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General Surgery

A STUDY TO COMPARE BETWEEN CONVENTIONAL CONTINUOUS CLOSURE OF RECTUS SHEATH AND INTERRUPTED SUTURE CLOSURE OF RECTUS SHEATH.

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ABSTRACT **Introduction:** Wound dehiscence, or burst abdomen, is a serious complication that significantly affects postoperative recovery, morbidity, and mortality, particularly in emergency laparotomy cases. The rectus sheath closure technique plays a critical role in minimizing the risk of such complications. Although various suturing techniques are employed for abdominal closure, the efficacy of continuous versus interrupted suture closure remains a topic of debate. This study investigates the effectiveness of continuous and interrupted suture techniques in midline laparotomy, focusing on clinical outcomes, wound healing, and recovery patterns. **Objective:** To compare time taken for closure ,wound healing ,post- operative complications and hospital stay in conventional continuous and interrupted sutures for closure of rectus sheath. **Methodology:** This prospective, comparative study was conducted at Saraswathi Institute of Medical Sciences, Hapur, from April 2023 to October 2025. A total of 100 patients undergoing emergency midline laparotomy for acute peritonitis were randomly assigned to two groups: Group A (continuous closure) and Group B (interrupted suture closure), with 50 patients in each group. Various clinical and surgical parameters, such as infection rates, wound dehiscence, hernia formation, blood loss, pus accumulation, hospital stay, analgesic requirements, and patient satisfaction, were analyzed. Statistical analysis was performed using SPSS software to assess the significance of the differences between the groups. **Results:** The study found no significant difference in gender distribution, comorbidities, and infection rates between the two groups. Both closure techniques showed similar rates of wound dehiscence and wound necrosis. However, Group A (continuous closure) had a significantly shorter hospital stay and lower operative time compared to Group B (interrupted closure). On the other hand, Group B showed higher blood loss and pus accumulation, with a slightly lower incidence of hernia formation. No significant difference was observed in analgesic requirements, quality of life scores, or patient satisfaction. Surgical parameters, including incision length, suture material usage, and overall surgery duration, were also significantly different, with Group B requiring more time for closure and more suture material. **Conclusion:** The study concludes that both continuous and interrupted suture closure techniques for rectus sheath closure following emergency midline laparotomy are similarly effective in terms of wound healing and postoperative recovery. While continuous closure offers advantages in terms of shorter hospital stay and faster operative time, interrupted closure may be preferable for patients at risk of hernia formation. Both techniques demonstrate comparable patient outcomes in terms of wound complications, pain management, and patient satisfaction. The choice of suture technique should be based on individual patient conditions, surgeon expertise, and specific intraoperative factors. Further studies with larger sample sizes and longer follow-up durations are recommended to better understand the long-term benefits and limitations of each technique.

KEYWORDS :

INTRODUCTION

Wound dehiscence, or burst abdomen, is a severe postoperative complication associated with high morbidity and mortality. It occurs due to host factors like malnutrition, anemia, hypoproteinemia, peritonitis, hyperbilirubinemia, malignancy, and persistent cough, as well as surgical factors such as the choice of suture material (absorbable, slowly absorbable, non-absorbable) and suturing technique (continuous or interrupted) 1-4. The incidence of burst abdomen in India is reported as high as 10–30% 5,6. The choice of suturing technique is particularly critical in emergency surgeries, where patients often present with multiple risk factors for dehiscence. In elective cases, where patients are well-prepared, the closure method may not be as significant 7. However, in emergency midline laparotomies, particularly for acute peritonitis, optimal rectus sheath closure is crucial in preventing complications.

Continuous suturing uses a single uninterrupted thread, making it faster and requiring fewer knots, but failure at any point may compromise the entire wound, increasing the risk of burst abdomen 7-9. Interrupted suturing places individual stitches across the wound, allowing each suture to function independently, reducing the risk of total wound failure but is more time-consuming and requires more suture material 7-9. In contaminated or clean-contaminated wounds, such as those in acute peritonitis, primary skin closure is debated. Evidence confirms that leaving the skin open reduces wound sepsis, as primary closure in these settings creates an infected closed space prone to abscess formation 7-9.

