Acute colonic obstruction and acute diverticulitis: Multidisciplinary management

Key messages:
1. For acute colonic obstruction CT is the diagnostic modality of choice.
2. Treatment choices in acute diverticulitis are more conservative and less invasive nowadays.
3. The treatment of choice for colonic obstruction is surgical resection, with or without a conservative interval to temporally treat the obstruction.

Learning objectives:
1. The work-up of acute colonic obstruction
2. Conservative treatment of mild acute diverticulitis
3. Treatment options of acute complicated diverticulitis

Abstract:

Introduction
At the beginning of the last century, the three-stage approach was the standard for emergency left-sided colonic surgery. The Hartmann procedure became increasingly applied since advantages like immediate resection of the diseased colon, avoidance of anastomosis and a more rapid recovery outweighed the disadvantages of the risk of a permanent stoma and complications associated with the second stage. A less invasive approach to the treatment of left-sided diverticulitis has emerged in the last decade. Past diagnostic challenges required early resection because of the difficulty in ruling out malignancy. Meanwhile, there have been major developments in imaging (interventional), radiologists' expertise, antibiotic therapy and as well intensive care management and anesthesia. In acute colonic obstruction the differentiation between malignancy and (peri)diverticulitis is often also obscure.

Colonic obstruction
Approximately 60% of mechanical colonic obstructions are caused by malignancies, 20% by diverticular disease, and 5% are the result of colonic volvulus. [1-3] The challenges in acute colonic obstruction are distinguish-
Prevention
Conservative treatment has become the primary choice in the prevention of a recurrent episode of diverticulitis. This approach mainly comprises dietary advice and medical therapies. A high-fiber diet is still recommended in several guidelines despite the fact that high quality evidence for a high-fiber diet in the treatment of diverticular disease is lacking, and most recommendations are based on inconsistent level 2 and mostly level 3 evidence [33]. Lifestyle factors seem to have impact on the course of diverticular disease. Several prospective cohort studies and a number of retrospective studies have found positive associations between obesity and diverticular complications [14]. Smoking also increases the likelihood of complications in diverticulitis [15]. Lifestyle modification should perhaps have a larger role in the (preventive) management of diverticular disease and its complications.

Besides being given for the management of symptomatic uncomplicated diverticulitis, antibiotics are also applied for prevention of recurrent diverticulitis. A retrospective study of 505 patients, in which the cyclic administration of the nonabsorbable antibiotic rifaximin to prevent recurrence after complicated diverticulitis was studied, showed a significant lower readmission and operation rate in the antibiotic group [16]. In the last few years, new medical therapies such as probiotics and 5-aminosalicylic acid (5-ASA) have been studied. Probiotics, by affecting intestinal microbial flora, have been shown to have a positive effect on various gastrointestinal conditions. Probiotics seem a promising therapy for symptomatic diverticular disease and prevention of recurrence of diverticulitis, but data are limited and well-designed randomized trials with adequate sample size are needed to confirm preliminary findings [16–20]. 5-ASAs are widely and effectively used for the treatment of IBD and, since it has been postulated that inflammation in diverticular disease is similar to the inflammation in IBD, patients may benefit from treatment with anti-inflammatory medication such as 5-ASA. A review of 6 RCTs showed that patients treated with 5-ASA had significantly better outcomes and that mesalazine scheduled daily was superior to cyclic administration to prevent relapse of diverticular disease, so it seems that 5-ASAs may have a role in the management of diverticular disease [21].

Complicated Disease
Standard of care for perforated or complicated diverticulitis evolved from a Hartmann procedure [33], to resection and primary anastomosis [34] and to treatment with antibiotics and percutaneous drainage in a carefully selected (Hinchey grade 2) patient subset [35].

Prospective cohort studies and retrospective case series show promising results, with high efficacy, low mortality, low morbidity and a minimal need for a colostomy [36–39]. Laparoscopic lavage for perforated purulent diverticulitis has great potential and its performance and use is gradually inclining since its introduction in 1996. Currently, the LapLAND study from Ireland and the DILALA and SCANDIV study from Scandinavia are comparing laparoscopic lavage versus resection for Hinchey 3 diverticulitis in an RCT and are currently recruiting patients [40–43]. Furthermore, the Ladies trial, a two-armed RCT from the Netherlands, is including patients to investigate whether laparoscopic lavage and drainage is a safe and effective treatment for patients with purulent peritonitis and what the optimal resectional strategy is in patients with purulent or fecal peritonitis [44].

References:
59. Labow SB, Salvati EP, Rubin RJ: The Hartman procedure in the treat-