

Multiple Hemorrhoidal Bandings in a Single Session

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PURPOSE: The aim of our study was to evaluate the risks of multiple hemorrhoidal bandings in a single session. **METHODS:** We retrospectively examined all of the patients who had hemorrhoidal bandings from July 1989 to August 1992. **RESULTS:** Patients with multiple hemorrhoidal banding in a single session when compared with patients with single banding had greater discomfort and pain (29 percent *vs.* 4.5 percent), but this discomfort was usually manageable with oral analgesia of limited duration. There were also more vasovagal symptoms (5.2 percent *vs.* 0 percent), local swelling and edema (2.6 percent *vs.* 0 percent), and urinary hesitancy and frequency (12.3 percent *vs.* 0 percent) in the multiple-banded patients. No major complication such as massive delayed bleeding and perineal or pelvic sepsis was noted. **CONCLUSION:** Most patients tolerated multiple hemorrhoidal banding in a single session with acceptably low complications. Multiple banding in a single session is a safe and cost-effective alternative. [Key words: Hemorrhoids; Banding; Treatment]

Lee HH, Spencer RJ, Beart RW Jr. Multiple hemorrhoidal bandings in a single session. *Dis Colon Rectum* 1994; 37:37-41.

Various treatment regimens have been developed in an attempt to alleviate hemorrhoidal symptoms. The need for hemorrhoidectomy has declined with treatment alternatives as well as better patient education regarding dietary and bowel habits.

Hemorrhoid ligation using a pre-set slip noose silk suture was first described by Blaisdell¹ in 1958. The procedure gained wide acceptance after Barron² introduced a modified technique using rubber bands. Barron² recommended that only one pile should be dealt with at a time, and that further ligation of other piles should be carried out at intervals of three or more weeks. Following the teaching of Barron,² most surgeons perform single-pile rubber band ligation at separate outpatient visits with the belief that multiple bandings in a single session will cause intolerable pain and un-

acceptable complications. Multiple treatment sessions require frequent office visits and, in addition to patient inconvenience, the health care cost is increased. To minimize the treatment sessions, some surgeons, *i.e.*, Muir and colleagues,³⁻⁵ Katchian,⁶ Khubchandani,⁷ Poon *et al.*,⁸ and Lau *et al.*⁹ have performed multiple rubber band ligations in a single session with good results and without serious complication. Results of these studies have not been widely accepted because of inadequate evaluation of complications and because of the limited number of patients in these studies. In an effort to more clearly define post-multiple quadrant banding discomfort and complications, we reviewed our experience with multiple rubber band ligations for symptomatic Grade II and III hemorrhoids.

PATIENTS AND METHODS

Records of all patients presenting to the Mayo Clinic Scottsdale with symptomatic hemorrhoidal disease from July 1989 to August 1992 were reviewed. We routinely took a detailed history, paying particular attention to anorectal symptoms. The patients were examined in a prone jackknife position and the anus and anal canal were inspected. Rigid rectosigmoidoscopy was done to rule out any lower sigmoid and upper rectal pathology. The diagnosis of hemorrhoidal disease was based on symptoms of prolapse, bleeding, and proctoscopic appearance. Alternatives were discussed and the patients choosing rubber banding underwent immediate treatment without anesthesia or sedation.

A Welch Allen anoscope, 20 mm in diameter, was inserted into the lower rectum and withdrawn into the anal canal to expose the internal hemorrhoids. A Baxter McGivney 16-inch hemorrhoidal ligator over a grasping forceps was introduced through the anoscope. The grasping forceps was applied to the base of the hemorrhoid well above the dentate line and tissue was drawn into the drum of the ligator. If pain was experienced at this point,

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Read at the meeting of The American Society of Colon and Rectal Surgeons, Chicago, Illinois, May 2 to 7, 1993.

