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Editorial

Failure to Rescue in Colorectal Surgery: How to Minimize Anastomotic Leak Mortality?☆



Failure to rescue en cirugía colorrectal: ¿cómo disminuir la mortalidad por dehiscencia de anastomosis?

Today, colorectal surgery is still associated with elevated morbidity with enormous variations between different colorectal surgery groups.¹ To a large extent, these differences have classically been related, among other factors, to the type of population treated, patient age, comorbidities and the complexity of the surgical procedure performed.² Therefore, most clinical audits use “adjusted” mortality as a common language to be able to compare results from different units, or even to identify a *benchmark* facility (hospitals or units that are recognized as having the best results). However, no single indicator is perfect.³

Some years ago, Silber et al.⁴ created the concept of *failure to rescue* (FTR) to refer to patients who had died as a result of a treatable complication. The same group identified great variability in FTR at different cardiac surgery units throughout the U.S., even though they had found little variation in the percentage of complications among the units studied.⁵ In some manner, this finding demonstrated that, although it is relevant to diminish complications, what is more relevant is their management and adequate resolution. The indicator is calculated as the proportion of mortality between patients with complications. It has been widely used in colorectal surgery, where morbidity and mortality are higher than in other disciplines, even in elective surgery.⁶

For some years now, in the United Kingdom there have been descriptions of a new concept in FTR: mortality in those complications that could be resolved surgically, or *failure to rescue surgical*. This could include, for instance, a re-operation due to dehiscence of a colorectal anastomosis.⁷ This indicator is able to more precisely analyse each complication separately and evaluate whether the process of detection, treatment and resolution of the complication is adequate or whether there is still room for improvement.

Along this line, results were recently published from 150 NHS (National Health Service, England) hospitals in a study

with 144,542 patients from 2000 to 2008, in which FTR was around 15%. Interestingly, there was great variability in the results among centres, but said differences did not arise from the surgical procedure delay time or other data related with surgical complications. Therefore, the indicator seems to globally evaluate the entire healthcare process, including surgeons' decisions, perioperative medical treatment, critical patient management in the ICU and the management of complications, not only those related with surgery but also, for example, with interventional radiology.⁷

With these data, the authors were able to precisely determine which reinterventions were associated with higher mortality. These included procedures associated with the new creation of a stoma, a new colorectal resection and peritoneal cavity lavage, demonstrating that the severest complication is colorectal suture dehiscence. This complication was associated with a mortality rate from 11.1 and 16.8%.⁷

In Spain, results have recently been reported from the ANACO Project, which is a multicentre study that included the results from more than 3,000 cases of cancer-related colon resections at 58 hospitals. During the period of one year, anastomotic dehiscence was diagnosed in 8.7% of cases, with a re-operation rate of 78.3% and a mortality rate of 15.2%.⁸

The importance of joining forces to improve these results is obvious when we take into account the number of surgical interventions due to colon cancer that are done each year in our country. This is especially true when we consider that perhaps patient selection in certain cases was inadequate for anastomosis, or prevention measures had not been taken (which has still not been appropriately evaluated in clinical assays), such as reinforcing the colorectal anastomosis or creating a protective stoma to mitigate the consequences of complications, which has been proposed by researchers of the ANACO project.⁸

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The identification and treatment of complications in these patients first requires detecting patients who are developing a complication, communicating with the rest of the team, consulting with an expert, and creating a good diagnostic and treatment plan. For this reason, improving FTR rates is related with proper patient rounds in order to detect clinical patient problems, correct observation (vitals) by the nursing staff, proper data recording in patient files and the ability to identify signs of clinical patient decline. Consequently, there is recent interest in studying the usefulness of standardised ward rounds and specific checklists for the management of postoperative complications in clinical simulation laboratories.⁹

Some general structural changes are also being adopted in hospitals, such as the creation of postoperative patient units or semi-critical care areas¹⁰ where the rounds are done by a multidisciplinary team of surgeons and anaesthesiologists or specialists in intensive medicine and where the nurse-to-patient ratio has improved. This latter datum is specifically related with FTR¹¹ and is currently at the heart of the matter in our national health system due to the economic crisis.¹²

Quite recently, the first systematic review of the medical literature was published in order to analyse which factors could influence surgical FTR.¹³ This study has revealed that the human factor is a key element, including the ability of physicians and nurses to identify patients at risk for complications, communicate this to the rest of the team and initiate support measures and treatment for the complications. The human factor, including the ability to communicate with the rest of the team, has been studied within the operating room, but not in hospital wards.¹⁴ Therefore, this seems to be a field that merits further clinical research.

These observations indicate that the ability to diminish FTR (meaning the mortality associated with complications in colorectal surgery or other specialties) largely depends on proper ward rounds and the human capability to detect and respond early to clinical signs of patients with complications and not necessarily on other advances like the use of new imaging techniques. In fact, colorectal anastomosis dehiscence, which is the avoidable complication with the highest mortality, requires in many cases a large dose of clinical suspicion. Once more, the importance of leadership and the ability to work as a team is crucial. Therefore, now is the time to invest time into improving this part of our clinical activity and ensure that the training in this field is adequate.

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David Parés

Department of Colorectal Surgery, Queen Alexandra Hospital,
Portsmouth, United Kingdom

E-mail address: dapares@gmail.com

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