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Editorial

Where Is Haemorrhoidal Surgery Heading?☆



¿Hacia dónde va la cirugía hemorroidal?

The multifactorial aetiology and pathogenesis of haemorrhoidal disease, which continues to be controversial today, contrast with a surgical treatment that, at least until recently, has been clear. Haemorrhoidectomy have been considered the treatment of choice for advanced grades III and IV haemorrhoids because of its excellent long-term results, in spite of the important rate of complications and high degree of postoperative pain.

Seeking to mitigate the well-known drawbacks of classical haemorrhoidectomy, and with a different pathophysiological orientation, other techniques have been developed over the last 2 decades based on different theories.

Thompson's theory,¹ based on the degeneration of the supporting tissue of the haemorrhoidal plexus with the consequent mucosa-haemorrhoidal tissue descent and prolapse, motivates Longo's circular staple anopexy, which attempts to proximally reposition the haemorrhoidal plexus, thereby re-establishing the rectoanal anatomy.²

This technique quickly gained popularity due to less postoperative pain and the possibility of increasing the number of patients operated on in outpatient surgery. As with many techniques, the initial enthusiasm decreased with the passage of time, especially when severe complications were observed and recurrence rates were higher than in conventional haemorrhoidectomy. Much has been written both for and against this technique, so I will not go beyond saying that I agree with Hidalgo et al.³ and I consider it a valid technique, provided patients are properly selected and surgeons adequately trained.

The theory based on increased arterial flow supports another technique that is arising as an alternative to resective surgery: haemorrhoidal dearterialisation with haemorrhoidopexy, a technique that has experienced a boom in recent years, which is largely the reason for this editorial.

The classic description of Miles of the 3 haemorrhoidal arteries originating from the upper rectal artery has currently been modified with the aid of different diagnostic techniques,

such as *in vivo* three-dimensional Doppler angiography, which has demonstrated an average of 5 arteries and a range from 3 to 9. It also shows an increase in the number of arteries from 3 in grade 1 haemorrhoids to 6 in grade 4 haemorrhoids.⁴

In addition, because haemorrhoids are sinusoids (that is, vascular structures without a vascular wall⁵), and because there is no capillary interposition between the arteries and veins in the anal canal, the theory of excess arterial flow would have its "raison d'être" as responsible, at least in part, of the growth and subsequent descent of the haemorrhoidal plexus.

Even before these advances were made, in the 1990s Jaspersen et al.⁶ and later Morinaga et al.⁷ presented their techniques for the treatment of internal haemorrhoids based on Doppler-guided arterial identification, which facilitated interruption of the arterial flow through sclerosis or ligation.

Thus, the goal of Doppler-guided dearterialisation is to reduce the excess blood flow to the hemorrhoidal plexus by transmucosal arterial ligation in the distal rectum. The expected effect is the reduction in volume of the hemorrhoidal plexuses, resulting in improved symptoms.

To perform this technique, a proctoscope is used equipped with a Doppler transducer, which is able to identify the artery and a window to perform its ligation. There are several devices on the market with small technical variations that provide similar results, regardless of the type of instrument.

Interruption of arterial flow can also be achieved with a laser diode, whose energy extends to a depth of up to 4 mm that reaches the hemorrhoidal arteries.⁸ However, to date, there is not as much published experience as with arterial ligation.

As with stapled circular anopexy, Doppler-guided dearterialisation aroused great enthusiasm in reducing postoperative pain compared to haemorrhoidectomy, with good overall short- and mid-term results in symptoms control, comparable to conventional surgery.⁹

However, as the follow-up period increases, so does the rate of recurrence, mainly of prolapse, with very variable

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numbers among the multitude of published studies and an average of about 11%,¹⁰ which is higher than that of conventional haemorrhoidectomy.

In haemorrhoids with significant prolapse, a later modification of the technique has been introduced, consisting of performing haemorrhoidopexy of the prolapsed tissue in order to reposition the transitional rectoanal area by lifting, which follows the philosophy of the Longo technique in a certain manner. In this way, it is possible to reduce the recurrence of prolapse beyond the one-year follow-up to values between 6% and 9% in grade III and IV haemorrhoids, with satisfaction rates above 90%, although in exchange for a higher degree of postoperative rectal tenesmus.^{11,12}

The reduction of pain, a factor used to define the advantage of a technique, is an issue in which there is no unanimity.¹³⁻¹⁵ The evaluation of postoperative pain is not easy, and the methods of evaluation vary according to the studies. In proctology, there is an inevitable triggering factor—defecation—and few studies reviewed analyse this factor, even though we know that it is essential to consider in haemorrhoidal surgery.¹⁶

In addition, we must differentiate tenesmus (which this technique invariably presents during the first few days) from the more clearly somatic pain of haemorrhoidectomy, which for the patient is often difficult to differentiate and therefore to transmit to the evaluating staff.

In any case, it seems clear that there is less pain and a higher overall level of well-being in non-resective techniques during the first 2 weeks post-op, although the results may not be as dramatic as expected at first, especially when adding haemorrhoidopexy.

There are also other controversial aspects, for instance whether the selective identification of arteries by Doppler is useful for obtaining good results with this technique,¹⁷ or whether what is truly useful is mucopexy more than dearterialisation.¹⁸

In a multicentre study with more than 800 patients, Ratto et al. advocate the use of Doppler for arterial identification, but with a more distal ligation about 2 cm above the anorectal junction, which is where most vessels are found more superficially in the submucosa. The authors also consider selective haemorrhoidopexy essential.¹⁹

More than 20 years have passed since the beginning of the use of dearterialisation, and in conjunction with the implementation of haemorrhoidopexy since 2007, which I consider essential in grades III and IV haemorrhoids, as the results in terms of bleeding and prolapse are comparable with a lower rate of complications. However, it is still necessary to wait some years for the publication of studies with long-term follow-up results.

It is also possible to conclude that postoperative pain, the main disadvantage of haemorrhoidectomy, can be improved, although agreement on this statement is not widespread. In any case, it seems clear that a greater percentage of outpatient surgery is reached, which is important to compensate for the expense involved in these instrumental techniques.

We are therefore faced with a technique with no anal wounds, indicated for most advanced haemorrhoids as a valid alternative to haemorrhoidectomy, which would be reserved for certain large grade IV haemorrhoids.

To answer the question in the title of this paper, we can say that haemorrhoidal surgery is headed towards less surgical invasion, shorter hospital stays and a faster return to normal life, which is the current trend in most surgical specialties.

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