

Non-resective Treatment of Hemorrhoidal Disease: HAL/RAR, an Alternative?

Pablo Piccinini¹, Gustavo Francisco Lemme¹, Guillermo Rosato², Nicolás Avellaneda¹,
Carina Chwat², Gustavo Néstor Lemme²

¹CEMIC. CABA, Argentina.

²Hospital Universitario Austral. Pilar, Buenos Aires, Argentina.

ABSTRACT

Introduction: Consultations for complications of hemorrhoidal disease are frequent and some patients require surgical treatment. In these patients, the HAL/RAR technique can be useful.

Material and methods: In a prospective data all patients operated on with this technique in a two-year period in two university hospitals in Buenos Aires were registered.

Objective: To evaluate the complications of the procedure (primary objective) and patient satisfaction index (secondary objective).

Results: Fifty-six patients were included, median follow-up of 89 (7-469) days. The most frequent complications were pain (19.6%) and bleeding (14.2%). Twenty-three percent of patients had recurrence. On the satisfaction scale, most patients stated that they felt very satisfied or satisfied.

Conclusions: The HAL-RAR technique seems to be useful for the surgical treatment of hemorrhoidal disease, has a low rate of complications and a high rate of patient satisfaction.

Keywords: HAL-RAR; Hemorrhoidal disease; Hemorrhoidectomy

INTRODUCTION

Hemorrhoids are the most frequent reason for consultation in the area of coloproctology. Between 10 and 20% of patients affected by this condition require surgical treatment.

In 1995, Morinaga et al. from Japan,¹ reported HAL (Hemorrhoidal Artery Ligation), a novel technique based on the reduction of arterial blood flow from hemorrhoids through ligations. The flow is detected with a Doppler sensor located in an anoscope designed for this purpose. Since then, the use of this technique has spread to Southeast Asia, India, Europe and the USA.

Mucopexy, described by Faraq and Hussein, but developed and published by Scheyer,² in 2006 (RAR: Recto Anal Repair) was added later, in order to reduce the redundancy of the mucosal tissue. The entire procedure is known as HAL /RAR (Hemorrhoid Artery Ligation / Recto Anal Repair - A.M.I. GmbH, Austria).

In Argentina, the ANMAT has approved its use since June 2012 and it has been commercially available since October 2012.

The primary objective of this study was to evaluate the complication rate in patients with grade III/IV hemorrhoids undergoing treatment with the HAL/RAR technique and the secondary objective was to evaluate the de-

gree of patient satisfaction.

MATERIAL AND METHODS

This study was carried out by two surgical teams belonging to the Hospital Universitario Austral and the Hospital Universitario CEMIC. The study was approved by the ethics committee of both institutions. All adult patients operated on with the HAL/RAR technique for complicated hemorrhoidal disease between October 2012 and September 2014 were included. A telephone survey was carried out on all patients between October and December 2015 in order to assess their degree of satisfaction with the procedure. The investigation of residual hemorrhoids was carried out in the outpatient clinic.

RESULTS

Fifty-six patients (20 women), with a mean age of 50 years (range 31-70) were included. Sixty-eight percent of patients had grade III hemorrhoids and 32% had grade IV hemorrhoids. The median operative time was 40 (range 19-120) minutes. The mean number of HAL sutures was 4.6 (range 2-7) and for RAR was 2.2 (1-4). The median follow-up between surgery and the last outpatient control was 89.5 (range 7-469) days.

On a telephone survey, 82.1% of patients stated that they were very satisfied or satisfied with the procedure. Complications were: pain in 19.6% and bleeding in 14.3% of patients. Residual hemorrhoids were found in 23% of ca-

Nicolás Avellaneda

n.avellaneda86@gmail.com

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ses (n = 13). All these patients were resolved with rubber band ligation on an outpatient basis. One patient with recurrence underwent another HAL/RAR procedure. The highest rate of residual hemorrhoids (38%) was seen in the cases with 4 HAL sutures. There were no differences in the frequency of residual hemorrhoids according to the number of RAR sutures. Table 1 describes the satisfaction results according to complications.

Of the total number of residual hemorrhoids, 76.9% occurred in patients with grade III hemorrhoids. In this subgroup, 53.8% of cases rated their satisfaction as “not very satisfied”.

DISCUSSION

There are multiple treatments for hemorrhoidal disease, especially for grades I and II hemorrhoids. However, only conventional hemorrhoidectomy and PPH are considered of choice for grade III and IV. The relative risk of recurrence after a conventional hemorrhoidectomy is estimated to be around 4%.³ However, both surgical options are associated with great postoperative pain,⁴ fecal incontinence and anal stenosis.⁵ Despite this, for many authors conventional hemorrhoidectomy continues to be the standard treatment for advanced cases, because newer techniques such as PPH have not shown the same effectiveness.

According to our experience, the HAL/RAR technique is a surgical alternative that offers encouraging results given its acceptable morbidity and the high rate of patient satisfaction. Although a significant percentage of patients presented some type of postoperative complication, none of them were serious, a great advantage over other techniques that carry considerable morbidity.

Jeong et al.,⁶ considered recurrence in the cases of rebleeding and re prolapse. This study also compared pre and postoperative pain and time to return to normal activities. In our study, we consider residual hemorrhoids those cases in which a rubber band ligation had to be added to the surgical treatment to control any symptom, while recurrence refers to therapeutic failure that requires a new surgical procedure to control the hemorrhoidal disease. Having a different concept of recurrence, it

is difficult to compare this variable with the aforementioned studies.

