** To compare emergency surgery and elective surgery as a risk factor in cases of abdominal wound dehiscence at tertiary care centre. **METHODOLOGY :** This was a prospective observational study from July 2021 to June 2022 on 55 patients who developed wound dehiscence after surgery. **CONCLUSION :** Emergency Surgeries have greater risk of developing post operative wound dehiscence as compared to Elective Surgeries.

## KEYWORDS :

## INTRODUCTION :

- Burst abdomen or abdominal wound dehiscence is defined as post operative separation of abdominal musculo-aponeurotic layers, which is recognised within days after surgery and requires some form of intervention.<sup>[1]</sup>
- Acute wound failure may be partial or complete.<sup>[2]</sup>
- In partial dehiscence, only the superficial layers or part of the tissue layers reopen.<sup>[2]</sup>
- In complete wound dehiscence, all the layers of the wound thickness are separated, revealing the underlying tissue and organs, which may protrude out of the separated wound.<sup>[2]</sup>
- An abdominal wound may occur due to disruption in the anterior abdominal wall caused by either trauma<sup>[3]</sup> or any surgical intervention in order to gain access to the underlying pathology.<sup>[4]</sup>
- In the latter scenario, incision thus made, initiates a cascade of mechanisms at cellular level, which aims at achieving healing at incision site.<sup>[5]</sup> This healing may occur by primary intention (wounds with opposed edges) or by secondary intention (wounds with separated edges).<sup>[6]</sup>
- Healing by secondary intention occurs whenever there is extensive loss of cells and tissue as occurs in infarction, inflammatory ulceration, abscess formation, etc. Whenever there is hindrance in the normal cascade of abdominal wound process, it results in the disruption of the abdominal wound that is also known as wound dehiscence.<sup>[6]</sup>

## MATERIALS AND METHODS :

- This was a prospective observational study from July 2021 to June 2022 on 55 patients who developed wound dehiscence after surgery.
- Patients falling in the inclusion criteria were assessed and evaluated on of clinical details and type of surgery they underwent; i.e. emergency or elective and data was compared.

INCLUSION CRITERIA<sup>[7]</sup>:

- Patients of age >14yrs who have developed abdominal wound dehiscence following either emergency or elective abdominal surgeries who are willing for investigation and treatment.
- Patients of either gender who have developed abdominal wound dehiscence following either emergency or elective abdominal surgeries who are willing for investigation and treatment.

EXCLUSION CRITERIA<sup>[7]</sup>:

- All patients with abdominal wound dehiscence who are <14 yrs of age.
- Patients with incisional hernia.
- Patients with wound dehiscence on sites other than the abdomen.
- Female patients with wound dehiscence after any gynaecological procedures.
- Patients with wound dehiscence after second surgery.

## RESULT :

All analysis was performed using SPSS version 20. Mean and standard deviation were calculated for quantitative data and frequency & percentages were calculated for qualitative data. The Chi- square test or Fisher's Exact Test were used to find the association between categorical variables and to compare the Mean we use One-Way ANOVA Test and Independent t-Test. The level of significance was considered as <0.05 or 5%.

Table 1: Frequency distribution of the cases according to Parameters

PARAMETERS	No. of Cases	Percentage
Emergency surgery	52	94.5%
Elective surgery	3	5.5%

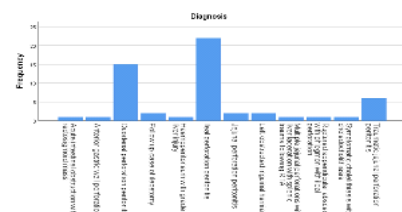


Table 2 shows the Association between Emergency and Day of dehiscence, The Association were found statistically not significant as the P-value is  $> 0.05$

**Table 3:- Association between Elective and Day of dehiscence.**

			Day of dehiscence						P-Value
			POD-3	POD-4	POD-5	POD-6	POD-7	POD-8	
Elective	No	Count	1	1	6	15	22	7	0.93
		% within Day of dehiscence	100.00%	100.00%	100.00%	93.80%	95.70%	87.50%	
	Yes	Count	0	0	0	1	1	1	
		% within Day of dehiscence	0.00%	0.00%	0.00%	6.30%	4.30%	12.50%	
Total		Count	1	1	6	16	23	8	
		% within Day of dehiscence	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	

(To find the Association between Elective and Day of dehiscence, we used Chi-Square Test)

Table 3 shows the Association between Elective and Day of dehiscence, The Association were found statistically not significant as the P-value is  $> 0.05$

## DISCUSSION:

In order to carry out the analysis of the results, the SPSS version 20 was being used. Besides calculating the mean and the standard deviation the frequency and percentages has also been calculated and 5% has been considered to be the level of the significance. the distribution of the cases as per the diagnosis have shown that they got diagnosed with the Ileal perforation peritonitis and it was followed by Duodenal perforation peritonitis which included 15 cases. These were the major values and the other diagnosis holds some minor patient percentage is like 1.8% or 3.6%. no such proper statistically significant Association was noted between the emergency or elective as the P values were 0.93 for both. These results can be compared to the study of Waqar et al., as they were also unable to find a proper association between emergency to that with the day of decisions in their study as well.[8]

## RESULTS:

- Total 55 patients who developed wound dehiscence post undergoing surgery for pathologies confined to abdominal cavity were assessed and evaluated for the type of surgery that they underwent.
- Majority of cases i.e. 94.5% were operated on emergency basis and only 5.5% were operated electively.
- Most common pathology for which the cases were operated was ileal perforation peritonitis followed by duodenal perforation peritonitis.

## CONCLUSION:

- Patients who undergo emergency surgery are generally in worse condition and nutritional state, and the chance of contamination of the surgical field is higher than in elective surgery. [9]
- Hence these patients have more chance of developing wound dehiscence post operatively.

## Summary–

The burst abdomen or the wound dehiscence of the abdominal can be explained as the postoperative type of separation from the masculine aponeurotic layers of abdominal that is also recognised within some days post the surgery and is also in need of a particular type of intervention. Usually the general surgeons are able to make several types of abdominal incisions and the most common type of early relaparotomy is because of the disruption in the abdominal surgical wound. In regards to this wound dehiscence can be considered as the most accurate type of wound failure which has a high mortality rate of 25%. The wound dehiscence is not created by a single type of reason as it is a result of some combined factors in the time of

operation. Assessing risk factors might prove to be beneficial to prevent the strategies in the clinical studies, like how to deal with the high risk patients or what to do if there is any development in the alternative closure techniques.

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