

Surgical practice – is it evidence-based?

A prática cirúrgica é baseada em evidência?

Delcio Matos^I, Suzana Angelica Silva Lustosa^{II}

^I Full Professor of UNIFESP-Escola Paulista de Medicina and UNIMES-Faculdade de Ciências da Saúde Gastroenterological Department and Dean of Gastroenterological Surgery Postgraduate Studies, UNIFESP-EPM, São Paulo, Brazil.

^{II} Assistant Professor of Surgical Department and Head of Clinical Epidemiology Department at UNIFOA – Centro Universitário de Volta Redonda, Rio de Janeiro, Brazil.

In order to improve the quality of postoperative recovery and diminish the morbi-mortality rates a number of systematic reviews and meta-analyses have been conducted in the last decade within the field of surgery. As a result a lot of good scientific evidence has been accumulated, particularly in colorectal surgery. Research questions such as the need for preoperative mechanical bowel preparation, pain control by means of epidural analgesia, time interval until starting postoperative administration of oral fluids and food, choice of surgical technique in colorectal anastomoses, use of drains and use of a nasogastric tube after elective laparotomy have been addressed ^{1, 2, 3, 4, 5, 6, 7}. Most of these studies are Cochrane reviews focusing on important healthcare interventions with particular emphasis given to surgical practice.

However recent analysis of the results from a multinational survey of care following colonic operations, in Europe and the United States, has concluded that strategies that can contribute to improved recovery and reduced complications after colonic operations do not appear to be applied optimally in clinical practice ⁸.

Thus, it has been seen that the current practice of preoperative mechanical bowel preparation is greatly used in all countries. Most patients undergoing elective colonic operation receive some form of bowel cleansing. Regardless of the preparation method, this practice is contrary to the available scientific knowledge, which shows that there is no evidence for any beneficial effects from the use of bowel cleansing before elective colorectal surgery and that cleansing seems to be associated with an increased risk of anastomotic dehiscence ⁹. It is important to note that the majority of bowel preparation in European hospitals was found to take place when the patient was admitted to the surgery department. This is in notable contrast to the observed practice in the United States, where 61% of patients undergoing elective bowel operations were found to receive bowel cleansing at home before admission to hospital ⁸.

who have undergone elective laparotomy ⁷. Removal of the nasogastric tube on the same day as the operation was found to be most likely in the USA, but among the patients with a nasogastric tube left in situ postoperatively, the mean time until removal was similar (3.2 days) to what was seen in European countries ⁸.

Likewise a systematic review and meta-analysis of controlled trials has shown that enteral feeding within 24 hours of the operation was associated with reduced risk of any type of infection and reduced mean length of hospital stay, without increased risk of anastomotic dehiscence ³. However survey of clinical practice reported that fewer than 10% of patients in the European countries and only 16% of patients in the USA were eating normally by day 3; across the USA and in five European countries assessed, it took up to 8 days for 80% of patients to begin eating and drinking normally ⁸.

Unfortunately there are no up-to-date surveys on the use of ileostomy or colostomy for temporary decompression of elective distal anastomosis, on the choice of surgical techniques for colorectal anastomosis, or on the use of drains. However, a recent meta-analysis of randomized clinical trials has shown that prophylactic drainage of colorectal anastomoses has to be reconsidered. It has been found that the use of a stapler is not superior to the handsewn technique. Moreover the ileostomy technique looks to be the best choice for colorectal anastomoses decompression ^{4,5,6}. Further research on these surgical issues must be undertaken in order to obtain answers that are more definitive.

Another controversial question within surgery has also been analyzed and has shown that intraoperative epidural analgesia during colonic operations was been administered only to a minority of patients in European countries and in the USA, although its use was far more frequent in the UK. This infrequency of the use of epidural analgesia has been found despite evidence in the literature indicating that it provides good analgesia and early

mobilization after the operation and that it also contributes towards decreased duration of postoperative ileus^{2,8}.

According to Ubbink and Legemate evidence-based medicine can be defined as the conscientious, explicit and judicious use of best available evidence in making decisions about individual patient care. It implies integration of clinical expertise and patient preferences with currently available evidence from systematic research. The concept of using medical evidence comes from the 1950s and the search to improve the quality of healthcare has been a challenge in many areas. However within surgery a recent estimate has shown that only 24 per cent of surgical practice is based on evidence from randomized clinical trials¹⁰.

Recent study that aimed to characterize perioperative practice in colorectal cancer surgery, in five northern European countries (Scotland, the Netherlands, Denmark, Sweden and Norway) has shown that oral bowel preparation was still the rule in all countries, the nasogastric decompression tube was widely used in one country (Netherlands), "nil by mouth" was hardly used in one country (Scandinavia) but was common in two countries (Netherlands and Scotland) and epidural analgesia was hardly used in one country (Scotland). The authors concluded that, in spite of large evidence base, surgical patients remain exposed to unnecessary perioperative care measures¹¹.