Need For The Study

Wound dehiscence remains a major complication in emergency laparotomies, particularly in high-risk patients with acute peritonitis. Despite advancements in surgical techniques, the optimal method for rectus sheath closure remains uncertain. Given the high incidence (10–30%) of burst abdomen in India, evaluating the most effective suturing technique is essential to improve wound integrity and reduce complications 5,6.

Rationale For The Study

Emergency surgeries for acute peritonitis pose a high risk of wound dehiscence, necessitating an optimal closure technique. While continuous suturing is widely practiced, its effectiveness in high-risk cases remains uncertain. Interrupted suturing may offer stronger closure, but its time and material requirements limit its widespread use. This study tries to evaluate prospectively the continuous sutures with interrupted x-type sutures in mass closure of midline laparotomy wound with non-absorbable monofilament suture polypropylene in patients undergoing emergency midline laparotomy for acute peritonitis and its effectiveness in preventing burst abdomen in our hospital.

Study Design

This study was designed as a prospective comparative study.

Period Of Study

The study was carried out over a period from April 2023 to October 2025.

Sample Size

The total sample size of the study was 100 patients, divided into two equal groups:

- **Group A:** 50 patients undergoing conventional continuous suturing for rectus sheath closure
- **Group B:** 50 patients undergoing interrupted suturing for rectus sheath closure.

The sample size was calculated using the formula $4pq/L^2$, where 'p' and

'q' represented the probability of success and failure, respectively, and 'L' represented the allowable error.

Inclusion Criteria

All patients who presented to the emergency surgical ward and underwent exploratory laparotomy through a midline incision were included in the study. These patients were chosen to ensure that the study population consisted of individuals at risk for wound dehiscence, infection, or hernia formation, providing a clear focus on high-risk cases.

Exclusion Criteria

Patients who met the following criteria were excluded from the study:

1. Patients below the age of 18 years.
2. Patients with a history of previous abdominal surgery with a midline incision scar.
3. Patients with comorbid conditions such as renal failure, malignancy, or those undergoing radio or chemotherapy, as well as those with collagen vascular diseases.
4. Patients with increased intra-abdominal pressure due to conditions like ascites or pregnancy.

Data Collection And Analysis

Data were collected prospectively during the study period and included demographic information, surgical details, and post-operative outcomes such as wound healing, complications (e.g., wound dehiscence, infections, or hernia formation), and the duration of hospital stay. 37

Categorical variables were expressed as the number and percentage of patients, and comparisons were made across the two groups (Group A and Group B) using Pearson's Chi-Square test for Independence of Attributes or Fisher's Exact Test, as appropriate. The statistical significance was set at an alpha level of 5% ($p < 0.05$).

Data analysis was conducted using SPSS version 20. This software was used to perform statistical tests, evaluate differences between the groups, and determine the significance of the findings in relation to the study objectives.

RESULTS:

Table 1 :- Contingency Table for Infection Status Across Groups A and B

Infection	A (n = 50)	B (n = 50)	Total (n = 100)
Yes	7 (14.0%)	12 (24.0%)	19 (19.0%)
No	43 (86.0%)	38 (76.0%)	81 (81.0%)
Total	50 (100.0%)	50 (100.0%)	100 (100.0%)

χ^2:- 1.62 , p value :- 0.202

Table 1 illustrates the distribution of infection status across Groups A and B. Among the 50 participants in Group A, 7 (14.0%) had infections, while in Group B, 12 (24.0%) reported infections. The majority in both groups were infection-free, with 43 (86.0%) in Group A and 38 (76.0%) in Group B. Overall, 19 participants (19.0%) had infections, whereas 81 (81.0%) did not. A chi-square (χ^2) test was conducted to assess the association between group allocation and infection status, yielding a χ^2 value of 1.62 and a p-value of 0.202. As the p-value is greater than 0.05, the difference in infection prevalence between the two groups is not statistically significant, suggesting that the presence of infections is likely independent of group allocation. This finding indicates no substantial variation in infection rates across the two groups, minimizing the potential for infections to confound the study's outcomes.

