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Whitehead's hemorrhoidectomy. A useful surgical procedure in selected cases

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Abstract At the present time Milligan-Morgan's operation is the most diffusely employed and is widely considered to be the most effective of the various surgical techniques for the treatment of hemorrhoids. In this study we report our experience with Whitehead's radical hemorrhoidectomy. In a 5-year period, 1450 patients with hemorrhoids were treated at our Coloproctologic Unit. We routinely carry out the Milligan-Morgan operation. Nevertheless, in 26 patients the Milligan-Morgan operation was judged to be impossible to perform, in that the prolapsed hemorrhoids were completely irreducible and it was not possible to distinguish and separate the three piles. These patients thus underwent Whitehead's radical hemorrhoidectomy. All the patients who underwent Whitehead's operation were discharged within the fifth post-operative day. No episodes of incontinence were observed in any patient. The patients were followed for three years after the operation. In only one case did we verify an anal sub-stenosis three months after the operation, which resolved after the use of anal dilators for one month. The stenosis did not recur in the course of follow-up. There were no cases of mucosal ectropion. In conclusion, the type of hemorrhoidectomy

which a surgeon performs is primarily based on the surgeon's experience and training. Nevertheless, a competently performed Whitehead's hemorrhoidectomy can give satisfying results. These results are explained by improved knowledge of the anatomy of the anal region and a more accurate surgical technique. On the basis of our experience we believe that Whitehead's hemorrhoidectomy still has its place in selected cases with precise indications.

Key words Hemorrhoids • Hemorrhoidectomy • Whitehead's radical hemorrhoidectomy

Introduction

Whitehead's hemorrhoidectomy was first described in 1882 [1]. After an initial success, the procedure was subsequently completely abandoned because of the high frequency of reported complications [2]; the most frequent and feared of these is stenotic scarring of the anal orifice [3, 4].

At the present time Milligan-Morgan's operation is the most diffusely employed and is widely considered to be the most effective of the various surgical techniques for the treatment of hemorrhoids [3, 5, 6]. The other techniques derived from the Milligan-Morgan hemorrhoidectomy, such as Ferguson's operation and Parks' operation, are technically more complex but just as viable. The duration of surgery in these procedures is certainly longer and, if not carried out correctly, there is a higher frequency of recurrence.

We routinely carry out the Milligan-Morgan operation with results that are completely in accordance with those in the literature [3, 5, 6]. Even in the case of hemorrhoids which involve the entire circumference of the anus, it is our custom to carry out the Milligan-Morgan operation with excision of the three principal piles and submucosal removal of the fourth pile. We are always very accurate with regard to respecting and checking the integrity of the mucocutaneous bridges. Nevertheless, in cases where the Milligan-Morgan operation has been judged to be

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impossible to carry out, we have been performing Whitehead's radical hemorrhoidectomy. The adopted surgical technique and the results of our experience are reported in this paper.

Patients and methods

In a 5-year period, 1450 patients with hemorrhoids were treated at our Coloproctology Unit. Of these, 450 underwent single or multiple rubber band ligations [7] and 1000 underwent surgical treatment. The Milligan-Morgan procedure was the most diffusely employed technique. In 26 patients the Milligan-Morgan operation was judged to be impossible to perform, in that the prolapsed hemorrhoids were completely irreducible and it was not possible to distinguish and separate the three piles. These patients thus underwent Whitehead's radical hemorrhoidectomy, which was carried out as described below.

Surgical technique

With the patient in the prone position, after infiltration of adrenaline in normal saline (1:200 000), we commenced dissection of the anoderm from the mucosal cylinder. Then, positioning a bivalve rectal retractor, we completed the dissection and incised the rectal mucosa proximal to the pectinate line. The mucosa was anchored above the level of the pectinate line at the four cardinal points with a 3-0 reabsorbable suture, in order to prevent retraction.

The resection of the cylinder was carried out in such a way as to identify the entire circumference of the internal anal sphincter. Identifying and correctly following the plane of excision, the dissection was almost bloodless: hemostasis at the end must be perfect.

