

# SAFETY AND EFFECTIVENESS OF HAL-RAR (HAEMORRHOID ARTERI LIGATION WITH RECTO ANAL REPAIR) WITH NO DOPPLER GUIDED TECHNIQUE ON STAGE III INTERNAL HAEMORRHOID: A SINGLE OPERATOR EXPERIENCE

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**ABSTRACT Background:** Many techniques have been announced to manage internal haemorrhoids. HAL-RAR is a safe and almost painless technique. It has very good results in the control of haemorrhoidal symptoms. This procedure should be considered as an effective first treatment option for haemorrhoids. The most common problem which should be discussed was the cost of this procedure, especially in routine clinical practice. We would report the safety and effectiveness of the HAL-RAR with no Doppler-guided on stage III internal haemorrhoid in a single centre teaching hospital. **Case Report:** We reported our first 61 patients with grade III internal haemorrhoid managed using modified HAL-RAR technique without Doppler-guided performed during the procedure. The patients accepted this technique well, and pain control could be achieved early in the first post-operative day. The average pain score (using Visual Analog Score) before being discharged was 1,77, and the average length of stay was 1,36 days with no post-operative bleeding found during follow up period. **Conclusion:** HAL-RAR with no Doppler-guided technique was safe and effective in reducing pain.

**KEYWORDS** safety, effectiveness, HAL-RAR, Doppler-guided, internal haemorrhoid

## Introduction

Surgical haemorrhoidectomy is still the standard gold treatment for haemorrhoidal disease but is associated with postoperative pain and complications rates of up to 15%. The concept of treatment has evolved during the last two decades, trying to minimize pain and complications of complete anatomical excision of haemorrhoids.[1] The goal is to control haemorrhoidal

symptoms with less invasive techniques such as sclerotherapy and rubber band ligation. The HAL-RAR concept approaches the problem using a different modality: treating the patients' symptoms without tissue destruction. By a Doppler guided selective ligation of the superior haemorrhoidal artery (HAL) terminal branches, the blood supply is reduced (but never totally blocked), causing atrophy of the haemorrhoidal cushions.[1,2] The second step is to perform a mucopexy or rectoanal repair (RAR) to reintroduce and fix the haemorrhoids into the anal canal. Their atrophy and posterior fibrosis will keep them in their natural position, preventing recurrence and increasing the results provided by the HAL technique if performed alone. Although it has been stated about the safety and effectiveness of this procedure, it still has many problems that must be discussed later, mainly about the cost in our clinical setting. The same technique was done during this procedure except for the

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### Case report

This is our single operator experience during performing modified HAL-RAR with no Doppler-guided use during the procedure. From 2012 until 2018, our first 61 patients with grade III internal haemorrhoid managed using modified HAL-RAR technique without Doppler-guided performed during the procedure. This technique was acceptable well by the patients. Pain control could be achieved early in the first post-operative day. The average pain score (using Visual Analog Score) before discharge was 1,77, and the average length of stay was 1,36 days with no post-operative bleeding found during follow up period. As seen in table 1.

Table 1

Subject	Characteristic		
Sex	Female	32	52.5%
	Male	29	47.5%
Age	< 20	1	1.6%
	21 - 40	23	37.7%
	41 - 60	25	41.0%
	> 60	12	19.7%
VAS	1	20	32.8%
	2	40	65.6%
	3	1	1.6%
LOS	1	39	63.9%
	2	22	36.1%

### Discussion

The HAL-RAR is a minimally invasive technique that is conceptually painless for patients since all manoeuvres and sutures are endoanal and above the dentate line; this helps an early recovery and allows an ambulatory procedure. We must remember that postoperative pain is often the most common concern for patients and professionals dealing with haemorrhoids. The results of HAL-RAR in this study show a very low postoperative pain rate (VAS is always lower than 3); moreover, it is easily controlled with oral analgesia. Some patients (30%) complained of mild tenesmus, which we attribute to the presence in the lower rectum of the cushions that have been reduced within the anal canal. Nevertheless, this is well tolerated by the patients; it disappears progressively in a few weeks and does not require hospitalization.[1,3]

The main goal of any treatment for haemorrhoids must be to cure the symptoms with a minimal rate of complications and a low recurrence rate. Early complications of the HAL-RAR technique are rare and, when present, are minor. Bleeding can occur in a small number of cases, but neither reoperation nor transfusion is necessary. By a Doppler guided selective ligation of the superior haemorrhoidal artery (HAL) terminal branches, the blood supply is reduced (but never totally blocked), causing

atrophy of the haemorrhoidal cushions. The second step is to perform a mucopexy or rectoanal repair (RAR) to reintroduce and fix the haemorrhoids into the anal canal.[1,3,4]

By a Doppler guided selective ligation of the superior haemorrhoidal artery (HAL) terminal branches, the blood supply is reduced (but never totally blocked), causing atrophy of the haemorrhoidal cushions. The second step is to perform a mucopexy or rectoanal repair (RAR) to reintroduce and fix the haemorrhoids into the anal canal.[2,4,5]

Although it has been said that this technique was safe and effective, the most common problem that must be discussed was the cost, especially in a teaching hospital. It could not be covered by government insurance for our daily practice. However, using the same technique with the standard HAL-RAR with Doppler-guided, this technique has a good clinical outcome, minimal post-operative pain and no morbidity during this initial follow-up period.

### Conclusion

HAL-RAR with no Doppler-guided technique was safe and effective, especially in reducing the cost and could be another option in managing patients with an internal haemorrhoid.

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### Conflict of interest

There are no conflicts of interest to declare by any of the authors of this study.

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