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the tissue was released and a slightly higher painless site selected. One size zero rubber band (Baxter Healthcare Ligator O Ring) was applied to the base of the hemorrhoid. This procedure was repeated at the remaining hemorrhoids in the same session.

All patients were contacted by telephone within 24 to 48 hours after banding and were subsequently examined 3 weeks later. Patients were assessed for post-banding complications; those with acute problems were seen immediately, examined, and treated. Post-banding discomfort and pain were classified as: 1) discomfort and mild pain which was controllable with non-narcotic-containing oral analgesia, 2) moderate pain which was controllable with narcotic-containing oral analgesia, and 3) severe pain which was refractory to narcotic-containing oral analgesia and required band removal.

RESULTS

We performed rubber band ligation of hemorrhoids in a total of 177 patients. Symptoms before treatment included protrusion, bleeding, pruritus, and discharge. The majority of patients described two or more symptoms. All were available for follow-up. The mean age of patients was 64.8 years (range, 19 to 85 years). There were 92 males and 85 females.

Group 1 consisted of 155 patients who had received multiple bandings. Group 2 consisted of 22 patients who had only single banding. Of the Group 1 patients, 67.7 percent had at least 3 bandings and more male patients than female patients had multiple bandings (Figs. 1 and 2). Two percent of Group 1 patients required repeated banding to control their symptoms.

Seventy percent of the patients after hemorrhoidal banding suffered no discomfort or complication; 73.9 percent of the males *vs.* 65.9 percent of

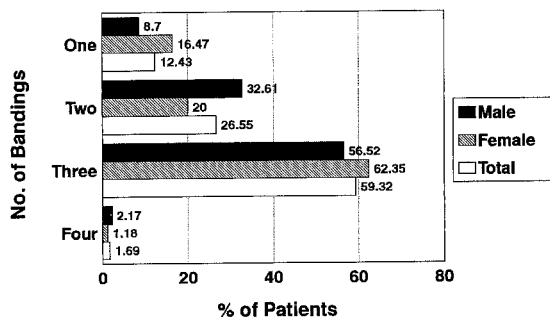


Figure 1. Number of bandings in all of the patients.

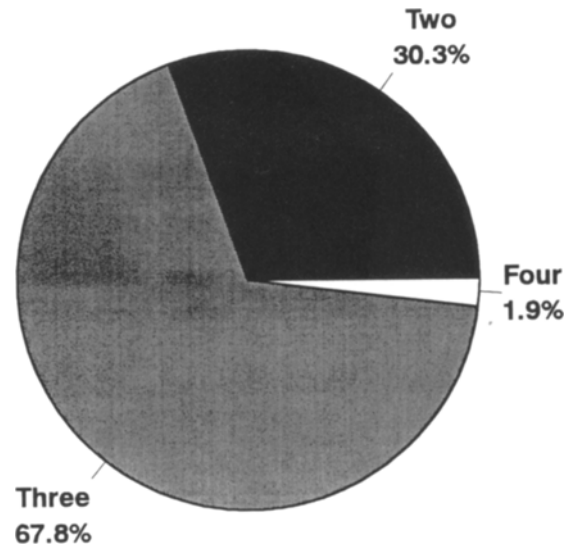


Figure 2. Number of bandings in all of the multiple-banding patients.

the females were free of discomfort and complications (Fig. 3).

Patients after multiple hemorrhoidal banding in a single session experienced more discomfort and pain than single banding. Slightly more female patients complained of discomfort and pain. Post-banding discomfort and pain were manageable with analgesia of limited duration, except for one female patient in Group 1 who experienced severe pain and required the removal of the rubber bands for relief (Figs. 4 and 5).