We then proceeded to suture the anoderm to the rectal mucosa with anchorage to the superior margins of the internal anal sphincter with 3-0 reabsorbable interrupted sutures. Once the retractor is removed the suture automatically falls to the internal part of the anus. With a modest traction on the sutures, it is possible to visualize and control the suture line (Fig. 1). The anastomosis must not be under tension, the margins must be well perfused and all possible sources of bleeding must be eliminated.

In the postoperative period we exercised the same precautions as after the Milligan-Morgan operation: bulk laxatives in order to soften the stool and analgesics for the first 2-3 days.

Results

Over the course of 5 years, 26 of 1450 patients were treated surgically with Whitehead's operation, because the conditions of their hemorrhoids (Fig. 2) made the Milligan-Morgan procedure impossible. All the patients who underwent Whitehead's operation were discharged within the fifth postoperative day. The immediate complications noted were one episode of acute urinary retention, two cases of intense anal pain and one case of minor rectal bleeding, all of which resolved spontaneously. We did not observe, either in the short- or the long-term, episodes of incontinence. All the patients were followed for three years after the operation. In only one case did we verify an anal sub-stenosis three months after the operation (Fig. 3), which did not require an anoplasty, but resolved after the use of anal dilators for one month. The stenosis did not recur in the course of follow-up. There were no cases of mucosal ectropion.

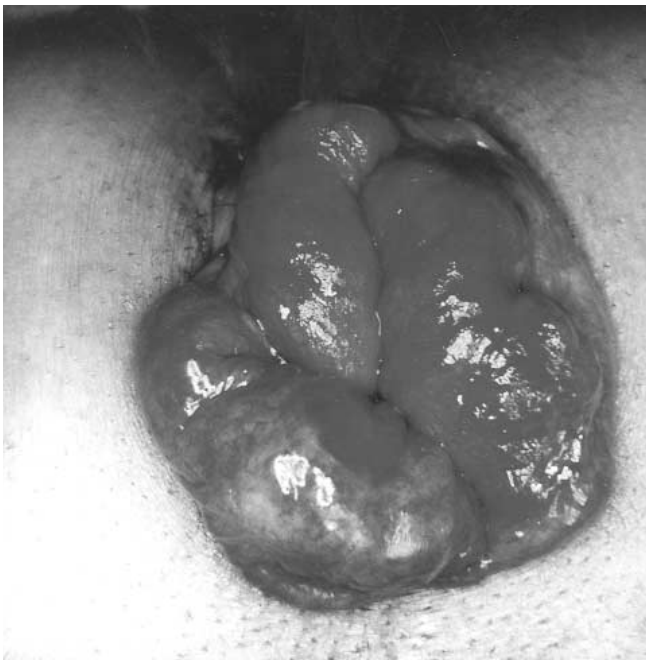


Fig. 1 With a modest traction on the sutures, it is possible to visualize the suture line



Fig. 2 Circumferential prolapsed hemorrhoids which were completely irreducible. It was not possible to distinguish and separate the three piles



Fig. 3 At the 3-month follow-up, the anal canal was wide

Discussion

While Whitehead described good results with his procedure, many surgeons who attempted the procedure encountered problems [8]. Today, Whitehead's hemorrhoidectomy is rarely employed by surgeons because of the postoperative complications [3]. When performed incorrectly, in fact, the procedure has been associated with high rates of stricture, loss of normal sensation and the development of ectropion, commonly referred to as the "Whitehead deformity" [5]. These postoperative complications are often challenging to correct. Common mistakes in performing the Whitehead's hemorrhoidectomy include excising excess anoderm and failure to recreate the dentate line in the correct location. Corman believes that the procedure that frequently results in these complications is not truly the one that was originally described [3]. Whitehead clearly described that the mucosa was to be sutured to the anal canal above the level of the pectinate line; if surgeons misinterpreted this description and they anchored the mucosa to the skin at the anal verge, dehiscence at the suture line would often result, and the wound would heal by second intention. Finally, it was believed that the mucosa should never be anchored to the skin outside the anal canal [3].

