

Diverticular disease. When to perform elective surgery?

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Approximately 40% of the western population presents colonic diverticula at 50 years of age, and they have a 4% risk of developing diverticulitis (15% complicated) over a period of 10 years.¹⁻³ After overcoming the inflammatory episodes, the indication to perform sigmoidectomy is clear when stenosis, fistulas, or tumors where it is not possible to rule out neoplasia are left as a sequel. However, when inflammation is overcome without sequelae, the elective surgical indication is controversial and has changed over the years. Historically, the idea of elective surgery for these patients was based on precepts such as eliminating the high risk of new severe diverticulitis with the possibility of perforation, high morbidity and the need for ostomy. Other dominant precepts for many years were that patients younger than 50 years, as well as those with multiple diverticulitis, had a significantly higher risk of recurring in a complicated way.^{4,5}

When indicating surgery in this setting, we must analyze the scientific evidence of these old precepts and contrast the real risk of complicated recurrence with the effectiveness and risks of elective sigmoidectomy. Chapman et al.,⁶ in their 2006 publication questioned the surgical indication at that time, to operate after 2 episodes of diverticulitis. Contrary to the precept that after repeated inflammatory episodes the possibility of response to medical treatment was low and mortality high, this group showed that only 150 out of 330 patients with complicated diverticulitis had a previous history. When analyzing the latter subgroup, it was observed that those with 1 or 2 previous episodes had a higher risk of perforation and need for ostomy surgery than those with a history of 3 or more previous episodes. Based on this, the authors conclude that the recommendation to indicate elective surgery after two inflammatory episodes was late in many cases and unnecessary for others, since most complicated diverticulitis occurs in patients with no history.

Analyzing the evidence on recurrence of diverticulitis, the results of the review carried out by Strate et al.⁷ are interesting. They analyzed 25388 patients from 10 studies and calculate a recurrence of 189/1000 patients

(95% CI 185-193) at 5 years, of which 30% will present multiple episodes. It is also reported that the recurrence in patients under 50 years of age was 234/1000 (95% CI 217-256) and in those over 50 years was 166/1000 (95% CI 163-174). But the point that contributes the most to this analysis is that recurrences as complicated diverticulitis were 42/1000 (95% CI 30-54), with a risk of emergency surgery of 43/1000 (95% CI 41-46) and ostomy of 1/22000 (95% CI 21-25).

In other words, by indicating elective surgery, we are seeking to prevent an overall recurrence of 19%, a complicated recurrence of 4.2% and a possibility of ostomy of 2.2% at 5 years. These results must be compared with the effectiveness and complications of elective surgery.

When analyzing the effectiveness of surgery, sigmoidectomy with a distal section at the level of the upper rectum eliminates the area of high pressure at the rectosigmoid junction, reducing the possibility of repeated diverticulitis to a 2.8% in a 6.5 years follow-up.⁸ However, when resection leaves a remaining distal sigmoid, the chances of recurrence are 12.5%. The study of Thaler et al.⁸ has not registered cases of reoperation due to recurrence in 236 analyzed patients. On the other hand, the proximal colonic section should be performed in a site without inflammation or hypertrophy of the muscular layer to decrease the rates of anastomotic dehiscence, not giving importance to the eventual persistence of proximal diverticula.⁹ This information confirms that a technically correct sigmoidectomy is effective in the prevention of diverticulitis. Regarding major complications associated with elective sigmoidectomy for previous episodes of diverticulitis, Strate et al.⁷ report a risk of 111/1000 patients (95% CI 20-273) in open surgery and 87/1000 (95% CI 49-130) in laparoscopic surgery in the first 3 postoperative weeks. In our publication of 2016 from the Hospital Aleman, the rate of major complications in laparoscopic sigmoidectomies due to a history of previous diverticulitis was 4.1%, with an anastomotic dehiscence rate of 2.1%.¹⁰

Analyzing these results, we can conclude that elective surgery in these patients does not significantly reduce the risk of ostomy (Graphic. 1).