Patients with multiple hemorrhoidal banding experienced more urinary hesitancy and frequency (12.3 percent *vs.* 0 percent), vasovagal symptoms (5.2 percent *vs.* 0 percent), and local swelling and edema (2.6 percent *vs.* 0 percent). A small amount of bleeding during bowel movements after banding was more frequent in the multiple-banding

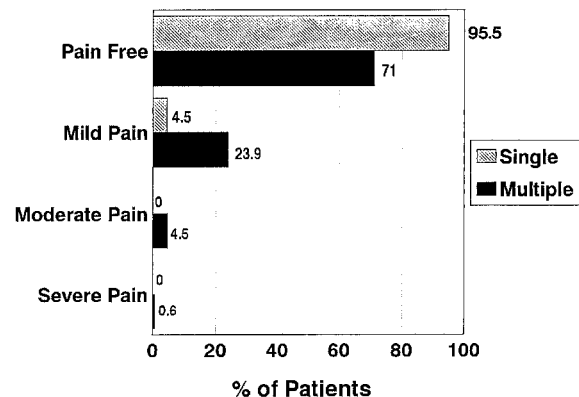


Figure 3. Post-banding pain: single vs. multiple.

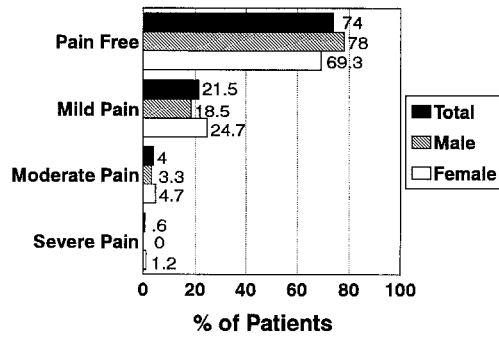


Figure 4. Post-banding pain: total, male vs. female.

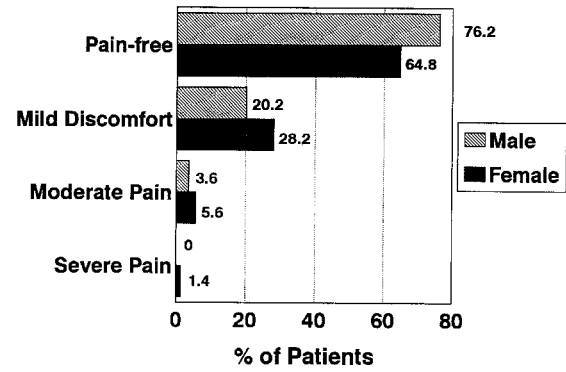


Figure 5. Post-multiple-banding pain: male vs. female.

patients (11.6 percent *vs.* 0 percent). Thrombosis of the external hemorrhoids occurred in only 2 patients (1.3 percent) after multiple bandings, but none in the single-banding group. Patients with thrombosis responded to warm sitz baths and stool softeners and thrombectomy was not done. There was no major bleeding incidence and no perineal or pelvic sepsis (Table 1).

When performing multiple bandings in a single session, additional 50 percent, 50 percent, and 25 percent of the first banding expense is allowed for the second, third, and fourth quadrant, respectively. The charges of three separated bandings would potentially be 30 percent greater than the charges of three bandings in a single session.

DISCUSSION

Over the years, numerous modifications and techniques have evolved in an attempt to alleviate hemorrhoidal symptoms. Controversy surrounds the management of this common ailment which affects at least 50 percent of the people over the age of 50.¹⁰ With better patient dietary education and an increased use of nonsurgical treatments, the need for surgical hemorrhoidectomy has declined. Bleday *et al.*¹¹ noted that 9 percent of patients with symptomatic hemorrhoids required surgery.

