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ORIGINAL ARTICLE

Acute Treatment of Malignant Colorectal Occlusion: Real Life Practice

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Abstract
Introduction: Colorectal cancer presents itself as acute bowel occlusion in 10–40% of patients. There are two main therapeutic approaches: urgent surgery and endoluminal placement self-expandable metallic stents (SEMS).
Aims and Methods: This study intended to better clarify the risk/benefit ratio of the above-mentioned approaches. We conducted a retrospective longitudinal multicenter study, including 189 patients with acute malignant colorectal occlusion, diagnosed between January 2005 and March 2013.
Results: Globally (85 patients – 35 bridge-to-surgery and 50 palliative), SEMS's technical success was of 94%. Palliative SEMS had limited clinical success (60%) and were associated with 40% of complications. SEMS occlusion (19%) was the most frequent complication, followed by migration (9%) and bowel perforation (7%). Elective surgery after stenting was associated with a higher frequency of primary anastomosis (94% vs. 76%; $p = 0.038$), and a lower rate of colostomy (26% vs. 55%; $p = 0.004$) and overall mortality (31% vs. 57%; $p = 0.02$). However, no significant differences were identified concerning postoperative complications. Regarding palliative treatment, no difference was found in the complications rate and overall mortality between SEMS and decompressive colostomy/ileostomy. In this SEMS subgroup, we found a higher rate of reinterventions (40% vs. 5%; $p = 0.004$) and a longer hospital stay (14, nine vs. seven, three days; $p = 0.004$).
Conclusion: SEMS placement as a bridge-to-surgery should be considered in the acute treatment of colorectal malignant occlusion, since it displays advantages regarding primary anastomosis, colostomy rate and overall mortality. In contrast, in this study, palliative SEMS did not appear to present significant advantages when compared to decompressive colostomy.

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Tratamento Agudo da Oclusão Colorrectal Maligna: Prática na Vida Real

Resumo
Introdução: O cancro colorrectal manifesta-se como oclusão intestinal aguda em 10–40% dos doentes. Existem duas abordagens terapêuticas principais: cirurgia de urgência e prótese endoluminal.
Objectivo e Métodos: Este estudo teve como objetivo clarificar o risco/benefício das abordagens mencionadas. Foi realizado um estudo multicêntrico, retrospetivo longitudinal, que incluiu 189 doentes com oclusão colorrectal maligna aguda, diagnosticados entre janeiro de 2005 e março de 2013.
Resultados: Globalmente (85 pacientes – 35 como ponte para cirurgia e 50 como paliação) a colocação de prótese teve sucesso técnico de 94%. As próteses paliativas apresentaram sucesso clínico limitado (60%) e associaram-se a 40% de complicações. A oclusão tumoral da prótese (19%) foi a complicação mais frequente, seguindo-se a migração (9%) e a perfuração intestinal (7%). A cirurgia eletiva após colocação de prótese associou-se a maior frequência de anastomoses primárias (94% vs 76%; $p = 0.038$) e a menores taxas de colostomia (26% vs 55%; $p = 0.004$) e mortalidade (31% vs 57%; $p = 0.02$). Contudo, não houve diferenças significativas nas complicações pós-cirúrgicas. No tratamento paliativo, a prótese e a colostomia/ileostomia descompressiva não apresentaram diferenças significativas nas complicações ou mortalidade. Neste subgrupo de próteses, observou-se elevada taxa de reintervenção (40% vs 5%; $p = 0.004$) e de tempo de internamento (14,9 vs 7,3 dias; $p = 0.004$).
Conclusão: A colocação de prótese como ponte para a cirurgia deve ser considerada no tratamento agudo da oclusão maligna colorrectal, pois apresenta vantagens nas taxas de anastomoses primárias, colostomias e mortalidade. Em contraste, neste estudo as próteses paliativas não apresentaram vantagem clínica significativa em comparação à colostomia descompressiva.

1. Introduction

Colorectal cancer (CRC) is the fourth most common tumor worldwide[1] and one of the cancers with the highest incidence and mortality in Portugal.[2]

CRC presents itself as acute intestinal occlusion in 10–40% of patients.[1,3–9] This is more common when the tumor is located in the left colon[4] and results in a higher postoperative mortality (12%) when compared to non-occlusive tumors (3.5%).[10]

Currently, there are two main approaches for acute decompression: the traditional urgent surgery and the endoluminal placement of self-expandable metallic stents (SEMS).[3,4,11–13] Urgent surgical resection usually involves a defunctioning stoma with or without primary resection of the obstructing tumor. Additionally, it is associated with a high mortality (15–34%) and morbidity (15–64%) when compared to elective surgery (0.9–6%).[1,3,11,14–16] Therefore, non-surgical approaches have been proposed as an alternative. Among them, SEMS placement has been increasingly used for the relief of colonic occlusion symptoms, since its first application in the early 1990s.

The endoluminal endoscopic approach is theoretically advantageous, allowing the circumvention of an emergency surgical intervention which, besides the already mentioned implications, results in a permanent colostomy in 50–66% of cases.[1,3,4,11,14,16] Additionally, it allows palliative treatment without any surgical intervention.[3,4,12,15,17] Thus, SEMS placement can be used as a bridge to elective surgery in patients with potential for curative resection or palliative treatment in patients who cannot undergo surgery or with advanced disease. However, SEMS placement also has complications (21.0–34.4%),[5,8,16] namely bowel perforation (1.2–13%), migration (1.2–11.8%) and reocclusion by tumor ingrowth (1.8–9%).[3,7,8,16,18] Moreover, SEMS does not appear to provide a significant improvement in the overall survival or in the long term prognosis.[13,14,19]

Many investigations have tried to compare SEMS vs. surgery. However, the reported results are diverse, the randomized studies are scarce and globally the population samples per study are small and have varying criteria for outcomes measurement. With this study, we aim to clarify the risk/benefit ratio of these approaches in real clinical practice, comparing: (a) SEMS placement with curative and palliative purposes; (b) SEMS placement as bridge-to-surgery vs. urgent surgery (curative purpose); (c) SEMS placement vs. urgent surgery (palliative purpose).

2. Aims and methods

2.1. Study design

This is a retrospective longitudinal nonrandomized multicenter study, involving two hospitals: Braga Hospital and Unidade Local de Saúde do Alto Minho (ULSAM). We studied all patients with acute malignant colorectal occlusion that were treated by stenting or surgery between January 2005