



Commentary

Colon stenting as “Bridge-to-surgery”: A further piece of the puzzle toward. . .?

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The incidence of acute colorectal obstruction due to colorectal cancer (CRC) requiring urgent decompression has been reported to be up to 13%, with approximately 70% of cases occurring in the left side of the colon [1].

Emergency surgery is typically considered the conventional treatment in case of malignant bowel obstruction, though these patients are often poor surgical candidates. In this setting, emergency surgery is associated with high mortality (15–34%) and morbidity rates (32–64%) [2].

Self-expandable metal stents (SEMSs) allow colonic decompression in patients with obstructing CRC and have been used both with palliative purposes and as a bridge to surgery before resection [3]. In addition to relieving obstructions, SEMS placement prior to surgery allows preoperative bowel preparation and increases the likelihood of elective single-stage surgical resection without the need for temporary stoma [3]. Several studies report very high technical and clinical success rates of SEMSs which in most series are about 90%; therefore, stenting is presently widely used in clinical practice, both for palliation and as a bridge to surgery [4]. While the short-term outcomes of patients treated with SEMSs seem to significantly overcome those of patients undergoing emergency surgery, it is still unclear whether SEMSs as a bridge to surgery carry a real benefit for patients with left-sided CRC obstruction in the long-term, since there is a concern that stenting may compromise oncological outcomes in patients with potentially treatable disease [4]. The problem was highlighted by a French retrospective 5-years follow-up study finding that bridge to surgery was associated with a lower

overall survival rate (25% vs 62%, $p < 0.001$), and a higher 5-year mortality rate (48% vs 21%, $p = 0.02$) [5].

Concerns regarding the long-term outcome of colon stenting, as well as the results of the first large multicentric prospective Dutch study in 2011 showing no decisive clinical advantages of colonic stenting on emergency surgery, with a significant risk of perforation and tumour spread [6], led in 2014 the European Society of Gastrointestinal Endoscopy (ESGE) to state that SEMS as a bridge to surgery is not recommended for left-sided malignant colonic obstruction, except in patients with increased perioperative risks [7].

In this issue of *Digestive and Liver Disease*, Rodrigues-Pinto et al. performed a retrospective analysis of 94 consecutive patients with left-sided acute malignant colorectal obstruction treated with curative intent [8]. They found that laparoscopy and one-staged operation were more frequent in the bridge to surgery group (44% vs 2%, $p < 0.001$; 73% vs 30%, $p < 0.001$); at the same time, fewer permanent stomas were created in this group as compared to the emergency surgery group (15% vs 35%, $p = .013$), with an overall 36% morbidity. Furthermore, surgery-related complications occurred in 15% of bridge to surgery group vs 41% of emergency surgery group ($p = 0.004$).

These short-term data are comparable with those in recent studies and meta-analyses [4,9].

The great merit of the study by Rodrigues-Pinto et al. [8] is to provide 3-years follow-up data about disease recurrence and survival. The Authors found no differences between bridge to surgery and emergency surgery regarding tumour recurrence (29.8% vs 34.1%, $p = .660$), recurrence-free survival (52 months vs 69 months, $p = .119$), 3-years mortality (35.4% vs 37%, $p = .877$) and overall survival (37 months vs 55 months, $p = 0.654$).

Presently, data about long-term oncologic outcomes are contrasting. Besides the French retrospective study [5], a randomized

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Dutch clinical trial found a higher 5-years overall recurrence rate in the bridge to surgery group (42% vs 25%, $p = 0.027$) [10]. By contrast, two recent *meta*-analyses did not find differences in terms of local or systemic recurrence in the two groups [9,11].

The most important factor impacting the prognosis is stent-related perforation [10]. This complication has been reported in up to 12.8% of cases in a randomized trial [6] and might induce peritoneal seeding, as also underlined in the current study by Rodrigues-Pinto et al. [8]. This significant and not negligible risk of perforation is likely to modify the oncological outcome of patients with a potentially curable tumour and therefore, despite the good short-term benefits, SEMs as a bridge to surgery should be considered with caution as standard treatment for malignant colonic obstruction. Clearly, in experienced hands, the rate of stent perforation and, consequently, the risk of tumour spreading, is lower, but it is still not clear whether sub-clinical and microscopic perforations may also impact the outcome of disease [8,9,11].

We are still unable to choose the right patient for the right treatment. All randomized trials on SEMs as a bridge to surgery, by including all subjects with a malignant colonic obstruction, did not stratify them according to the risk of postoperative mortality. Age, physical status and disease staging are independent risk factors for postoperative mortality [3,5], and the 30-day mortality rate after emergency surgery is more than 15% in patients aged over 70 years and can rise up to 25% in case of significant co-morbidities (ASA ≥ 3) [6]. In this subgroup of patients the short-term risk of postoperative mortality may overcome the oncological risk of stenting, as stated by the ESGE guidelines [6]. Further well-designed randomized clinical trials with long-term follow-up are warranted in order to establish which patient can benefit from a SEMs as bridge to surgery or needs an emergency surgery.

Until then, we can only consider SEMs placement in colonic neoplastic obstruction as a technique that is certainly effective in the short-term, but to be used carefully, only by expert hands and only by wisely selecting the patients who really can benefit from an elective surgery in the presence of a clear picture of intestinal obstruction, balancing risks and benefits for a personalized treatment.

Conflict of interest

None declared.

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None to declare.

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