Anesthetic management for patients with perforation peritonitis

Sir,

We read with interest a recently published review article by Sharma *et al*. entitled, "Anesthetic management for patients with perforation peritonitis."[1] There are some issues that can affect the anesthesia management and outcome hence need discussion:

1. There is just a passing remark that "Abnormalities in electrolyte balance and acid base balance should be corrected." The causes of these abnormalities and their anesthetic implications need elaboration. Hypokalemia (in addition to chloride loss) may be caused by vomiting, nasogastric tube (NGT) aspiration, or prolonged inadequate intake in patients with intestinal perforation, whereas hyperkalemia could be due to hypotensive metabolic acidosis or renal insufficiency.[2] Similarly, metabolic acidosis could be due to shock or decrease renal functions while prolonged nasogastric aspiration in such patients may cause mixed metabolic disorder. Inadvertent intraoperative hyperventilation can further complicate the picture by worsening the hypokalemia. As these metabolic and electrolyte derangements can cause arrhythmias, hemodynamic disturbances and delayed recovery, preoperative blood gas and electrolyte estimation and simultaneous correction is important.
2. The authors have mentioned that "hemoglobin (Hb) should be raised by packed cell infusion and kept close to 11 g/dl" The authors have failed to mention the source of this statement. In fact this may encourage unnecessary transfusions and associated complications (including worsening of sepsis and organ failure). The intraoperative blood loss in such patients is generally small and transfusion should be considered only when the Hb levels are below 7 g/dl as per Surviving Sepsis guidelines[3] recommendations, with a target to achieve 7-9 g/dl level. Only in patients with myocardial ischemia, severe hypoxemia or acute hemorrhage, Hb levels are recommended to be kept above 10 g/dl.
3. The authors have mentioned a lot about the antibiotic therapy, but have not mentioned anything about fungal infections. The patients with perforation peritonitis may also have intra-abdominal fungal infection, which has a poor prognosis and early recognition and treatment is advisable which is often difficult due to its nonspecific presentation.[4]

4. Routine nasogastric decompression postoperatively should be done only selectively and not in all cases as it could lead to increased incidence of pneumonia, atelectasis, ileus and causes persistent sense of irritation and foreign body in the throat.[5] It does not reduce postoperative nausea and vomiting or reduce anastomotic or other complications.[6] Avoidance of NGTs is one component of the Enhanced Recovery After Surgery protocols.[7]
5. In order to decrease the incidence and duration of ileus in the postoperative period, there is an important role of epidural analgesia, opioid-sparing analgesia, fluid restriction, early enteral feeding, and prokinetic drugs.[8]
6. We agree with authors that enteral feeding should be started as early as possible. The ESPEN guidelines on enteral nutrition: Surgery including organ transplant[7] suggests that oral intake, including clear liquids, can be initiated within hours after surgery to most patients undergoing colon resections. Limited data are available regarding immediate oral nutrition in patients with anastomoses in the proximal gastrointestinal tract but many studies have shown the benefits and feasibility of feeding via jejunostomy, or nasojejunal tube.
7. We regret to state that a large part of the text of "Intraoperative management" in the article has been lifted verbatim from an article published in the BJA,[9] which is unethical.

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