



## A COMPARATIVE STUDY OF PROPHYLACTIC RETENTION SUTURING VERSUS PRIMARY CLOSURE IN EMERGENCY LAPAROTOMIES.

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**ABSTRACT** **Introduction:** Abdominal Wound Dehiscence is a common post-operative complication with high morbidity and mortality. Several risk factors for the occurrence of dehiscence have been described. Retention sutures are often used in surgical take-back for dehiscence. **Methods:** 50 patients who underwent midline laparotomy for various causes with 2 or more of the risk factors for dehiscence were randomised into two groups of 25 each. The study group in which laparotomy wound was closed with conventional mass closure along with full thickness retention sutures and a control group in which mass closure alone was done. **Result:** The incidence of wound dehiscence in the study group was reduced. There was only 1 case of dehiscence in the study group compared to 5 in the control group. All 5 cases of wound dehiscence in the control group underwent re-laparotomy and facial closure. There was no significant difference in the post-operative pain and duration of hospital stay in both the groups. **Conclusion:** The study concludes that, prophylactic retention sutures could reduce the incidence of wound dehiscence in midline laparotomy in cases with multiple risk factors without imposing remarkable postoperative complications.

**KEYWORDS :** retention suturing, primary closure, wound dehiscence

### INTRODUCTION

- Acute wound failure (wound dehiscence or a burst abdomen) refers to postoperative separation of the abdominal musculo-aponeurotic layers.
- most dreaded complication - risk of evisceration.
- Acute wound failure occurs in approximately 1% to 3% of patients who undergo an abdominal operation.
- Dehiscence most often develops 7 to 10 days postoperatively but may occur anytime after surgery, from 1 to more than 20 days.
- A multitude of factors may contribute to wound dehiscence.
- Acute wound failure is often related to technical errors in placing sutures too close to the edge, too far apart, or under too much tension.
- Local wound complications such as hematoma and infection can also predispose to localized dehiscence. Increased intra-abdominal pressure (IAP) is often blamed for wound dehiscence.

### AIM AND OBJECTIVES

The aim of the study is to compare the efficacy of prophylactic retention suturing technique versus conventional primary closure in patient undergoing emergency midline laparotomy

### MATERIALS AND METHODS

This comparative study of wound healing in emergency laparotomy is based on the patients admitted with signs and symptoms of peritonitis. A total of 60 patients presenting with peritonitis at emergency department were subjected to emergency midline laparotomy. They are divided into two groups by simple random sampling.

#### Inclusion Criteria

- Patients with Hypoproteinemia.
- Patients with Anaemia.
- Patients age group 20 years and above.
- Patients with features of perforation peritonitis undergoing emergency laparotomy.

#### Exclusion Criteria

- Age less than 20 years
- Immunocompromised patients

After proper clinical assessment the patients were actively resuscitated with analgesics, intravenous fluids nasogastric aspiration and antibiotics. The bladder was catheterized to monitor the urine output.

- After stabilizing the general condition, the patients were taken up for surgery. Postoperatively nasogastric aspiration was continued, nutrition and electrolyte balance were maintained with intravenous fluids.
- Patients were monitored in the post operative period for wound dehiscence. All data were recorded and statistically analysed.

### RESULTS

In our study there were total of 60 (100%) patients, 30 (50%)

underwent primary closure and 30 (50%) underwent prophylactic retention suturing for midline wound closure. In this 46 (77%) were males and 14 (23%) were females. The mean age (in years) who underwent primary closure is 38.53 and 54.6 in case of retention closure which is significant ( $p = 0.001$ ). 3 patients in the study group and 13 patients in the control group developed evisceration of abdominal contents ( $p = 0.023$ ) which is significant

WOUND DEHISCENCE	PRIMARY CLOSURE	RETENTION CLOSURE
PRESENT	14	3
ABSENT	16	27
P VALUE - 0.002		
CHI SQUARE TEST		
SIGNIFICANT		



### DISCUSSION

Wound dehiscence is disruption of any or all of the layers in a wound.

Dehiscence may occur in up to 3 per cent of abdominal wounds.

Wound dehiscence most commonly occurs from the 5<sup>th</sup> to the 8<sup>th</sup> postoperative day when the strength of the wound is at its weakest.

It may herald an underlying abscess and usually presents with a serosanguinous discharge.

The patient may have felt a popping sensation during straining or coughing.

It is a mechanical wound failure due to various factors causing separation of the closed abdominal wound often with evisceration of the contents.

## CONCLUSION

Study concludes that Prophylactic Retention suturing in patients with perforation peritonitis undergoing emergency midline laparotomy decreases the incidence of wound dehiscence, reduces pain and lessens hospital stay in high risk patients, when compared with conventional primary wound closure.

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