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Contents

Weekly Volume 28 Number 3 January 21, 2022

FRONTIER

- 275 Endothelial cells and blood vessels are major targets for COVID-19-induced tissue injury and spreading to various organs
Tarnawski AS, Ahluwalia A
- 290 Eliminating viral hepatitis in children after liver transplants: How to reach the goal by 2030
Sintusek P, Thanapirom K, Komolmit P, Poovorawan Y

REVIEW

- 310 Non-alcoholic fatty liver disease and hepatocellular carcinoma: Clinical challenges of an intriguing link
Chrysavgis L, Giannakodimos I, Diamantopoulou P, Cholongitas E

MINIREVIEWS

- 332 Endoscopic ultrasound role in pancreatic adenocarcinoma treatment: A review focusing on technical success, safety and efficacy
Sbeit W, Napoléon B, Khoury T

ORIGINAL ARTICLE

Basic Study

- 348 Melatonin prevents oxidative stress, inflammatory activity, and DNA damage in cirrhotic rats
Colares JR, Hartmann RM, Schemitt EG, Fonseca SRB, Brasil MS, Picada JN, Dias AS, Bueno AF, Marroni CA, Marroni NP

Case Control Study

- 365 Microbiome changes in the gastric mucosa and gastric juice in different histological stages of *Helicobacter pylori*-negative gastric cancers
Sun QH, Zhang J, Shi YY, Zhang J, Fu WW, Ding SG

Retrospective Cohort Study

- 381 Postoperative mortality and morbidity after D2 lymphadenectomy for gastric cancer: A retrospective cohort study
Brisinda G, Chiarello MM, Crocco A, Adams NJ, Fransvea P, Vanella S

LETTER TO THE EDITOR

- 399 Prophylactic drains in totally laparoscopic distal gastrectomy: are they always necessary?
Manzia TM, Parente A, Angelico R

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Prophylactic drains in totally laparoscopic distal gastrectomy: are they always necessary?

Tommaso Maria Manzia, Alessandro Parente, Roberta Angelico

ORCID number: Tommaso Maria Manzia 0000-0002-4636-3478; Alessandro Parente 0000-0001-5506-224X; Roberta Angelico 0000-0002-3439-7750.

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Tommaso Maria Manzia, Roberta Angelico, HPB and Transplant Unit, Department of Surgery Science, University of Rome Tor Vergata, Rome 00133, Italy

Alessandro Parente, Queen Elizabeth Hospital, Liver Unit, University of Birmingham, Birmingham UK; and HPB and Transplant Unit, Department of Surgery Science, University of Rome Tor Vergata, Rome 00133, Italy

Corresponding author: Tommaso Maria Manzia, FEBS, MD, PhD, Associate Professor, HPB and Transplant Unit, Department of Surgery Science, University of Rome Tor Vergata, Viale Oxford 81, Rome 00133, Italy. tomanzia@libero.it

Abstract

Prophylactic drains have always been a useful tool to detect early complications and prevent postoperative fluid collections, particularly in gastrointestinal surgery. Recently, the utilization of such drains has been debated, due to mounting evidence that they could be harmful rather than beneficial. Based on recent published articles, Liu *et al* reported that the routine use of prophylactic drains in total laparoscopic distal gastrectomy might not be necessary for all patients. Herein, we express our opinion regarding this interesting publication.

Key Words: Gastric cancer; Prophylactic drainage; Totally laparoscopic gastrectomy; Enhanced recovery after surgery; Minimally invasive surgery; Early gastric cancer

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Core Tip: Historically, prophylactic drains have been used to prevent postoperative collections and detect complications. In recent decades, there have been increasing reports that debate their routine usage in gastrointestinal surgery. Liu *et al* have shown that prophylactic drains can be safely omitted in selected patients undergoing totally laparoscopic distal gastrectomy. In this letter to the editor, we express our opinion regarding these interesting findings.

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TO THE EDITOR

We read with great interest the study by Liu *et al*[1]. These authors analyzed the outcome of 125 patients undergoing totally laparoscopic gastrectomy for distal gastric cancer with or without prophylactic drain (PD) insertion. In this retrospective study, Liu *et al*[1] demonstrated that in patients without placement of PDs there was no increased risk of postoperative complications. Furthermore, omitting a PD was associated with greater patient comfort. Of particular note, these interesting findings were confirmed by a propensity score matched analysis of 42 patients with and without PDs.

PDs facilitate the removal of postoperative fluid, which can potentially collect and become infected. In addition, PDs can help identify early postoperative complications such as anastomotic leakage and bleeding. In recent decades, the advances in surgical care have led to an overall decrease in postoperative complications. Therefore, the need for PDs has been debated and there is mounting evidence that they may even increase the risk of complications without preventing the need for reoperation. As an example, in major procedures such as liver resection, it has been shown that PDs increased the rate of biliary leak, length of hospital stay and total complications[2]. The same outcomes were demonstrated in gastric surgery in a recent meta-analysis[3].

This is one of the few studies which highlight the issues of PDs in total laparoscopic distal gastrectomy and, interestingly, the authors identified body mass index (BMI) ≥ 29 kg/m² to be associated with a higher risk of postoperative complications. The outcomes illustrated by the authors are in line with similar previously published articles[4,5]. Although the results by Liu *et al* are compelling, they need to be interpreted with caution. The data presented are prospectively maintained and retrospectively reviewed, but it is difficult to estimate the overall burden of postoperative morbidity as minor complications (Grade I), have not been included. Such examples are acute kidney injury treated with intravenous fluids, nausea treated with antiemetics, or electrolyte imbalances that responded to replacement therapy. This would add a more precise evaluation to the role of PDs in the postoperative setting, as minor complications could play an important role especially in the length of hospital stay. Secondly, the decision to insert a PD was made by the operating surgeon and the decision-making process which led to drain placement is unclear. This could bias the data, as it might be related to longer operative times and difficult surgery in high BMI patients. Thirdly, the cohort for this study was from a single-center, hence the generalizability to broader populations cannot be confirmed.

In summary, the authors should be commended for their work. They have demonstrated with a well-conducted analysis that PDs are not an independent risk factor for postoperative complications with the caveat that there appears to be a higher risk in patients with BMI ≥ 29 kg/m²; therefore, in this group PDs are recommended. Identifying pre-operative and intraoperative factors that can guide the decision-making in order to select low-risk patients with regard to the omission of PDs would be of great interest. Furthermore, randomized controlled trials on PDs *vs* non-PDs insertion, focusing on laparoscopic approaches for gastric surgery, would be useful to guide clinical decisions.

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