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Drains Out: Rethinking Routine in Abdominal Surgery

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Introduction

The routine use of surgical drains in clean abdominal procedures is increasingly being re-evaluated due to growing evidence suggesting they may not always be necessary and can, in some instances, be associated with increased risks such as infection or prolonged hospital stays. This paradigm shift encourages surgeons to adopt a more selective approach, moving away from a one-size-fits-all strategy and basing decisions on specific operative factors and patient characteristics to optimize outcomes and reduce potential complications [1].

Prophylactic surgical drains after laparoscopic cholecystectomy have been examined, with studies finding no significant benefit in terms of reducing complications or improving patient recovery. In uncomplicated cases, omitting drains can streamline the surgical process and potentially reduce healthcare costs without compromising safety, supporting a trend towards more judicious drain use [2].

A systematic review and meta-analysis investigating the impact of drain placement on surgical site infections (SSIs) in clean and contaminated abdominal surgery indicated a potential association between drain use and an increased risk of SSIs, particularly with prolonged drain dwell times. This research underscores the importance of selecting appropriate patients for drain placement and removing them promptly when no longer indicated [3].

The historical context and evolution of surgical drain usage in general surgery reveal that current evidence challenges traditional beliefs about the routine need for drains. The development of minimally invasive techniques and improved intraoperative hemostasis are factors reducing the necessity for drainage, encouraging a shift towards evidence-based decision-making regarding drain use [4].

A prospective study assessing the outcomes of patients undergoing elective ventral hernia repair with and without surgical drains found no significant difference in complication rates or hospital stay between the two groups. This suggests that drain omission is a safe and feasible option for select patients and advocates for individualized assessment to determine drain necessity [5].

A retrospective analysis of abdominal surgery patients correlating drain use with postoperative complications suggests that while drains can be beneficial in specific complex cases, their routine use in low-risk procedures may contribute to complications like incisional dehiscence and increased pain. This study reinforces the need for a nuanced approach to drain management [6].

A contemporary review discussing the evidence supporting the judicious use of surgical drains in abdominal surgery highlights that drains are not universally required and can be associated with adverse events. The authors propose criteria for selecting patients who might benefit from drainage, emphasizing that in many clean abdominal procedures, the risks associated with drains may outweigh the benefits [7].

A randomized controlled trial comparing drain versus no-drain management in patients undergoing elective colorectal surgery indicated no significant difference in the incidence of anastomotic leak, surgical site infection, or other complications between the groups. This trial provides strong evidence that routine drain use can be safely omitted in many elective colorectal procedures [8].

A clinical practice review of surgical drains in abdominal operations emphasizes the move towards evidence-based practice, advocating for a shift away from routine drain insertion towards a more individualized approach based on surgical complexity and potential for fluid accumulation. The authors discuss potential complications associated with drains, such as pain, infection, and delayed wound healing [9].

Patient-reported outcomes and their association with surgical drain use in elective abdominal surgery suggest that patients who do not have drains often report less pain and discomfort postoperatively. This highlights the importance of considering patient experience when deciding on drain necessity, advocating for omitting drains when clinically appropriate to improve overall patient satisfaction and recovery [10].

Description

The evaluation of surgical drain necessity in clean abdominal procedures reveals a growing body of evidence that challenges the routine use of drains. Many studies indicate that drains are not universally required and can, in some contexts, introduce complications such as increased infection rates or prolonged hospital stays. Therefore, a selective approach based on individual patient and procedural factors is increasingly advocated [1].

Research specifically examining prophylactic surgical drains after laparoscopic cholecystectomy has shown no significant improvement in complication reduction or patient recovery. The findings suggest that for uncomplicated cases, omitting drains can enhance procedural efficiency and potentially lower healthcare expenditures without compromising patient safety, aligning with a trend towards more conservative drain utilization [2].

Systematic reviews and meta-analyses exploring the link between drain placement and surgical site infections (SSIs) in abdominal surgery have identified a potential correlation between drain use and an elevated risk of SSIs, particularly when drains are left in place for extended periods. This emphasizes the critical need for careful patient selection for drain placement and prompt removal when drainage is no longer indicated [3].

The historical progression of surgical drain usage in general surgery demonstrates a significant evolution in practice. Contemporary evidence disputes long-held beliefs about the mandatory need for drains, attributing this shift partly to advance-

ments in minimally invasive techniques and improved intraoperative hemostasis, which collectively reduce the reliance on drainage and promote evidence-based decision-making [4].

Prospective studies on elective ventral hernia repair have compared outcomes with and without surgical drains, revealing no substantial differences in complication rates or length of hospital stay. These results support the feasibility and safety of omitting drains in certain patient populations, reinforcing the necessity of personalized assessment to ascertain drain requirements [5].

Retrospective analyses in abdominal surgery have investigated the relationship between drain usage and postoperative complications. The findings suggest that while drains may be beneficial in complex scenarios, their routine application in low-risk procedures might inadvertently lead to issues like wound dehiscence and increased postoperative pain, underscoring the need for a tailored approach to drain management [6].

Contemporary reviews on surgical drains in abdominal surgery underscore that drains are not always essential and can be linked to adverse outcomes. Recommendations are made for establishing criteria to identify patients who could benefit from drainage, with the conclusion that in many clean abdominal procedures, the potential risks of drains may outweigh their advantages [7].

Randomized controlled trials focusing on elective colorectal surgery have compared outcomes between groups managed with and without drains. The studies found no statistically significant differences in anastomotic leak rates, surgical site infections, or other complications, providing robust evidence for the safe omission of routine drains in numerous elective colorectal procedures [8].

Clinical practice reviews concerning surgical drains in abdominal operations highlight a movement towards evidence-based guidelines, advocating for a departure from routine drain insertion. Instead, an individualized strategy based on surgical complexity and the likelihood of fluid accumulation is recommended, alongside a discussion of potential drain-related complications such as pain, infection, and delayed wound healing [9].

Investigating patient-reported outcomes in elective abdominal surgery reveals that patients without drains often experience less postoperative pain and discomfort. This finding emphasizes the importance of patient experience in drain necessity decisions, advocating for drain omission where clinically appropriate to enhance overall patient satisfaction and recovery [10].

Conclusion

Current surgical practice is shifting away from the routine use of drains in clean abdominal procedures. Evidence suggests drains are often unnecessary and can increase risks like infection and prolonged hospital stays. Studies on laparoscopic cholecystectomy and ventral hernia repair show no significant benefits from routine drain use, supporting a move towards selective application. Drains have also been linked to an increased risk of surgical site infections, particularly with prolonged placement. Advancements in surgical techniques and hemostasis further reduce the need for drains. Patient-reported outcomes indicate less pain and discomfort when drains are omitted. Therefore, individualized assessment based on surgical complexity and patient factors is recommended to optimize outcomes and patient experience, moving towards evidence-based decision-making.

Acknowledgement

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Conflict of Interest

None.

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