



Invited Commentary

A commentary on “The effects of reoperation on surgical outcomes following surgery for major abdominal emergencies: A retrospective cohort study” [Int J Surg 72 2019 235-240]



ARTICLE INFO

Keywords:

Emergencies
Laparotomy
Morbidity
Outcome
Reoperation

Laparotomy for acute abdominal emergencies accounts for a large share of emergency surgeries. In spite of all the major advances in surgery, emergency laparotomy still has high rates of postoperative complications as well as mortality. Reoperations warranted by the unforeseen events following emergency laparotomy are associated with even greater risk of prolonged hospital stay, associated problems and even death. Measures designed to prevent, promptly identify and adequately treat any potentially fatal complication that may arise during the postoperative period are essential in improving the overall outcome among this group of patients.

Following acute abdominal surgery, patients have been found to have limited physical performance in the first post-operative week, with low 24-hour physical activity levels, and subsequently higher risk for pulmonary complications. The main factors preventing independent mobilization within the first week appear to be physical fatigue and abdominal pain [2]. A Finnish study carried out on elderly patients undergoing acute abdominal surgeries found higher age, atrial fibrillation, low body mass index, open surgery, ASA grade 3 or more, and previous history of malignancies to be the factors likely to increase mortality [4]. Possible interventions to improve the outcome include reducing time before surgery, appropriate and early use of antibiotics, optimized fluid management, adequate pain management, early nutrition and early mobilization [3].

Another point worth noting is that the optimal management for patients undergoing laparotomy for secondary peritonitis is not without its own share of controversy. Often, an ‘open abdomen technique’ is employed, which refers to temporary abdominal closure with planned re-laparotomy later to reassess bowel viability. However, many studies demonstrate higher morbidity and mortality along with increased costs for open abdomen techniques when compared with primary abdominal closure [1]. These aspects again create dilemma for the treating surgeons regarding management options in case of ‘unfriendly’ abdomen caused by extensive spread of infective material.

The research article which is commented here is a retrospective study which looked at the outcomes and also tried to determine independent predictors of subsequent reoperation following emergency laparotomy [5]. They studied 854 patients who underwent emergency laparotomy, treated at their institution. Among these patients, 307 needed re-exploration. As per their results, there does exist high mortality due to subsequent reoperation, with a proportionate increase in mortality as the number of reoperations increased. They found that liver cirrhosis, cardiac arrhythmias, usage of steroids, and ASA class greater than 3 increased the risk of surgical reoperation following emergency laparotomies.

The current study does have its own set of limitations including the single institution study setting, which could interfere with generalizing the study results. Also, the retrospective nature might have led to unintentional selection bias. Nevertheless, the relatively large sample size and the strong statistical associations developed could compensate for these shortcomings to a large extent and thereby retain the significance of the study observations. The authors recommend employing diligent measures when deciding for laparotomy in patients with high risk factors and also call for further efforts to develop decision tools for guiding proper prevention and early intervention.

Ethical approval

Not relevant, as this is an Invited Commentary.

Funding sources

None.

Author contribution

Single author

DOI of original article: <https://doi.org/10.1016/j.ijssu.2019.11.024>

<https://doi.org/10.1016/j.ijssu.2019.12.001>

Received 1 December 2019; Accepted 6 December 2019

Available online 17 December 2019

1743-9191/ © 2019 IJS Publishing Group Ltd. Published by Elsevier Ltd. All rights reserved.

Research registration number

- 1 Name of the registry: NA
- 2 Unique Identifying number or registration ID:
- 3 Hyperlink to the registration (must be publicly accessible):

Guarantor

Corresponding author is the Guarantor

Provenance and peer review

Invited Commentary, internally reviewed.

Declaration of competing interest

None.

Acknowledgements

None.

References

- [1] L.R. Jönsson, L.H. Ingelsrud, L.T. Tengberg, T. Bandholm, N.B. Foss, M.T. Kristensen, Physical performance following acute high-risk abdominal surgery: a prospective cohort study, *Can. J. Surg.* 60 (6) (2017 Dec) 12616, <https://doi.org/10.1503/cjs.012616> Epub 2017 Dec 1.
- [2] M. Ukkonen, A. Kivivuori, T. Rantanen, et al., *World J. Surg.* 39 (2015) 2854, <https://doi.org/10.1007/s00268-015-3207-1>.
- [3] H. Kehlet, M. Mythen, Why is the surgical high-risk patient still at risk? *Br. J. Anaesth.* 106 (3) (March 2011) 289–291, <https://doi.org/10.1093/bja/aeq408>.
- [4] A.M. Kao, L.N. Cetrulo, M.R. Baimas-George, T. Prasad, B.T. Heniford, B.R. Davis, K.R. Kasten, Outcomes of open abdomen versus primary closure following emergent laparotomy for suspected secondary peritonitis: a propensity-matched analysis, *J. Trauma Acute Care Surg.* 87 (3) (2019 Sep) 623–629, <https://doi.org/10.1097/TA.0000000000002345>.
- [5] W.T. Kassahun, M. Mehdorn, T.C. Wagner, The effects of reoperation on surgical outcomes following surgery for major abdominal emergencies. A retrospective cohort study, *Int. J. Surg.* 72 (2019 Nov 22) 235–240.

Meer M. Chisthi

Department of General Surgery, Government Medical College, Trivandrum,
Kerala, 695011, India

E-mail address: meerchisthi@gmail.com.