Barrios and Khubchandani reported their experience with a modified Whitehead technique [9]. The modification involved removal of the entire anoderm with preservation of the perianal skin; the edges of anal mucosa were not sutured to the skin, but to the submucous tissue. Satisfactory results were obtained in 41 patients, although the authors noted high rates of complications, both postoperatively (32% incidence of urinary retention, 5% incidence of hemorrhage) and later (10% incidence of stenosis, ectropion and fecal incontinence) [9]. In a later report on the results of the Whitehead operation on 84 patients, Khubchandani noted late complications, such as incontinence and anal stricture, in 13% of the patients [10].

Despite its poor reputation, a few highly specialized centers have reconsidered Whitehead's hemorrhoidectomy and have reported encouraging results [8, 9, 11]. Wolff and Culp from the Mayo Clinic observed morbidity in only 12% of almost 400 Whitehead procedures followed for 3 years and reported no development of postoperative complications, such as recurrence, deformity or stricture [11]. On the other hand, in a series of 1715 patients who underwent Whitehead's hemorrhoidectomy, only 19 cases of postoperative stricture and one case of ectropion were observed [8].

A recent trial compared a modified Whitehead's hemorrhoidectomy to a modified Ferguson's technique in 28 patients [12]. The four-bundle technique (modified Ferguson's operation) was found to be easier and required less operative time to perform. However, at six months there was no difference in patient perception of success [12]. Boccasanta and co-workers noted that Milligan-Morgan's hemorrhoidectomy had a high recurrence rate in patients with circular grade IV hemorrhoids [13]. These authors believed that in such cases a circular hemorrhoidectomy, with complete elimination of residual piles, and anoplasty may be more successful. In their experience on 100 patients, 81% of patients had a complete recovery and the recurrence rate was only 4%. The cumulative rate of early and late complications was 34%.

These results are explained by improved knowledge of the anatomy of the anal region and a more accurate surgical technique [3, 8, 11]. The recognition of all the elements of the anal canal is fundamental. It is necessary to identify the superficial fibers of the striated sphincter, the intersphincteric line, the internal anal sphincter and the dentate line. The excision of the mucosal cylinder must be complete; the suture for the reconstruction of the mucocutaneous junction must be carried out in such a way as to approximate the anoderm to the rectal mucosa, anchoring the superior margin of the internal anal sphincter, as originally recommended by Whitehead [1]. The anastomosis must not be under tension, its margins must be well perfused and hemostasis must be perfect.

The type of hemorrhoidectomy which a surgeon performs is primarily based on the surgeon's personal experience and technical training [14, 15]. Nevertheless, a compe-

tently performed Whitehead's hemorrhoidectomy can give satisfying results. If the following guidelines are rigorously respected, the feared complications linked to this surgical procedure, such as wet anus and anal stricture, are significantly reduced. In the operations which we carried out we did not observe serious complications and we obtained very satisfactory results, following all the previously listed technical points. On the basis of our experience we believe that Whitehead's radical hemorrhoidectomy still has its place in selected cases with precise indications.

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Invited comment

This is a well written paper incorporating a large number of patients. In a 5-year period, the series constituted 1450 patients with hemorrhoids, of which 450 patients underwent rubber band ligation, and 1000 underwent surgical treatment. This is contrary to the practice in most other centers, where the ratio for banding to surgery is estimated to be higher than 10:1.

It is interesting that the authors performed the surgery in a jack-knife position with local anesthesia. This certainly is a departure from classic Milligan-Morgan technique. I am certain that the position and the infiltration of epinephrine defined the anatomical landmarks more clearly and, hence, the success of the operation.

The main indication for Whitehead's operation, as the authors described, is the inability to group the patients in circumferential thrombosed prolapsed hemorrhoids. Using a local anesthetic infiltration technique, particularly with incorporation of hyaluronidase in the mixture, often the edema will resolve immediately and permit the surgeon to group the hemorrhoidal masses into three classic areas, or perhaps four. A consensus is developing that hemorrhoidectomy should be less radical, and if there are any secondary or residual hemorrhoids, banding can be resorted to postoperatively.

I take issue with the statement the authors have made regarding the Ferguson technique being more complex, taking longer, and having higher frequency of recurrence. Certainly, that is not the case in our large series of modified Ferguson technique [1].

The authors should be congratulated on reporting about a time-honored procedure, which has been maligned because it has not been performed appropriately. Certainly, their results are excellent.

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