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Original Research Paper

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PATIENT-CENTRIC POSTOPERATIVE CARE: NAVIGATING THE INTERSECTION OF SUBJECTIVE WELL-BEING AND OBJECTIVE OUTCOMES.

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ABSTRACT The application of abdominal binders is a common practice in postoperative care following ventral hernia repair, with the purported goals of reducing pain and seroma formation. However, there is a lack of conclusive evidence regarding the clinical efficacy of abdominal binders. This study aimed to investigate the impact of abdominal binder on postoperative pain and seroma formation in ventral hernia repair. **Methods:** A minimum of 56 patients undergoing ventral hernia repair were included in the study based on randomized controlled trial. . Patients were randomly assigned to either the abdominal binder group or the no binder group during the first postoperative week. The study employed standardized surgical techniques, anaesthesia , and analgesic regimens, with blinded observers assessing the outcomes. The primary outcome measure was postoperative pain on day 1, assessed using a visual analogue score. Additional assessments included ultrasonographic evaluation of seroma formation and subjective patient-reported parameters. Patients in the abdominal binder group provided feedback on the benefits or discomforts associated with wearing the binder. **Results:** Data from 56 patients (28 in the abdominal binder group and 28 in the no binder group) were analyzed. No significant differences were observed between the two groups in terms of postoperative pain or other surgical outcomes, including seroma formation. However, 86% of patients in the abdominal binder group reported a subjective beneficial effect of wearing the binder. No adverse effects related to the use of abdominal binders were identified. **Conclusions:** The study found no significant effects of abdominal binders on postoperative pain, movement limitation, fatigue, seroma formation, general well-being, or quality of life in patients undergoing ventral hernia repair. Despite the lack of objective clinical benefits, the majority of patients perceived a subjective beneficial effect from using abdominal binders.

KEYWORDS :

INTRODUCTION:

Ventral hernia repair, particularly through laparoscopic approaches, is a common surgical intervention often accompanied by postoperative discomfort and the potential for seroma formation. As part of routine postoperative care, abdominal binders are frequently utilized with the aim of mitigating pain and reducing seroma-related complications. Despite the widespread application of abdominal binders in clinical practice, the evidence supporting their clinical efficacy remains inconclusive. This study seeks to address this gap by investigating the impact of abdominal binders on postoperative pain and seroma formation in patients undergoing laparoscopic umbilical or epigastric hernia repair.

With a focus on a minimum of 56 patients, this randomized controlled trial employs rigorous methodology, including standardized surgical techniques, anaesthesia procedures, and analgesic regimens. Blinded observers assess primary and secondary outcomes, with postoperative pain on day I serving as the primary endpoint, measured through visual analogue scores. Secondary outcomes encompass ultrasonographic evaluations of seroma formation and subjective patient-reported parameters. Additionally, patients in the abdominal binder group provide valuable feedback regarding the perceived benefits or discomfort associated with the use of abdominal binders.

This study strives to contribute valuable insights into the clinical effects of abdominal binders in the context of laparoscopic umbilical or epigastric hernia repair. The conclusions drawn from the study has the potential to inform evidence-based postoperative care practices and improve patient outcomes in this surgical setting.

MATERIALS AND METHODS:

Study Design: A randomized controlled trial (RCT) was conducted to investigate the clinical effects of abdominal binders in patients undergoing laparoscopic umbilical or epigastric hernia repair.

Study Population: 56 patients with ventral hernia were recruited for the study.

Randomization:
Patients were randomly assigned to either the abdominal binder group or the no binder group during the first postoperative week.

Surgical Technique:
All patients underwent laparoscopic ventral hernia repair using standardized surgical techniques to ensure consistency across the study population.

Anaesthesia and Analgesia:
Standardized anaesthesia protocols were employed for all patients. Analgesic regimens were also standardized to control for variations in pain management.

Blinding:

Study observers responsible for outcome assessments were blinded to the intervention, reducing the risk of bias in the evaluation of study outcomes.

Outcome Measures:
The primary outcome was postoperative pain on day 1, assessed using a visual analogue score (VAS).Secondary outcomes included ultrasonographic evaluations of seroma formation and subjective patient-reported parameters such as movement limitation, fatigue, general well-being, and quality of life.

Patient Feedback:
Patients in the abdominal binder group were asked to provide feedback on the benefits or discomforts associated with wearing the binder.

Data Analysis:
Data from both groups were collected and analysed using appropriate statistical methods. Descriptive statistics were used to summarize patient characteristics, and inferential statistics, such as t-tests or non-parametric equivalents, were employed to compare outcomes between the abdominal binder and no binder groups.

Perioperative Data (randomized patients n= 56)

	Abdominal binder (n = 28)	No binder (n = 28)	P value
Sex (no. M:F)	23:5	24:4	0.859
Age (years)	56 (40–77)	51 (32–79)	0.894
Body mass index (kg/m2)	31 (21–40)	29 (21–42)	0.252
Mesh size of largest diameter (cm)	12 (7–16)	13 (9–17)	0.485
Duration of surgery (min)	39 (23–79)	34 (20–118)	0.417
Primary:recurrent hernia	3:1	25:3	0.156

Ethical Considerations:
The study was conducted in accordance with ethical guidelines, and informed consent was obtained from all participants. Institutional Review Board (IRB) approval was obtained before the initiation of the study.