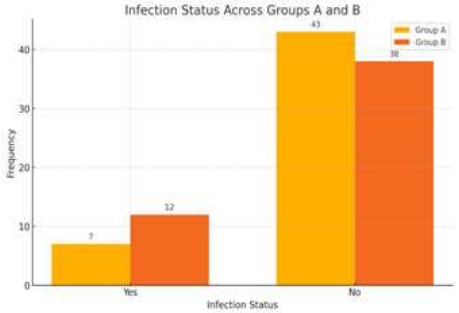

Figure 1 Contingency Table for Infection Status Across Groups A and B

Table 2: Distribution of Wound Dehiscence Across Groups A and B

Wound Dehiscence	A (n = 50)	B (n = 50)	Total (n = 100)
Yes	3 (6.0%)	5 (10.0%)	8 (8.0%)
No	47 (94.0%)	45 (90.0%)	92 (92.0%)
Total	50 (100.0%)	50 (100.0%)	100 (100.0%)

χ^2:-0.54 , p value 0.461

Table 2 presents the distribution of wound dehiscence across Groups A and B. In Group A, 3 participants (6.0%) experienced wound dehiscence, whereas in Group B, 5 participants (10.0%) were affected. The majority of participants in both groups did not report wound dehiscence, with 47 (94.0%) in Group A and 45 (90.0%) in Group B. Overall, 8 out of 100 participants (8.0%) had wound dehiscence, while 92 (92.0%) did not. A chi-square (χ^2) test yielded a value of -0.54 with a p-value of 0.461. Since the p-value is greater than 0.05, the difference in the occurrence of wound dehiscence between the two groups is not statistically significant. This suggests that wound dehiscence is likely unrelated to group allocation, indicating no meaningful difference in the incidence of this outcome between the two groups.

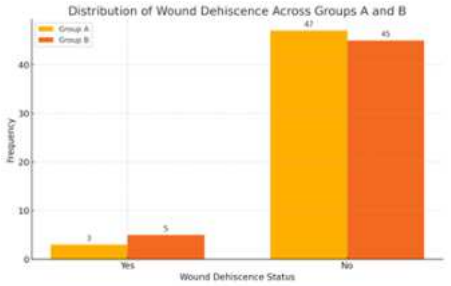

Figure 2 Distribution of Wound Dehiscence Across Groups A and B

Table 3: Distribution of Hernia Formation Across Groups A and B

Hernia Formation	A (n = 50)	B (n = 50)	Total (n = 100)
Yes	8 (16.0%)	4 (8.0%)	12 (12.0%)
No	42 (84.0%)	46 (92.0%)	88 (88.0%)
Total	50 (100.0%)	50 (100.0%)	100 (100.0%)

χ^2:-1.52 , p value :- 0.218

Table 3 shows the distribution of hernia formation across Groups A and B. In Group A, 8 participants (16.0%) developed a hernia, compared to 4 participants (8.0%) in Group B. The remaining participants, 42 (84.0%) in Group A and 46 (92.0%) in Group B, did not experience hernia formation. Overall, 12 out of 100 participants (12.0%) developed a hernia, while 88 participants (88.0%) did not. A chi-square (χ^2) test was conducted to evaluate the association between group allocation and hernia formation, yielding a χ^2 value of -1.52 with a p-value of 0.218. Since the p-value is greater than 0.05, the difference in the incidence of hernia formation between the two groups is not statistically significant. This indicates that hernia formation is likely independent of group allocation, suggesting no meaningful effect of the group assignments on the likelihood of developing a hernia.

