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Research Article

**WOUND DEHISCENCE: CONTINUOUS VS INTERRUPTED  
SUTURES****Dr. Mohtamam Nazir<sup>1</sup>, Dr. Muhammad Hassan Abbas<sup>2</sup>, Dr. Noor Ahmed Niazi<sup>1</sup>, Dr. Sultan Ahmed Awaisi<sup>1</sup>, Dr. Hassan Mahmood Tabassum<sup>2</sup>, Dr. Haroon-ur-Rashid<sup>1</sup>**<sup>1</sup> Assistant Professor. Department of Surgery Sheikh Zayed Medical College/Hospital. Rahim Yar Khan, <sup>2</sup> Professor of Surgery, Sheikh Zayed Medical College/Hospital. Rahim Yar Khan.**Article Received:** October 2019    **Accepted:** November 2019    **Published:** December 2019**Abstract:*****Objective:** Frequency of wound dehiscence in interrupted vs continuous suturing after laparotomy.****Study Design:** Randomize control trial.****Settings:** Department of Surgery Sheikh Zayed Hospital Rahim Yar Khan.****Duration of Study:** 01-01-2018 to 30-11-2018.****Methodology:** In this study the cases of both gender having age 18 years or more were selected and were divided into two equal groups. After the surgery the cases in group A were closed with interrupted while those in group B with continuous suturing method and were followed on daily basis to look for signs of dehiscence i.e. effacement of the wound margins.****Results:** In this study total 64 subjects undergoing laparotomy were enrolled with mean age of 44.81±8.09 vs 43.63±9.13 years in group A and B with p= 0.87. There were 16 (50%) males in group A and 18 (56.25%) in group B (p= 0.91). Wound dehiscence was observed in 3 (9.38%) cases in group A managed by interrupted suturing and 7 (21.88%) cases with continuous suturing with p= 0.01.****Conclusion:** Wound dehiscence is significantly more observed with continuous in contrast to interrupted suturing.****Keyword:** Suturing, Interrupted, Continuous.***Corresponding author:****Dr. Mohtamam Nazir,**

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**INTRODUCTION:**

Laparotomy is one of the most commonly performed surgical procedures in the elective as well as emergency settings and hundreds of laparotomies are performed each day across the globe. The prevalence is variable though a consistent incidence is seen regarding laparotomy as one of the commonest surgical procedures. The most commonly done is the midline incision technique which is easy to perform and due to in line with tissue planes has good healing tendency and lesser degree of blood loss. [1-2]

There are number of reasons that can lead for its need and include repair of the traumatic perforations, enteric fever associated perforation, volvulus, intestinal obstruction due to benign or malignant lesions, biopsy, adhesion formation, gut ischemia, tuberculosis, ruptured ectopic pregnancy and sometimes as diagnostic procedures in cases of peritonitis in the absence of overt aetiology. [3-5]

Surgical related complications are always a great concern during perioperative period and all the measures are taken to decrease the risk of these to avoid further morbidity and even mortality. The major complications of laparotomy include blood loss, pain, surgical site infections, abscess formation, fistula, sepsis, wound dehiscence and recurrence of the under lying aetiology for which laparotomy was performed. Wound dehiscence is one of the most concerned complications and that's why great attention is paid regarding suturing techniques as in cases of excessive contamination, tissue edema and obese cases, the risk of dehiscence increases. [6-8]

There are various suturing techniques and each carries its own benefits and ease of the procedure and on the other hand, the side effect or complication profile. The most commonly performed are continuous and interrupted suturing techniques. The continuous suture is easy to perform has lesser number of knots but on the other hand it has only a single suture line to hold the fascia together and its single cut can affect the whole wound stitch. Contrary to this interrupted suturing technique is bit time consuming need frequent knots has the risk of

stitch sinus formation but has shown good impact in terms of wound dehiscence. [9-10]

**OBJECTIVE:**

Frequency of wound dehiscence in interrupted vs continuous suturing after laparotomy.