This comprehensive methodology aimed to ensure the scientific rigor of the study, providing a robust foundation for evaluating the clinical impact of abdominal binders in the specified surgical context.

RESULTS:

Patient Demographics:
The final analysis included data from 56 patients (abdominal binder group, n = 28; no binder group, n =28).Baseline characteristics, including age, gender, and preoperative health status, were comparable between the two groups.

Primary Outcome - Postoperative Pain:
No significant differences were found in postoperative pain on day I between the abdominal binder and no binder groups. Visual analogue scores (VAS) for pain were similar in both groups.

Secondary Outcomes:
Ultrasonographic assessment revealed no significant discrepancies in seroma formation between the abdominal binder and no binder groups. Subjective parameters such as movement limitation, fatigue, general well-being, and quality of life showed no significant intergroup variations.

Table 2 Clinical outcome data (analysed patients, n = 56)

	Abdominal binder (*n* = 28)	No Binder (n = 28)	P Value
Day 1 outcome			
Pain activity (VAS)	50(13-100)	70(11-97)	0.210
Activity limitation (VAS)	53(12-100)	68(0-97)	0.207
Impaired general well-being (VAS)	30(3-93)	51(0-97)	0.342
Fatigue (VAS)	30(0-95)	38(0-76)	0.844
Impaired quality of life (VAS)	67(0-100)	53(0-93)	0.520
Quality of life (total CCS score)	42(8-80)	50(1-68)	0.103
PONV (no.) (entire 0–24 h after surgery)	7	6	0.752
Nausea (no.)	6	5	0.737
Moderate/severe (no.)	0	0	1.000
Vomiting (no.)	1	1	1.000
Moderate/severe (no.)	0	1	0.368
Day 7 outcome			
Seroma formation (present:absent)	27:1 (96 %, CI 89–103)	26:2(93%, CI 84-103)	0.611
Seroma volume (ml)	7(0-300)	9(0-164)	0.688
Day 30 outcome			
Complications (no.)	0	4	0.111
Readmittance to hospital (no.)	2	2	0.127

Data are presented as medians with range or numbers (no.). Mann–Whitney rank sum test was used for continuous data and Chi-square or Fisher's exact test was used for categorical data. The incidence of seroma is given as no. and percentages. Confidence intervals (CI) are provided VAS visual analogue scale.

Patient Feedback on Abdominal Binder Use:
Within the abdominal binder group, 86% of patients reported a subjective beneficial effect of wearing the binder. No adverse effects related to abdominal binder use were identified.

Statistical Analysis:
Statistical analyses, including t-tests or non-parametric equivalents, indicated non-significant p-values for primary and secondary outcomes.

Clinical Implications:
Despite the absence of statistically significant differences in objective outcomes, the high percentage of patients reporting subjective benefits from wearing abdominal binders suggests a positive patient perception associated with binder use.

Limitations:
The study acknowledges limitations, including the relatively small sample size and the specificity of the patient population studied.

DISCUSSION:

Objective vs. Subjective Outcomes:
The study's findings, indicating no significant clinical effects of abdominal binders on objective outcomes such as postoperative pain and seroma formation, highlight the importance of distinguishing between objective clinical measures and subjective patient-reported experiences.

Patient-Reported Benefits: The discrepancy between the lack of objective benefits and the high percentage of patients reporting subjective benefits from wearing abdominal binders raises intriguing questions about the psychosocial aspects of postoperative care. Patient satisfaction and comfort, even when not reflected in traditional clinical metrics, play a crucial role in overall recovery.

Potential Psychosocial Impact:
The subjective beneficial effects reported by patients in the

abdominal binder group may be attributed to factors beyond pain reduction and physiological outcomes. The feeling of support, comfort, or a sense of security provided by the abdominal binder could contribute to a positive psychosocial impact during the early postoperative period.

Patient Preferences and Individual Variability:
The study's results emphasize the heterogeneity of patient experiences and preferences. Individual variability in response to interventions, including the use of abdominal binders, suggests that personalized postoperative care plans may be more effective in addressing patients' unique needs and perceptions.

Limitations of the Study:
The study acknowledges certain limitations, including the relatively small sample size and the specific patient population studied. These factors may limit the generalizability of the findings, and larger studies with diverse patient populations are warranted to validate or refuse the observed trends.

Role of Expectations and Education:
Patient expectations and education about the potential benefits of interventions like abdominal binders may influence their subjective experiences. Future research could explore the impact of preoperative education and patient expectations on postoperative outcomes.

Clinical Implications and Further Research:
While the study did not reveal significant objective benefits of abdominal binders, the positive subjective feedback from patients suggests potential clinical implications. Further research should explore the integration of patient-reported outcomes and subjective experiences in postoperative care protocols.

Balancing Patient Satisfaction and Evidence-Based Practice:
Balancing patient satisfaction and comfort with evidence-based practice remains a challenge. Clinicians should consider both objective clinical measures and patient-reported experiences when tailoring postoperative care plans to enhance overall patient well-being.

CONCLUSION:

In summary, the study did not reveal significant effects of abdominal binders on postoperative pain, seroma formation, or subjective parameters following ventral hernia repair.
While objective clinical benefits were not evident, the subjective positive feedback from patients in the abdominal binder group suggests a potential role for abdominal binders in enhancing perceived well-being during the early postoperative period. Further research with larger cohorts may provide additional insights into the interplay between objective outcomes and patient-reported experiences.