Original Article

ROUTINE INTERNAL SPHINCTEROTOMY WITH HEMORRHOIDECTOMY FOR THIRD AND FOURTH DEGREE HEMORRHOIDS GREATLY IMPOROVES THE OUTCOME

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Introduction

Hemorrhoids are the most common pathophysiological disorder of the anus in the western civilized world [1]. It is a very widespread disease that affects people in many different ways, it the continuous burden and inconvenience of pruritis and weeping, the pain of thrombosis and/or the fear inflicted by bleeding[2]. The different treatment modalities reflect the different interpretation of the illness by physicians and patients alike[2]. Surgical treatment offers the best chance of permanent cure of hemorrhoids as no other method approaches the precision and certainty of outcome provided by an expertly performed operative hemorrhoidectomy[3]. The procedure itself can be executed utilizing either the open or closed techniques [4]. The open (Milligan-Morgan) method entails removal of the hemorrhoid cushions and adjacent skin tags with excellent drainage of the wound while in the closed (Ferguson's or one of its modifications) method the resulting wound is closed in a variety of techniques leaving virtually no raw surfaces. The main drawback of operative hemorrhoidectomy is pain in the first postoperative week[3]. Special care should be given to urine retention which is the commonest complication in anorectal surgery in general[2]. In addition, stenosis and incontinence are the most feared complications of hemorrhoidectomy. Both develop exceptionally after scarring of a large mucocutaneous defect following the operation. Stenosis will lead to increasing constipation, reduction of stool volume, abdominal cramps and rectal bleeding [5]. Internal anal sphincterotomy represents a valid addition to hemorrhoidectomy assuring a better postoperative period. It removes pain by abolishing the hypertonicity of the internal anal sphincter and, consequently, avoids stenosis[6]. It was initially described in conjunction with Milligan-Morgan hemorrhoidectomy for cases with a fisure-in-ano or sphincter hypertonia complicating hemorrhoids[7,8]. In case of fissure-in-ano, several studies that evaluated the results of internal anal sphincterotomy concluded that it is an ideal procedure for the treatment of this rather common anal disorder. The clinical effects of internal sphincterotomy with hemorrhoidectomy were also evaluated through the change in anal pressure before and after treatment with clinical symptoms and manometric studies both indicating significant reduction in the resting anal pressure[9]. Furthermore, it's effectiveness on both postoperative pain and prevention of postoperative stenosis is confirmed[2]. Improvements in the outcome of hemorrhoidectomy, by adding internal sphincterotomy, are also reflected into a shorter postoperative hospital stay[3]. It is worth noting, though, that all the above mentioned studies utilized internal sphincterotomy as an adjunct to hemorrhoidectomy in selected cases and/or special

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situations only, we, in contrast, used the technique routinely in all the operations that we performed for third and fourth degree hemorrhoids.

Patients And Methods

From June 1998 to June 2001, inclusive, 200 patients presenting with third or fourth degree hemorrhoids were included in this study. Patients presenting with additional anal pathology, like fistula-in-ano or fissure-in-ano, were excluded. The patients were divided randomly into two groups each with 100 patients. Those admitted on an odd-numbered day were allocated to group A and they underwent open hemorrhoidectomy in the classical (Milligan-Morgan) fashion while those admitted on an even-numbered day were allocated to group B and they underwent open hemorrhoidectomy together with internal anal sphincterotomy. The postoperative complications, whether early (pain and urine retention) or late (stenosis), were evaluated along with the duration of hospital stay. All the operations were done exclusively by the author to eliminate the effects produced by personal variation while the same surgical team carried out the postoperative evaluation and assessment. Severity of post-operative pain was assessed according to the type and frequency of administration of analgesia given which followed an "on-the-patient's-demand" scheme which proved quite efficient in the author's experience[10]. Pain was labeled "mild" if it improved with a single dose of non-narcotic analgesia (75 mg of Diclofenac sodium I.M.), "moderate" if a favorable response needed more than one dose and "severe" if it called for narcotic analgesia (100 mg Pethidin I.M.) for relief. All the patients underwent digital anal examination starting from the fifth postoperative day to assess for anal stenosis and whether anal dilatation was needed or not.

Technique:

The operation is performed in the lithotomy position but there is no reason why it shouldn't be done in other positions suitable for hemorrhoidectomy like the prone jackknife position. The procedure is executed initially in the classical manner, i.e. dissecting each pile, starting at the mucocutaneous junction, up to the pedicle where it is transfixed and excised along with the mucosa that overlies it. After this step, and exclusively for patients of group B, a Park's anal retractor is applied and opened to its full extent thus rendering the internal anal sphincter taut, clearly visible and palpable at the floor of the excised mucosa that overlies it. After this step, and exclusively for patients of group B, a Park's anal retractor is applied and opened to its full extent thus rendering the internal anal sphincter taut, clearly visible and palpable at the floor of the excised piles. Now, fibers of the internal sphincter are divided under direct vision, at one location, up to 1 cm cephalad. Digital pressure, with a piece of gauze, over the area for a few minutes ensures hemostasis in the vast majority of patients but, quite infrequently, a ligature of fine catgut might be needed. At the end of the operation, and for both groups, hemostasis is secured and the wounds are left open. Light packing is applied.