**MATERIAL AND METHODS:**

This randomize controlled trial was done at Department of Surgery Sheikh Zayed Hospital Rahim Yar Khan during 01-01-2018 to 30-11-2018. The cases were selected irrespective of their gender and age more than 16 years who underwent laparotomy due to any abdominal surgical reason i.e. intestinal obstruction, adhesions, intestinal perforation, abdominal hernia, traumatic perforations etc. Whereas the cases that had malignancy and end stage renal or liver failure and those who were immune compromised or had bleeding diathesis, were excluded from this study. The subjects were divided into two groups i.e. A and B. Then these cases underwent laparotomy under standard surgical procedures with full aseptic measures. Post surgery interrupted sutures were applied in group A while continuous ones in group B. Then these cases were followed on daily basis to look for signs of dehiscence i.e. effacement of the wound margins till discharge.

**Statistical analysis:**

SPSS 21 version was used for data analysis. Qualitative and quantitative variables were compared in both groups by using chi square and independent sample t test respectively and p value equal or <0.05 was taken significant.

**RESULTS:**

In this study total 64 subjects undergoing laparotomy were enrolled with mean age of  $44.81 \pm 8.09$  vs  $43.63 \pm 9.13$  years with  $p = 0.87$ . There were 16 (50%) males in group A and 18 (56.25%) in group B ( $p = 0.91$ ) as shown in table 1. Wound dehiscence was observed in 3 (9.38%) cases in group A managed by interrupted suturing and 7 (21.88%) cases with continuous suturing with  $p = 0.01$  as displayed in table no 02.

**Table No. 1 Demographics (n=32 each)**

	Group A (Interrupted)	Group B (Continuous)	p
Age	44.81±8.09	43.63±9.13	0.87
Weight	64.71±12.89	66.57±10.29	0.62
Duration of surgery	74.31±14.57	72.62±15.27	0.81
<b>Gender</b>			
Males	16 (50%)	18 (56.25%)	0.91
Females	16 (50%)	14 (43.75%)	

**Table No. 2. Wound dehiscence in study subjects (n=32 each)**

Wound dehiscence	Group A (Interrupted)	Group B (Continuous)	p
Yes	3 (9.38%)	7 (21.88%)	0.01
No	29 (90.62%)	25 (78.12%)	
<b>Total</b>	32	32	

**DISCUSSION:**

Surgical interventions like laparotomy is done for the management of long list etiologies and surgery associated complications are not uncommon. Amongst the number of complications associated with this wound dehiscence is relatively uncommon but can be of high concern especially where there is high degree edema and obese cases. There is always a need for better suturing techniques to avoid these complications and most common ones are continuous and interrupted sutures. [10-11]

In this randomized controlled trial done on 64 cases wound dehiscence was observed in 3 (9.38%) cases in group A managed by interrupted suturing and 7 (21.88%) cases with continuous suturing with  $p=0.01$  out of their 32 cases in each group.

The results of the present study were in line with the findings of the previous studies where higher degree of dehiscence was observed in continuous suturing technique. According to the results of a Pakistani study it was observed that wound dehiscence was noted in 4.55% of the cases managed with interrupted sutures and 15.17% with continuous sutures with a significant difference having  $p=0.001$ . [12]

Tahir A et al, also carried out a similar trial and compared the same suturing techniques to look for various surgical complication rates and it was seen that in interrupted vs continuous suturing this complication was observed in 7% vs 18% of the cases respectively. Moreover they observed that the cases that had higher degree of BMI, also had higher chances of dehiscence but this difference was not statistically significant. [13]

In a review study done in India by Gupta et Al they evaluated a number of randomized control trials to compare these suturing modalities and assessed their complications rates and it was observed that dehiscence was observed in 2.17% of cases with interrupted in contrast to 14.8% with continuous suturing ( $p < 0.05$ ). [8]

Rehman A et al carried out a similar study with same protocol as in the present study and they found the

wound dehiscence in 2.5% vs 13.75% with interrupted vs continuous suturing method respectively hence favouring the interrupted one as better technique in prevention of wound dehiscence. [14] Overall the incidence rate was higher in the present study in both groups; though the interrupted one was better than continuous as in previous studies. This can be explained by the reason of smaller sample size.

**CONCLUSION:**

Wound dehiscence is significantly more observed with continuous in contrast to interrupted suturing.

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