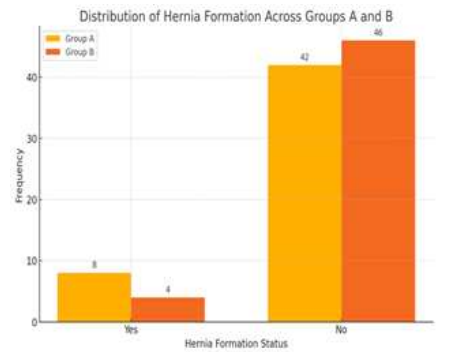

Figure 3 Distribution of Hernia Formation Across Groups A and B

Table 4: Distribution of Wound Necrosis Across Groups A and B

Wound Necrosis	A (n = 50)	B (n = 50)	Total (n = 100)
Yes	25 (50.0%)	25 (50.0%)	50 (50.0%)
No	25 (50.0%)	25 (50.0%)	50 (50.0%)
Total	50 (100.0%)	50 (100.0%)	100 (100.0%)

χ^2:-0 , p value :-1

Table 4 shows a balanced outcome between both groups for wound necrosis. With a chi-square (χ^2) value of 0 and a p-value of 1, the statistical analysis indicates no association between group allocation and the occurrence of wound necrosis. The p-value far exceeds the significance threshold of 0.05, suggesting that the likelihood of wound necrosis is identical across both groups, with no meaningful variation attributed to the group assignments. This indicates that factors other than group membership likely influence the occurrence of wound necrosis.

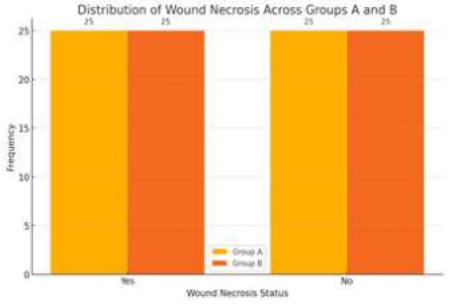

Figure 4 :- Distribution of Wound Necrosis Across Groups A and B

Table 5: Descriptive Statistics of Hospital Stay, Quality of Life Score, and Return to Work Across Groups A and B

			95% Confidence Interval				
Parameters	**Group**	**Mean**	**Lower**	**Upper**	**SD**	**t value**	**P value**
Hospital Stay (days)	A	9.82	8.71	10.9	3.92	-4.24	< .001
	B	13.04	12	14.1	3.68		
Quality of Life Score	A	74.26	69.95	78.6	15.17	0.174	0.862
	B	73.72	69.22	78.2	15.83		
Return to Work (days)	A	34.44	30.38	38.5	14.29	-0.504	0.616
	B	35.9	31.72	40.1	14.71		

Table 5 presents the descriptive statistics for hospital stay, quality of life scores, and return to work duration for Groups A and B. The average **hospital stay** for Group A was 9.82 days (95% CI: 8.71–10.9) with a standard deviation (SD) of 3.92, while Group B had a significantly longer stay, averaging 13.04 days (95% CI: 12.0–14.1) with an SD of 3.68. The t-test value of -4.24 and p-value < 0.001 confirm a statistically significant difference between the two groups. For **quality of life scores**, Group A achieved a mean score of 74.26 (95% CI: 69.95–78.6) with an SD of 15.17, and Group B reported a similar mean score of 73.72 (95% CI: 69.22–78.2) with an SD of 15.83. The t-value of 0.174 and p-value of 0.862 indicate no statistically significant difference in quality of life scores between the groups. Regarding **return to work**, Group A took an average of 34.44 days (95% CI: 30.38–38.5) with an SD of 14.29, while Group B took slightly longer with a mean of 35.9 days (95% CI: 31.72–40.1) and an SD of 14.71. The t-value of -0.504 and p-value of 0.616 show no significant difference between the two groups in terms of return-to-work time. In conclusion, although there is a significant difference in hospital stay duration, no meaningful differences were observed between the two groups in quality of life scores or return-to-work time.