RESULTS

Male to female distribution was more or less similar in both groups (81 males and 19 females in group A versus 79 males and 21 females in group B), and the difference was statistically not significant. Hospital stay for group A patients ranged from 2 to 7 days (mean = 4.5 days) while for group B patients it ranged from several hours to 3 days (mean = 1.5 days), the difference was found to be highly significant ($P<0.0001$, measured by the student t-test). Urine retention occurred in 14 patients (14%) in group A, one of which was a female, and only in 2 patients (2%), both males, in group B; the difference was also proved to be highly significant ($P<0.01$, measured by the proportional Z-test). Only 2 male patients in group A needed catheterization to evacuate their urinary bladders while in all the others, including the 2 patients in group B, conservative measures and reassurance proved effective in relieving retention. Details are shown in figure 1. It was the difference in the magnitude of postoperative pain amongst the two groups that was most remarkable. Pain was markedly less severe for patients in group B as detailed in figure 2. On the same day of the operation (day 1), 48 patients in group A (48%) developed mild pain, 34 (34%) had moderate pain while 18 (18%) experienced severe pain. Comparable figures for patients in group B were 81 (81%), 17 (17%) and 2 (2%). On day 2, 21 patients in group A (21%) needed paranteral analgesia once and 2 more others (2%) actually needed more than one injection on that same day, while in group B, only 3 patients (3%) needed paranteral analgesia once and non did for more than once on that particular day. Furthermore, 6 patients in group A (6%) still needed paranteral analgesia on day 3 compared to no one in group B. Lastly, 13 patients

once and non did for more than once on that particular day. Furthermore, 6 patients in group A (6%) still needed paranteral analgesia on day 3 compared to no one in group B. Lastly, 13 patients in group A (13%) ended up with clinically detectable anal stenosis that was assessed by digital anal examination according to the plan outlined above. All of them underwent subsequent anal dilatation that had to be performed under general anesthesia in one instance. In contrast, such a complication never happened in group B, the difference was, again, found to be highly significant ($P<0.01$, measured by the proportional Z-test).

Discussion

Looking at figure 2, it is clearly evident that the addition of internal anal sphincterotomy to hemorrhoidectomy played an instrumental role in easing the postoperative morbidity dramatically, especially so with regard to post-operative pain. Eighteen patients (18%) in group A had severe pain on post-operative day 1 compared to only 2 (2%) of those in group B. Not only that, but less than half of the patients in group A (48%) experienced mild pain on that same day while the vast majority of patients in group B (81%) went through the same experience. Furthermore, the number of patients in group A who had moderate pain on day 1 was double that of patients in group B (34 versus 17). The same figure also shows that in group B, pain was almost negligible on day 2 (3%) and not experienced at all by any patient on day3 in contrast to group A where a considerable number of patients were experiencing pain on day 2 (21% mild and 2% moderate) and 6 of them still needed injectable analgesia on day 3. The striking difference in the incidence and nature of postoperative pain amongst the two groups would seem only more significant considering the fact that pain is not only the principal complication of hemorrhoidectomy[3], but it is also the one upon which all other serious complications might consequently develop[11]; such complications like urine retention and anal stenosis. The incidence of the former in group A was seven fold that in group B (14% versus 2%), and because retention is a rather common sequel after excision of large, advanced and/or multiple hemorrhoids[11], such a reduction in its incidence improves the outcome of the procedure remarkably. remarkably. Anal stenosis, on the other hand, is regarded as an uncommon complication of hemorrhoidectomy[5] and is generally considered a technical failure in executing the operation[12] especially if a significant extent of excision is needed[13]. It is assessed on clinical grounds with digital anal examination in the immediate postoperative period as outlined above. Thirteen (13%) of patients in group A had to undergo anal dilatation postoperatively, one of them under general anesthesia, for varying degrees of anal stenosis while non of the patients in group B did. Another remarkable difference putting in mind that excision of third and fourth degree hemorrhoids does involve a rather extensive resection of tissue. Hospital stay was also significantly shorter in group B than in group A. As a matter of fact, it was cut by two thirds compared to that in group A (1.5 versus 4.5 days, respectively). This dramatic reduction is attributable, in our opinion, to the clear and significant improvement in postoperative pain effected by the addition of internal anal sphincterotomy to the procedure and the consequent reduction of all other major complications that followed it. Overall, the results discussed above would considerably improve the image of a procedure that had stood the test of time[3] and would greatly alleviate the reluctance of many patients who, despite their suffering, postpone surgery or avoid it altogether in fear of its complications.

Conclusion

Internal anal sphincterotomy should be adopted as a routine addition to operative hemorrhoidectomy for third and fourth degree hemorrhoids as it dramatically improves the outcome of this rather painful procedure and reduces the incidence of its major postoperative complications.

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