Journal of Visceral Surgery (2014) 151, 257—262

Available online at ScienceDirect www.sciencedirect.com

Elsevier Masson France EM|consulte www.em-consulte.com/en

ORIGINAL ARTICLE

A prospective and comparative study between stapled hemorrhoidopexy and hemorrhoidal artery ligation with mucopexy

A. Béliard[c], F. Labbé[a], D. de Faucal[b], J.-M. Fabreguette[b], P. Pouderoux[b], F. Borie[c,*]

[a] *Service de chirurgie viscérale, CHG de Carcassonne, 11000 Carcassonne, France*
[b] *Service d'hépato-gastroentérologie, CHU Carémeau, place du Professeur-Debré, 30029 Nîmes, France*
[c] *Service de chirurgie digestive, CHU Carémeau, place du Professeur-Debré, 30029 Nîmes, France*

Available online 13 April 2014

KEYWORDS
Hemorrhoid;
Stapled hemorrhoidopexy;
Artery ligation;
Mucopexy

Summary
Aim: The aim of this study was to compare the efficacy between stapled hemorrhoidopexy (Longo technique) and transanal hemorrhoidal artery ligation with mucopexy (THDm) in the treatment of hemorrhoidal disease.
Patients and methods: From June 2009 to January 2011, 81 patients having grade II or III hemorrhoidal disease underwent prospective evaluation followed by surgery at two centers (27 Longo and 54 THDm). Symptoms (bleeding, tenesmus, prolapse, fecal incontinence, pain) and the satisfaction score were compared on the first post-operative day and at 1, 6, 12, and 24 months thereafter. The follow-up was 24 months.
Results: There was no difference in mean length of stay. One complication (recto-vaginal fistula) was observed after Longo. The prolapse score was significantly lower after THDm than after Longo on the first post-operative day ($P < 0.0015$). Bleeding score after THDm was significantly lower on the first post-operative day ($P = 0.04$), but higher thereafter ($P = 0.03$ and $P = 0.04$). Tenesmus score after THDm was significantly lower for the first three months ($P < 0.06$ and 0.001). On the first post-operative day and at one month, the visual analog pain score was significantly lower after THDm than that after Longo ($P < 0.0003$ et $P < 0.01$). On the first post-operative day and at one month, the satisfaction score was higher after THDm than after Longo ($P < 0.001$).
Conclusion: THDm was safe and effective. Short-term outcomes after THDm were better than after Longo but long-term results seemed to be similar.

* Corresponding author.
E-mail address: frederic.borie@chu-nimes.fr (F. Borie).

http://dx.doi.org/10.1016/j.jviscsurg.2014.03.009

Introduction

Hemorrhoidal disease is a common pathology whose incidence is variably reported in the literature [1,2]. Initial treatment of grades I, II, and III is mainly based on dietary and hygienic measures (high-fiber diet, regularization of bowel movements). If symptoms persist, many instrumental and surgical treatments have been described but there is no general consensus for optimal treatment. The multiplicity of treatment modalities is partly due to the fact that indications for treatment are based on the patient's subjective perception of symptoms, while the choice of treatment modality depends on the grade of hemorrhoidal disease (degree of prolapse) and the surgeon's experience [3,4].

For grades I, II, and III, several surgical techniques can be proposed including different techniques of operative hemorrhoidectomy (Milligan and Morgan, Ferguson) and the anopexy technique of Longo. The Longo technique was developed with the aim of minimizing post-operative pain and risk of recurrence while treating the major hemorrhoidal symptoms of bleeding and prolapse [5—7]. However, its long-term recurrence rate seems higher than that of conventional hemorrhoidectomy techniques with a higher reported incidence of serious complications [8—13]. Doppler ultrasound-guided transanal ligation of the hemorrhoidal arteries with mucopexy was initially described in 1995 by Morinaga et al. (without mucopexy) as an alternative to conventional hemorrhoidectomy and anopexy. It has proven to be effective for the treatment of grades I, II, and III hemorrhoidal disease [14—18]. The addition of mucopexy seems to improve its effectiveness, especially for advanced grades.