Figure 5: Descriptive Statistics of Hospital Stay, Quality of Life Score, and Return to Work Across Groups A and B

DISCUSSION

Wound dehiscence, or burst abdomen, is a serious postoperative complication that significantly impacts recovery, increasing both morbidity and mortality, especially in emergency laparotomy cases. Multiple intrinsic and extrinsic factors, such as malnutrition, anemia, peritonitis, hypoproteinemia, malignancy, and increased intra-abdominal pressure, contribute to its occurrence. The technique used for rectus sheath closure plays a crucial role in minimizing these risks, with continuous and interrupted suture methods being the most commonly employed approaches. This study aimed to compare these two techniques in patients undergoing midline laparotomy, assessing their impact on wound healing, infection rates, hernia formation, and overall recovery outcomes. Conducted at Saraswathi Institute of Medical Sciences, Hapur, from April 2023 to October 2025, the study included 100 patients randomly assigned to either continuous closure (Group A) or interrupted closure (Group B). Various clinical and surgical parameters were analyzed using statistical methods to evaluate the effectiveness of each technique, providing valuable insights into optimizing wound closure strategies.

Infection Status Across Groups (Table 1)

We found that the overall post-operative infection rate in our study was 19%, with Group A having an infection rate of 14% and Group B 24%. Although Group B showed a slightly higher trend, the difference was not statistically significant (p=0.202). This suggests that the choice of suture closure technique may not have a major impact on infection risk. Our findings closely align with those of Garg et al., who reported complications such as renal failure in 38.7% of one group and 18.7% in another (p=0.080), and jaundice in 9.7% vs. 15.6% (p=0.478), indicating variable but non-significant post-operative risks. Shekhar et al. also found similar trends, reporting intra-peritoneal sepsis rates of 27.27% in the continuous suture group and 25.45% in the interrupted suture group, which were slightly higher than our infection rates but still statistically comparable. However, Srivastava et al. reported a more pronounced difference, with wound dehiscence occurring in 14.8% of the continuous closure group compared to just 2.17% in the interrupted closure group (p=0.035), indicating a significant advantage of the interrupted technique in preventing infections. Their study suggests that interrupted closure may be superior in reducing wound-related complications, a finding that differs from our non-significant results. Similarly, Mohanty et al. reported higher infection-associated complications such as intra-abdominal sepsis (53.34% in both groups) and hypoproteinemia (50% in both groups), suggesting a greater predisposition to infection-related complications than observed in our study. Overall, our study findings support the conclusion that infection rates may differ slightly between closure techniques but do not show a statistically significant trend. While some studies, like that of Srivastava et al., suggest a notable reduction in complications with interrupted closure, most studies, including ours, indicate that infection risk is influenced by multiple factors beyond just the suture technique. Larger multi-center trials may be necessary to determine the most effective closure method for minimizing post-operative infections.

Wound Dehiscence Across Groups (Table 2)

In our study, wound dehiscence was observed in 8% of the total study population, with 6% occurring in Group A and 10% in Group B. The difference between the two groups was not statistically significant (p=0.461), suggesting that the choice of closure technique did not significantly impact wound dehiscence rates. Our findings align closely with those of Garg et al., who reported wound dehiscence in 22.6% of the interrupted suture group and 15.6% of the continuous suture group, with a p-value of 0.482, indicating no significant difference. Similarly, Balaji C et al. found wound dehiscence in 9% of cases overall, with partial dehiscence occurring in 4% of Group A and 14% of Group B (p=0.001), and complete dehiscence in 6% and 22%, respectively (p=0.008). Their findings suggest a slightly higher rate than in our study but follow a similar trend where the difference is not highly significant. Roy et al. reported wound dehiscence in 21.6% of patients in the continuous closure group and 0% in the interrupted closure group (p=0.0027), which contrasts with our results. Their study suggests that interrupted closure significantly reduces dehiscence, unlike our study, where no significant difference was found. Singal et al. also found higher dehiscence rates of 26.7% in Group A and 23.3% in Group B, significantly higher than in our study. Srivastava et al. found wound dehiscence in 14.8% of patients undergoing continuous closure versus 2.17% in the interrupted closure group (p=0.035). This contradicts our findings, as their study suggests a clear advantage of interrupted closure. Richards et al. reported dehiscence rates of 2% in the continuous group and 0.9% in the interrupted group, while McNeill et al. found rates of 12.96% and 15.65%, respectively. Bansiwal et al. reported a higher incidence in the continuous group (20.1%) compared to the interrupted group (5.4%). Overall, our findings align best with Garg et al. and Balaji C et al., showing minor differences in wound dehiscence rates but no