In Jeong et al.,⁶ study, an average of 6 HAL and RAR sutures were performed. The average surgical time was 35 minutes. In our study, the average HAL sutures was 4.6 while for RAR was 2.2. In turn, other studies⁸⁻¹³ report a number of HAL sutures ranging from 5 to 10 and RAR sutures ranged from 1 to 5, more similar to our experience. The reason for these differences can be attributed to differences in surgical methods.

On the other hand, in the study by Roka et al.,⁷ the average length of hospital stay was 2.3 (range 1-9) days, a significant difference with ours that was 0.6 days. For these authors the number of sutures had a significant influence on the recurrence of symptoms; they had optimal results with 5 to 7 (median 6) HAL sutures and 3 to 4 RAR (median 4) sutures.⁷ In our experience, the highest rate of residual hemorrhoids (38%) was seen in cases with 4 HAL sutures, with no significant differences according to the number of RAR sutures.

In turn, in this work it is stated that the number of RAR sutures and in particular the number of HAL sutures proved to have an influence on the recurrence of symptoms, while the only factor that influenced the recurrence of prolapse was the hemorrhoidal grade. The only factor influencing patient satisfaction was the number of HAL sutures. In our study the percentage of patients with rebleeding referred in the telephone survey was 14%, similar to the 14.4% informed in Jeong et al. study.⁶ one year after surgery. However, this value was slightly higher than that observed in other studies.⁸⁻¹³

It is difficult to accurately compare our recurrence rates with that of other studies, since there is no uniform criteria for a reliable comparison. For example, in the study by Faucheron et al.,¹⁴ the prolapse itself was defined as recurrence, while in the study by Jeong et al.,⁶ recurrence was defined as the presence of prolapse or bleeding. In our study, we considered residual disease those cases where symptoms could be controlled with rubber band ligation, and recurrence when a new surgery was needed to control hemorrhoidal symptoms.

TABLE 1: DEGREE OF PATIENT SATISFACTION WITH THE HAL/RAR PROCEDURE ACCORDING TO POSTOPERATIVE COMPLICATIONS.

Satisfaction Index	Without complications n (%)	Pain n (%)	Bleeding n (%)	Prolapse n (%)	Pain + Bleeding n (%)	Pain + Prolapse n (%)	Bleeding + Prolapse n (%)	Pain + Bleeding + Prolapse n (%)	Total n (%)
VERY SATISFIED	34 (60.7)	1 (1.78)	1 (1.78)	0 (0)	0 (0)	0 (0)	1 (1.78)	0 (0)	37 (66.07)
SATISFIED	3 (5.35)	3 (5.35)	1 (1.78)	1 (1.78)	0 (0)	0 (0)	1 (1.78)	0 (0)	9 (16.07)
LITTLE SATISFIED	0 (0)	2 (3.57)	0 (0)	1 (1.78)	1 (1.78)	3 (5.35)	2 (3.57)	1 (1.78)	10 (17.85)
TOTAL	37 (66.07)	6 (10.71)	2 (3.57)	2 (3.57)	1 (1.78)	3 (5.35)	4 (7.14)	1 (1.78)	56 (100)

It would have been interesting to compare the pre and postoperative pain, as well as the time to return to normal activities, but these variables were not among the main objectives of our study.

The technique needs to be evaluated with a longer-term study and we consider that a large-scale multi-center study would be appropriate to increase the importance of findings. Finally, a study that analyzes the treatment of hemorrhoidal disease associated with other concomitant anal conditions would be extremely useful.

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COMMENT

Surgical treatment of hemorrhoids is reserved for third and fourth degree hemorrhoidal prolapse. The traditional surgical method entails a stormy postoperative period in a high percentage of patients, with significant pain and initial evacuation difficulty. For this reason, different less aggressive and less invasive surgical techniques have been developed in order to eliminate the symptoms without removing the hemorrhoids. One of those techniques is HAL/RAR.

Selective ligation of the hemorrhoidal artery allows a significant reduction in the blood supply of the hemorrhoidal bundle and the hemorrhoidal mucosal remnant is fixed to prevent its prolapse by performing the so-called rectoanal repair (RAR) (Pexia of the hemorrhoidal bundle).

If we compare it with the traditional method, in this procedure a deep starting point is made that seeks to frankly reduce the blood flow of the hemorrhoidal package that will later be resected. The difference is that the Doppler is not available to identify exactly where the hemorrhoidal artery is. In the traditional technique, unlike pexy, resection is continued, which would notably increase postoperative pain due to the wounds generated.

If we comparatively analyze both surgical treatments, we will notice that the less invasive (non-resective) technique generates much less postoperative discomfort than the traditional one, although some reports have shown recurrent hemorrhoidal prolapses that can be treated in a less aggressive way with elastic ligatures.

One point to take into account is the cost of the equipment, which will have to be considered prior to the surgical decision.

A problem arises when the patient has other associated proctological pathologies that we must resolve in the operative act. I believe that the HAL / RAR technique does not involve any complexity, it is effective and safe, although it is limited

CONCLUSIONS

In our experience, the HAL/RAR technique is a surgical alternative that offers encouraging results, given the high percentage of satisfied patients and their low morbidity.

A surprising association was found between those patients who received 4 HAL sutures and a higher percentage of complications, although this may be due to the fact that the majority of patients received this number of sutures.

Finally, the patients most satisfied with the treatment were those who did not have complications.

by the cost of the equipment. It does not have the postoperative complications that traditional resective techniques can present. In the event that remaining packages persist, we will always have the possibility of using some other therapeutic method to complement the treatment.

The coloproctologist surgeon will decide the appropriate therapeutic conduct according to his knowledge, the evaluation of the magnitude of the disease and the presence or not of associated conditions, thus achieving the best results with the least aggressiveness possible.

Marcelo Pollastri

Centro de Coloproctología y Enfermedades Digestivas. Rosario, Santa Fe, Argentina.