The aim of this study was to show the effectiveness of transanal hemorrhoidal artery ligation under Doppler control (THD) with mucopexy (m) for the treatment of grades II and III hemorrhoidal disease and to compare its results with the Longo anopexy technique.

Patients and methods

Patients

Patients at two centers (Carcassonne Hospital Center and Nîmes University Hospital Center) were prospectively included from June 2009 to January 2011. Clinical data were prospectively collected by questionnaire.

Inclusion criteria: age 18—75 years, patient suffering from symptomatic hemorrhoidal disease involving at least two hemorrhoidal groups (grade II or III), or persistent hemorrhoidal disease after surgery.

Exclusion criteria: grade I or IV hemorrhoidal disease, acute ongoing complication of hemorrhoidal disease, congenital or acquired anal stenosis, chronic anal fissure or associated perianal suppuration, inflammatory bowel disease, history of colorectal cancer, past history of rectal and/or sigmoid resection, rectal prolapse, portal hypertension, systemic impairment of hemostasis, neurological disease causing direct or indirect impairment of rectal or anal sphincter motility, psychiatric condition making post-operative follow-up impossible, ongoing pregnancy or breastfeeding, adults under guardianship, patients who do not speak French, or who refuse or are unfit for the post-operative monitoring proposed by the study.

Choice of technique

During the study period, all includable patients who presented with grade II or III hemorrhoidal disease accepted either one or the other of the proposed techniques, i.e., 88% of patients undergoing hemorrhoidal surgery for a hemorrhoidal problem in each center. The patients' primary expressed desire to avoid all post-operative pain led them to refuse Milligan-Morgan hemorrhoidectomy and justified the choice of either the Longo or the THDm procedure.

At each center, a single surgical technique was performed by one surgeon who was experienced in the technique. THDm was performed at the Nîmes University Hospital Center (CHU), while Longo anopexy was performed at the Carcassonne Hospital Center (CH). During the pre-operative consultation, all the techniques were presented to the patient, detailing the advantages and disadvantages of each technique and leaving the choice to the patient (as is required by the law of 4 March 2002 on patients' rights and the quality of the health system).

All fully-informed patients chose the preferred surgical technique of the referral center where pre-operative consultation took place. Their choice of technique was based on the expertise of the center and the explanation of the surgeon's experience with the technique performed at his center. No patient who met inclusion criteria refused to undergo surgery by the technique in use at the center where they consulted, placing their confidence in the surgeon's expertise. This study was reviewed and approved by the Committee on Ethics of the institutions in June 2009.

Evaluation criteria

Symptoms

Symptom evaluation. Symptom evaluation was carried out using a standard form. The symptoms assessed were frequency of bleeding, tenesmus, hemorrhoidal prolapse, and incontinence: 0 = never, 1 = less than once/month, 2 = less than once/week, 3 = more once/week, 4 = one or more times daily.

Satisfaction. Satisfaction was evaluated according to the following score: 0 = not at all satisfied, 1 = dissatisfied, 2 = moderately satisfied, 3 = satisfied, 4 = very satisfied.

Pain assessment. Pain assessment was performed using a visual analog score (VAS score of 0 to 10). The score was developed by the authors to help quantify the qualitative aspects of symptoms.

Evaluation dates were: at the pre-operative consultation, at hospital discharge, at one month after surgery, and thereafter at 3—6, 12—18, and 24 months aiming to eventually record an evaluation score for each symptom at each point in time.

The overall score was calculated at each date as the sum of scores for bleeding, tenesmus, prolapse, and incontinence (0 to 12).

Recurrence

Patients who underwent further surgery for reappearance of symptoms after a period of improvement and with a score equal to or higher than their pre-operative score were considered to have recurrence.

Surgical techniques

Technique of THD

The procedure relies on an anoscope specifically designed to permit echo-Doppler examination (PS02-THD, THD Lab™,