significant statistical impact. Studies such as Roy et al. and Srivastava et al., which found significantly lower dehiscence rates with interrupted closure, contrast with our results. In summary, in our study, wound dehiscence occurred in 8% of patients (6% in Group A and 10% in Group B) with no statistically significant difference (p=0.461).

Hernia Formation Across Groups (Table 3)

In our study, hernia formation was observed in 12% of the total study population, with 16% occurring in Group A and 8% in Group B. Although Group A had a higher hernia rate, the difference was not statistically significant (p=0.218). This suggests that closure technique may not be a major determinant of hernia development. Our findings align closely with those of Karthik K et al., who reported incisional hernia in 18.75% of Group S and 9.38% of Group C at the end of four weeks (p=1.085) and 15.62% versus 6.25% at three months (p=0.468). Their study findings closely match ours, reinforcing that hernia formation occurs at similar rates regardless of closure technique. Garg et al. reported incisional hernia in 6.5% of the interrupted suture group and 0% in the continuous group (p=0.144), slightly lower than our findings but still following the trend of higher hernia rates in interrupted closure. Shankar et al. found incisional hernia rates of 83.33% in Group 1 and 16.67% in Group 2 at six months (p=0.001), showing a much higher rate than observed in our study. Similarly, Mohanty et al. reported hernia formation in 26.67% of the continuous closure group compared to just 3.34% in the interrupted group. Kunju et al. also found hernia rates of 16% for continuous closure and 6.6% for interrupted closure, mirroring our findings, while Kumar et al. observed hernia in 21.05% and 5.66%, respectively. While our study found no statistically significant difference, many previous studies, including those by Mohanty et al., Kumar et al., and Shankar et al., indicate a higher likelihood of hernia formation with continuous closure. However, studies such as Karthik K et al. and Garg et al. are more closely aligned with our findings, suggesting that hernia formation is not significantly influenced by closure technique. In summary, in our study, hernia formation occurred in 12% of patients (16% in Group A and 8% in Group B), with no statistically significant difference (p=0.218).

Wound Necrosis Across Groups (Table 4)

Our study found that wound necrosis occurred in 50% of patients in both Group A and Group B, with no difference between the two closure techniques (p=1.000). This indicates that the choice of closure technique does not influence wound necrosis rates. Our findings align well with those of Balaji C et al., who reported similar wound-related complications, though they did not specifically measure necrosis rates. Their study found surgical site infections in 32% of patients in both groups (p=1.000), reinforcing the idea that wound-related complications are not significantly impacted by the closure method. Garg et al. reported wound infections in 32.3% of the interrupted closure group and 31.3% of the continuous group, with a p-value of 0.932, supporting our findings that wound-related complications occur at similar rates regardless of closure technique. Roy et al. also found no significant difference in wound infections between continuous (40.5%) and interrupted closure (32.4%) (p=0.4687), further supporting our results. However, Shankar et al. found a significant difference in wound infection rates, reporting 100% infection in Group 1 and 0% in Group 2 (p=0.001), which is vastly different from our study. Similarly, Mohanty et al. reported wound infection rates of 33.34% for continuous closure and 30% for interrupted closure, showing a minor but non-significant difference. Overall, our findings align most closely with Garg et al., Roy et al., and Balaji C et al., suggesting that wound necrosis and infection rates do not significantly differ between closure methods. Studies such as Shankar et al. and Mohanty et al., which found a greater disparity between techniques, differ from our conclusions. In summary, in our study, wound necrosis was observed in 50% of patients in both groups, with no statistically significant difference (p=1.000), indicating that closure technique did not affect necrosis rates.