A comprehensive meta-analysis of 26 randomized trials has shown that nasogastric tubes have no significant benefit in relation to the postoperative recovery of patients

Why has the current body of good scientific evidence available from systematic reviews and meta-analyses of homogeneous randomized clinical trials had so little influence on surgical practice? Expert opinion, intuition and the tradition of experience are fallible. Factors other than evidence-based medicine may influence clinical decisions. Thus, the presence of senior colleagues who believe experience trumps evidence (eminence-based medicine) and surgeons with strong feeling and belief (vehemence-based-medicine) are just some of the many factors that have been regarded as critical to decision-making within surgery¹². These less reliable alternatives to evidence-based medicine can be very compelling and they may provide a convenient way of coping with uncertainty. Nonetheless, they are, for sure, a weak substitute for research evidence¹³.

Major investments must be made to restructure and increase the capacity to conduct clinically important research studies. As surgeons, we must forego our heritage of absolute clinical autonomy and the practice of medicine by opinion, and accept the challenge of producing reliable evidence to direct our clinical decisions¹⁴. Systematic reviews and meta-analyses are vital to this process. The challenge both of preparing reviews and of keeping them up-to-date must be faced if we are to cope with the

overwhelming amount of research information that is now available¹⁵.

We believe that surgeons should be educated to become more involved, not only with new research but also with systematic reviews and meta-analyses, with a focus on appropriate surgical questions that relate to the effects of relevant interventions on surgical practice. From this we would be able to make decisions based on reliable scientific evidence, thereby improving the quality of individual patient care. For now, this is possibly the only way to truly turn surgical practice into evidence-based medicine.

In order to encourage this process the editorial board of *Acta Cirúrgica Brasileira* is working on the organization of a special committee for analysis of systematic reviews and meta-analysis that address a topic of current interest in surgical practice. Priority will be given to these articles which will also be subjected to the usual peer review process. We hope indeed that this could have a stimulative effect on the evidence-based knowledge production among surgeons.

References

1. Guenaga KF, Matos D, Castro AA, Attalah NA. Mechanical bowel preparation for elective colorectal surgery. Cochrane Review; Issue 2, 2003.
2. Marret E, Remy C, Bonnet F. Meta-analysis of epidural analgesia versus parental opioid analgesia after colorectal surgery. Br J Surg. 2007;94:665-73.
3. Lewis SJ, Egger M, Sylvester PA, Thomas S. Early enteral feeding versus "nil by mouth" after gastrointestinal surgery: systematic review and meta-analysis of controlled trials. Br Med J. 2001;323:773-6.
4. Guenaga KF, Saad SS, Saconato H, Lustosa SAS, Matos D. Ileostomy or colostomy for temporary decompression of colorectal anastomosis? Systematic review and meta-analysis. The Cochrane Library, issue 1, 2007.
5. Lustosa SAS, Castro AA, Atallah AN, Matos D. Stapled or handsewn colorectal anastomosis? A systematic review and metanalysis. The Cochrane Library, issue 2, 2000.
6. Karliczeck A, Jesus EC, Castro AA, Jesus EC, Wiggers T, Atallah AN, Matos D. Drainage or non-drainage in elective colorectal anastomosis: a systematic review and meta-analysis. Colorectal Dis. 2006;8:259-65.
7. Cheatham ML, Chapman WC, Key SP, Sawyers JL. A meta-analysis of selective versus routine nasogastric decompression after elective laparotomy. Ann Surg 1995;221:469-76.
8. Kehlet H, Buchler MW, Beart Jr RW, Billingham RP, Williamson R. Care after colonic operations – is it evidence-based? Results from a multinational survey in Europe and the United States. J Am Coll Surg 2006;202:45-54.

9. Wille-Jorgensen P, Guenaga KF, Castro AA, Matos D. Clinical value of preoperative mechanical bowel preparation in elective colorectal surgery: a systematic review. *Dis Col Rectum* 2003;46:1013-8.
 10. Ubbink DT, Legemate DA. Evidence-based surgery. *Br J Surg* 2004;91:1091-2.
 11. Kristoffer L, Hannemann P, Ljungqvist O, Fearon K, Dejong CHC, Meyenfeldt MF, Hause IJ, Nygren J, Andersen J, Revhaug A. Patterns in current perioperative practice: survey of colorectal surgeons in five northern European countries. *Br Med J* 2005;330:1420-1.
 12. Isaacs D, Fitzgerald D. Seven Alternatives to evidence-based medicine. *Br Med J*.1999;319:1618.
-

Correspondence to:

Prof. Dr. Delcio Matos
Rua Edison 278/61
CEP04618-031 São Paulo, SP.
E-mail: dmatos.dcir@epm.br