ISSN: 2091-2749 (Print)
2091-2757 (Online)

Implementation of enhanced recovery after surgery- ERAS, a paradigm shift in surgery

Jay N Shah

Editor in Chief, Journal of Patan Academy of Health Sciences (JPAHS), Patan Academy of Health Sciences (PAHS), Lalitpur, Nepal

Correspondence
Dr. Jay N Shah
Editor in Chief, Journal of Patan Academy of Health Sciences, Lalitpur, Nepal
Email:
editor.jpahs@pahs.edu.np,
drjaywufei@gmail.com
drjaywufei@hotmail.com

ABSTRACT

The history of enhanced recovery after surgery (ERAS) has its roots to the earlier ERAS Study Group. This was a collaborative group on peri-operative care to further develop ideas put forth in the 1990's by Professor Henrik Kehlet of University of Copenhagen. Kehlet reported that the morbidity, mortality and overall costs of surgery requires multimodal interventions to reduce pain; cardiopulmonary, infective and thromboembolic complications; cerebral dysfunction; nausea and gastrointestinal paralysis, fatigue and prolonged recovery.[1] The ERAS Society, registered and based in Stockholm, has over the years developed 'perioperative care' strategies to improve recovery after surgery through research, education, audit and implementation of evidence-based practice.[2] An evidence-based consensus protocol for patients undergoing colon surgery was developed and published by the ERAS Study Group[3] and later the group showed that just a protocol was not sufficient to change surgical practice in accordance with ERAS.[4] The 'manual of fast track recovery for colorectal surgery (Springer)' was published by the ERAS Society as 1st in the series of enhanced recovery.[5] Thereafter various professional societies and organizations around the world have worked together to develop, modify, promote and propagate ERAS. From its original work on colorectal surgery, the ERAS is now implemented in virtually all the disciplines of surgeries and the guidelines are available at ERAS Society website.[6]

The strategies of ERAS is designed for 'preoperative, intraoperative and postoperative care' through multimodal, integrated, multidisciplinary approach from all the stake holders: the patient, surgeons, anaesthesiologists, pain specialists, nursing staff, physical and occupational therapists, social services, and hospital administration. It advocates of the standardized medical care to improve the outcomes and lower the health care costs by minimizing surgical trauma, postoperative pain, complications, length of hospital stay, while expediting recovery and improving the overall outcomes.[7,8]

Locally, the concept and practice of ERAS is well under way but still needs to be institutionalized. For example, the shortened preoperative fasting is only recently institutionalized, though still not fully, after our feasibility study to convince the stake holders, the patients, nurses, anaesthetists and surgeons to do away with the routine midnight nil per os (NPO) for elective major surgeries.[9] However this is still to be adopted by other institutions locally and other Asian countries. Among many intraoperative changes, the unnecessary use of routine antibiotic prophylaxis is now implemented at our hospital and slowly adopted by others.[10] Similarly, in postoperative care to enhance the recovery, the early feeding and stopping unnecessary intravenous fluid to facilitate early mobilization after cholecystectomy has become routine, and widely practiced in day-care surgery.[11]

The Enhanced Recovery After Surgery (ERAS) is an evidence-based care improvement process for surgical patients, a paradigm shift in perioperative care, resulting in substantial improvements in clinical outcomes and cost savings.[12] There is need to discuss among the various surgical societies to collaborate and implement the evidence-based practice of ERAS for the benefit of patients undergoing surgery in order to improve overall health care system. The multimodal collaboration between providers, continual staff education and trainings to cover the evidence-based principles of ERAS together with strong leadership, facilitator and effective multidisciplinary teams (MDT) are necessary to improve the compliance to successful ERAS programs.[13]

REFERENCES

1. Kehlet H. Multimodal approach to control postoperative pathophysiology and rehabilitation. Br J Anaesth. 1997;78(5):606-17. PubMed DOI
2. The ERAS society. http://erassociety.org/
3. Fearon KC, Ljungqvist O, Von Meyenfeldt M, Revhaug A, Dejong CH, Lassen K, Nygren J, Hausel J, Soop M, Andersen J, Kehlet H. Enhanced recovery after surgery: a consensus review of clinical care for patients undergoing colonic resection. Clin Nutr. 2005;24(3):466-77. PubMed DOI
4. Maessen J, Dejong CH, Hausel J, Nygren J, Lassen K, Andersen J, Kessels AG, Revhaug A, Kehlet H, Ljungqvist O, Fearon KC, von Meyenfeldt MF. A protocol is not enough to implement an enhanced recovery programme for colorectal resection. Br J Surg. 2007;94(2):224-31. PubMed DOI
5. Nader Francis, Robin H Kennedy, Olle Ljungqvist, Monty G Mythen. Manual of Fast Track Recovery for Colorectal Surgery (Springer). eBook ISBN 978-0-85729-953-6 DOI
6. ERAS list of guidelines. http://erassociety.org/guidelines/list-of-guidelines/
7. Kehlet H, Wilmore DW. Evidence-based surgical care and the evolution of fast-track surgery. Ann Surg. 2008;248:189. PubMed DOI
8. Rocco Ricciardi, Graham MacKay, MDGirish P Joshi. Enhanced recovery after colorectal surgery. UpToDate.
9. Jay N. Shah, Shanta Bir Maharjan, Rajan Gurung. Shortened preoperative fasting time to allow oral rehydration solution clear liquid up to two hours before elective major surgery in adults. Journal of the College of Physicians and Surgeons Pakistan. 2018;28(5):348-51. PubMed DOI
10. Jay Narayan Shah, Shanta Bir Maharjan, Sanjay Paudyal. Routine use of antibiotic prophylaxis in low-risk laparoscopic cholecystectomy is unnecessary: a randomized clinical trial. Asian Journal of Surgery. 2012;35:136-9. PubMed DOI
11. Shah JN, Maharjan SB, Manandhar K, Paudyal S, Shrestha S, Shah S, Lamichane D. Early feeding and discontinuation of intravenous fluid after laparoscopic cholecystectomy. J Nepal Health Res Counc. 2012;10(20):28-31. PubMed
12. Ljungqvist O, Scott M, Fearon KC. Enhanced recovery after surgery: a review. JAMA Surg. 2017;152(3):292-8. DOI PubMed
13. Francis NK, Walker T, Carter F, Hübner M, Balfour A, Jakobsen DH, Burch J, Wasylak T, Demartines N, Lobo DN, Addor V, Ljungqvist O. Consensus on training and implementation of enhanced recovery after surgery: a delphi study. World J Surg. 2018;42(7):1919-28. DOI