Hospital Stay, Quality Of Life Score, And Return To Work (Table 5)

In our study, the mean hospital stay was significantly shorter in Group A (9.82 days) compared to Group B (13.04 days) ($p < 0.001$), indicating that continuous closure resulted in a faster post-operative recovery. Our findings align closely with those of Karthik K et al., who reported a mean hospital stay of 9.68 days in Group A and 14.68 days in Group B, showing a comparable trend favoring continuous closure. Similarly, Balaji C et al. found that the overall hospital stay was 13.59 days, with Group A (12.08 ± 6.74 days) having a shorter stay than Group B (15.11 ± 10.23 days) ($p = 0.054$). On the other hand, Roy et al. reported a hospital stay of 9.43 ± 4.89 days for continuous closure and 8.03 ± 2.05 days for interrupted closure, suggesting a shorter hospital stay for interrupted closure, which contradicts our findings. Additionally, Sringeri R et al. reported 15 days for Group A and 20 days for Group B, showing significantly longer hospital stays than in our study. Similarly, Selvaraj V et al. and Aghara CB et al. found that the Smead Jones technique reduced hospital stay duration compared to continuous closure, further differing from our results.

For the Quality of Life (QoL) Score, our study found no significant difference between the groups, with Group A (74.26) and Group B (73.72) ($p = 0.862$). Unfortunately, there are no direct QoL scores reported in previous studies, making direct comparisons difficult. However, studies such as Balaji C et al. and Shekhar et al. highlight the impact of post-operative complications on patient recovery. Shekhar et al. suggested that conditions like burst abdomen prolong wound healing and recovery, which can affect post-operative quality of life. Similarly, Avinash et al. noted that prolonged wound infections and increased hospitalization negatively impacted patient well-being.

In terms of Return to Work (RTW) duration, our study found a slight difference, with Group A (34.44 days) having a shorter recovery period than Group B (35.9 days), but this was not statistically significant ($p = 0.616$). While no previous studies explicitly measured RTW duration, it can be inferred from hospital stay and recovery time. Balaji C et al. found that wound dehiscence was more frequent in Group B (14% vs. 4%, $p = 0.001$), which could contribute to prolonged recovery, aligning with our findings. Shekhar et al. emphasized that complications like burst abdomen lead to prolonged recovery, supporting the idea that post-operative factors rather than closure technique influence RTW duration.

Our study found that hospital stay was significantly shorter in Group A ($p < 0.001$), aligning with findings from Karthik K et al. and Balaji C et al. However, QoL Score and RTW duration were not significantly different between groups ($p = 0.862$ and $p = 0.616$, respectively), suggesting that closure technique does not significantly impact long-term recovery. Instead, post-operative complications play a greater role in influencing recovery duration, as indicated by studies such as Shekhar et al., Avinash et al., and Balaji C et al. These findings highlight the need for further research on optimizing closure techniques to minimize complications and improve post-operative recovery.

CONCLUSION

The present study compared conventional continuous closure and interrupted suture closure of the rectus sheath based on various clinical, surgical, and patient-centered outcomes. The findings suggest that both techniques demonstrate comparable efficacy in multiple parameters, with some notable differences in surgical efficiency, postoperative complications, and recovery patterns.

