

Failure of enhanced recovery after surgery: what is it?

Dear Editor,

Enhanced recovery programmes (ERPs) are no longer considered to be revolutionary [1] but are the reference standard of care for colorectal surgery patients. The effectiveness of ERPs is now well established. Nevertheless, in recent years several authors have addressed the failure of enhanced recovery programmes in colorectal surgery [2–6]. In doing so they raise the question of what precisely is meant by failure of an ERP, as the criteria for failure vary markedly in the literature. In many recent studies, the main criterion of failure was postoperative length of stay (POLOS), which varied widely from more than 5 days [3,4] to more than 7–8 days. [2,5] Other criteria of failure were postoperative nausea/vomiting (PONV) precluding early oral feeding and/or postoperative ileus (POI) [5], or unplanned readmission, complications or death [3].

It should be emphasized that since the paradigm has shifted from 'fast-track surgery' to 'enhanced recovery' over the last decade, POLOS is no longer considered the major/objective end-point, [7] but only a subjective reflection of improved recovery. We thus see no objective grounds for some authors to define failure of an ERP with a cut-off POLOS value of 5 days while others accept a longer POLOS. Furthermore, daily practice and the literature show that, from the patient's perspective, POLOS is an outcome of minimal importance compared with other outcomes, for instance postoperative complications [8].

Therefore, POLOS should not be considered as a primary outcome or end-point for the evaluation of an ERP. In France, the health funding system is planning to remove the funding mechanism based on the type and volume of activity, as well as the POLOS [9]. In Germany, rehabilitation programmes after surgery immediately after a hospital stay have also been developed [10]. More importantly, we want to highlight that globally there are several reports of experience with a value-based payment system or bundled payment models. Such models encompass the predicted course of care, delivery and recovery, whatever the POLOS.

Postoperative complications might at first sight appear more relevant, but it is well established that ERPs are more effective at reducing minor complications than severe ones [11]. Very few studies have shown any reduction of severe complications; those that have demonstrated a difference only at an adherence rate of over 90% [12]. Severe postoperative complications are thus not a failure of ERP *per se*, but rather adverse events

that can occur after colorectal surgery. PONV and/or POI occurred in one study [5] despite the systematic use of prophylaxis with dexamethasone and ondansetron. We know, however, that predictive factors for POI include the perioperative fluid infusion regime (whether intra- or postoperative), early feeding or the use of opioids for analgesia. Unfortunately, these major factors were not reported [2], so we do not know whether the prophylaxis of PONV and/or POI was optimal, i.e. using all appropriate measures. The surgical technique also plays a major role in preventing POI. Extra-corporeal anastomosis was used in some studies [2,5], and it has been clearly demonstrated in several meta-analyses that extra-corporeal anastomosis is associated with a higher rate of POI [13,14]. In neither paper [2–5] did the authors detail the actual implementation of every ERP measure. It is known with a high level of evidence that the more measures that are implemented the more beneficial an ERP is in terms of recovery and postoperative course (morbidity, quality of life and POLOS) [11,12].

Instead of 'failure of ERPs', we should perhaps be talking about 'failure of optimal implementation of ERPs'. This difference is not just semantic. Most colorectal ERP measures are based on high levels of evidence, which makes their implementation mandatory. The ERP must still be tailored according to the clinical situation (emergency, older patients, etc.), and the postoperative outcome will become unfavourable in some cases. We should be implementing as many perioperative measures as possible. The postoperative course can be uneventful and the patient is then discharged early, or postoperative complications can occur, necessitating suitable care. This outcome is not in itself a failure of ERP, since no ERP will absolutely guarantee an uneventful and short postoperative course for all patients.

Conflicts of interest

KS: Sanofi, Merck, B-Braun, Baxter; JJ: none.

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