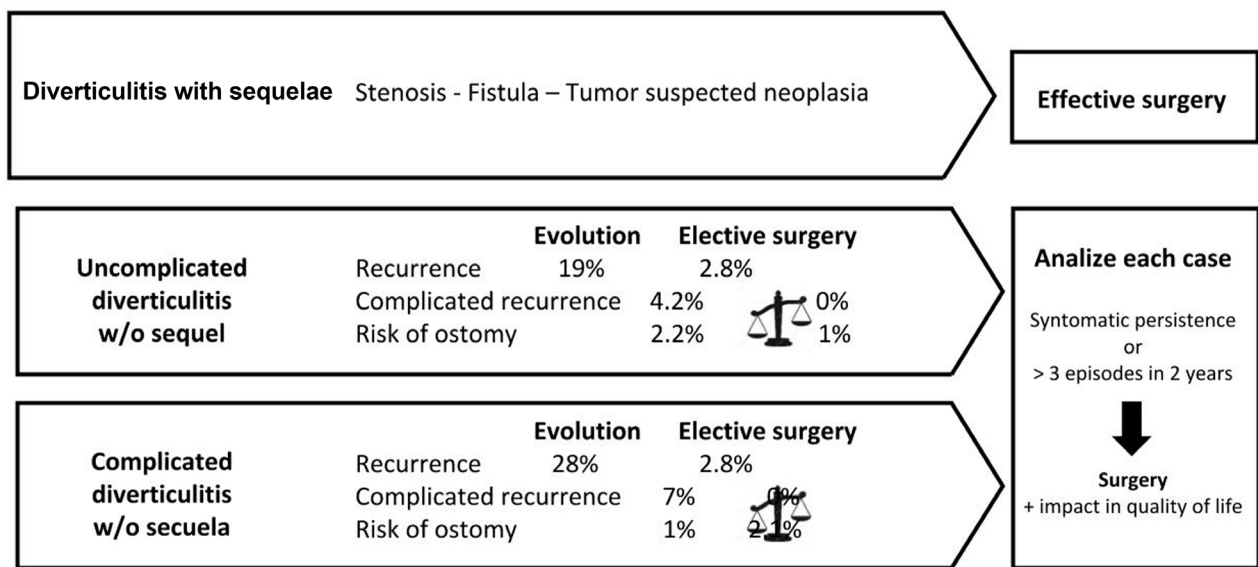
However, it is clear that those patients with recurrent diverticulitis have a clear impact on their quality of life. This aspect was analyzed in the DIRECT TRIAL stu-

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Graphic 1: Indication for elective sigmoidectomy for diverticular disease.

dy,¹¹ where 109 patients with recurrent diverticulitis (≥ 3 episodes in 2 years) or persistent symptoms (≥ 3 months after an inflammatory episode) were included and randomized into two groups, conservative management versus elective laparoscopic sigmoidectomy. Six months after randomization, the impact on quality of life (GIQLI) was evaluated, observing that patients who underwent surgery had a higher score (114.4 ± 22.3 vs. 100.4 ± 22.7). Of the patients in the conservative treatment group, 23% had to undergo surgery for increased abdominal symptoms. Of the operated patients, 15% presented anastomotic dehiscence. Considering these results, patients with symptomatic persistence and those with more than 3 episodes of diverticulitis in 2 years would improve their quality of life with surgery.

Another setting to consider is how to manage those patients who have overcome complicated diverticulitis without sigmoidectomy (abscesses managed under medical treatment/percutaneous drainage, or purulent peritonitis managed with peritoneal lavage). Although most of the recommendation guidelines suggest elective sigmoi-

dectomy based on the high recurrence rate and symptomatic persistence, many question this indication because it is based on retrospective, heterogeneous studies with a limited number of patients.^{12,13} It is interesting the systematic review by Lamb and Kaiser,¹⁴ that analyzed 1051 patients (22 studies) and identified 739 who overcome complicated diverticulitis without resection. Of these, 28% presented symptomatic recurrence and 0.94% presented perforation with peritonitis. But the interesting fact is that 364 patients who were never indicated elective surgery could be identified and these presented 18% of symptomatic recurrence with 0.5% of free perforation. Unfortunately, it includes papers with a limited number of patients and limited follow-up. Despite this bias, considering these results, the greatest problem would be symptomatic recurrence and not the development of acute complications, making it feasible to observe the evolution of the patient over time and consider the indication for elective surgery analyzing each case.

In conclusion, Graphic 1 summarizes the indications for elective sigmoidectomy for colonic diverticular disease

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