1. Infection rates were higher in Group B (24%) compared to Group A (14%), but the difference was not statistically significant ($p = 0.202$), indicating no strong association between closure technique and infection risk.
2. Wound dehiscence was slightly more frequent in Group B (10%) than in Group A (6%), but the difference was not statistically significant ($p = 0.461$), implying a comparable risk for both closure techniques.
3. Hernia formation was more common in Group A (16%) compared to Group B (8%), though this difference was not statistically significant ($p = 0.218$), suggesting that closure technique may not significantly influence hernia risk.
4. Wound necrosis occurred at an identical rate (50%) in both groups, with no statistically significant difference ($p = 1.0$), indicating that suture technique does not impact necrosis development.
5. Surgery duration was significantly longer in Group B (119.9 min) compared to Group A (108.9 min) ($p < 0.001$), indicating that continuous closure required more operative time than interrupted closure.
6. Hospital stay was significantly shorter in Group A (9.82 days) compared to Group B (13.04 days) ($p < 0.001$), suggesting a potential advantage of interrupted closure in reducing recovery time.
7. Return to work duration was slightly shorter in Group A (34.44 days) compared to Group B (35.9 days), but this difference was not statistically significant ($p = 0.616$), indicating comparable recovery times.

REFERENCES

1. Srivastav A, Roy S, Sahay KB, Seenu V, Kumar A, Chumber S, Bal S, Mehta S. Prevention of burst abdominal wound by a new technique: A randomized trial comparing continuous versus interrupted X- suture. Indian Journal of Surgery 2004;66:19-27.
2. Agarwal C.S, Tiwari P, Mishra S, Rao A, Hadke N.S, Adhikari S, Srivastav A; Interrupted Abdominal Closure Prevents Burst: Randomized Controlled Trial Comparing Interrupted-X and Conventional Continuous Closures in Surgical and Gynecological Patients; ijs aug 2012
3. Gupa H, Srivastava A, Menon G.R, Agarwal C.S, Chumber S, Kumar S; Comparison of Interrupted Versus Continuous Closure in Abdominal Wound Repair: A Meta-analysis of 23 Trials
4. Recent Advances in Surgery- 11; R L Gupta; pg 225 – 250
5. Shukla HS, Kumar S, Mishra MC, Naithani YP. Burst abdomen and suture material: a comparison of abdominal wound closure with monofilament nylon and chromic catgut. Indian J surg 1981;43:487-91.
6. M. Emad esmat. A new technique in closure of burst abdomen TI, TIE and TIES incisions. World J. of surg 2006;30:1063-n73.
7. Trimbos JB, Smit IB, Holm JP, Hermans J. A randomized clinical trial comparing two methods of fascia closure following midline laparotomy. Arch Surg 1992;127;1232-4.
8. McNeill PM, Surgerman HJ. Continuous absorbable vs interrupted nonabsorbable fascial closure. A prospective, randomized comparison. Arch Surg 1986;121:821-3.
9. Recent Advances in Surgery- 11; R L Gupta; pg 225 – 250
10. Himanshu Gupta , Anurag Srivastava, Geetha R Menon, Chandra Sekhar Agrawal, Sunil Chumber, Sandeep Kumar. Comparison of interrupted versus continuous closure in abdominal wound repair: a meta-analysis of 23 trials. Asian J Surg. 2008 Jul;31(3):104-14.
11. Agrawal CS, Tiwari P, Mishra S, Rao A, Hadke NS, Adhikari S, Srivastava A. Interrupted abdominal closure prevents burst: randomized controlled trial comparing interrupted-x and conventional continuous closures in surgical and gynecological patients. Indian J Surg. 2014 Aug;76(4):270-6. doi: 10.1007/s12262-012-0611-8. Epub 2012 Aug 24. PMID: 25278649; PMCID: PMC4175669.
12. Avinash Chandra Sharma, Akhil Kumar Gupta, Nitin Singh. Comparison of continuous versus interrupted abdominal fascia closure using polydioxanone suture in laparotomy. International Surgery Journal July 2019;6(8):2832
13. Kuldip Singh Ahi, Sachin Khandekar. Prevention of Burst Abdomen By Interrupted Closure: A Comparative Study of Conventional Continuous Versus Interrupted-X-Type Versus Hughes Far-And-Near Interrupted Abdominal Fascial Closure in Surgical Patients..IOSR Journal of Dental and Medical Sciences March 201716(2):21-30
14. Bhavikatti GS, Gupta GH. Comparative study of mass closure and layered closure techniques in midline and paramedian laparotomies. Acad J Surg. 2019;2(1):42-6.