Internal hemorrhoid ligation using a pre-set slip noose silk suture was first described in modern

Table 1. Complications of Rubber Banding

	Total (%)	Sex	
		Male (%)	Female (%)
Vasovagal reflexes (nausea, vomiting, dizziness)			
All patients	8/177 (4.5)	3/92 (3.3)	5/85 (5.9)
Multiple banding	8/155 (5.2)	3/84 (3.6)	5/71 (7.0)
Single banding	0/22 (0)	0/8 (0)	0/14 (0)
Urinary hesitancy and frequency			
All patients	9/177 (10.7)	12/92 (13.0)	7/85 (8.2)
Multiple banding	19/155 (12.3)	12/84 (14.3)	7/71 (9.9)
Single banding	0/22 (0)	0/8 (0)	0/14 (0)
Bleeding			
Small amount after bowel movement			
All patients	19/177 (10.7)	10/92 (10.9)	9/85 (10.6)
Multiple banding	18/155 (11.6)	10/84 (11.9)	8/71 (11.3)
Single banding	0/22 (0)	0/8 (0)	1/14 (7.1)
Local swelling and edema			
All patients	4/177 (2.3)	2/92 (2.2)	2/85 (2.3)
Multiple banding	4/155 (2.6)	2/84 (2.4)	2/71 (2.8)
Single banding	0/22 (0)	0/8 (0)	0/14 (0)
Thrombosed external hemorrhoids			
All patients	2/177 (1.1)	2/92 (2.2)	0/85 (0)
Multiple banding	2/155 (1.3)	2/84 (2.4)	0/71 (9.9)
Single banding	0/22 (0)	0/8 (0)	0/14 (0)

history by Blaisdell¹ in 1958. The procedure gained wide acceptance after Barron² introduced a modified technique using rubber bands. The purpose of rubber band ligation of hemorrhoids is to achieve complete vascular occlusion for a sufficiently long period of time to result in necrosis, thrombosis of the vein.

Barron² recommended that only one pile should be dealt with at a time, and that ligations of other piles should be carried out at intervals of three or more weeks. Following the teaching of Barron,² most surgeons perform single-pile rubber band ligation at each outpatient visit with the belief that multiple bandings in a single session will cause intolerable pain and unacceptable complications. To control symptoms, multiple, single treatments were required in 77 percent of the patients of Groves *et al.*,¹² 56 percent of the patients of Wroblewski *et al.*,¹³ 53.3 percent of the patients of Marshman *et al.*,¹⁴ and 12 percent of the patients of Steinberg *et al.*¹⁵ Some surgeons (Muir and colleagues³⁻⁵ and Katchian⁶) have performed multiple rubber band ligations in a single session with good results. Only 2 percent of our patients, in Group 1, required repeated banding to control their symptoms.

Post-banding anal pain has been reported in from 1 to 29 percent of single-banded patients but rarely is it severe.¹⁶ Anal discomfort and pain may be seen even if the bands are carefully placed well above the dentate line. Mattana *et al.*¹⁶ reported that pain was significantly more frequent, 30 percent *vs.* 17 percent, in multiple-banding patients than in single-banding patients. Lau *et al.*⁹ reported 28.2 percent incidence of moderate pain in patients after multiple ligations. Gehamy and Weakly¹⁷ reported a troublesome postoperative course in 79 percent of patients who had multiple ligations in a single session. However, Khubchandani⁷ and Poon *et al.*⁸ reported no statistical difference among the efficacy, postligation discomfort, or complications among patients who received one, two, or three ligations of the hemorrhoids in a single session.⁷ More multiple-banding patients in our series suffered from discomfort, pain, and minor complications.

One must question whether the patient is best served by multiple quadrant banding at one session or multiple, single-banding sessions. A 4.5 percent incidence discomfort and pain per single band applied would extrapolate into a maximal of 18

percent discomfort and pain for 4 single bandings; 11 percent less than the 29 percent discomfort and pain experienced by the multiple-banded patients. This apparent increased pain experienced when multiple quadrants are banded may be due to either 1) selection, if multiple banded patients had more extensive hemorrhoids; or 2) multiple bandings had a synergistic pain effect. Patients with multiple banding as a group experienced more discomfort and pain; however, the discomfort and pain were tolerable and could be controlled with oral analgesia.

Our results suggest that patients treated with multiple hemorrhoidal banding in a single session as compared with single banding did experience more vasovagal reactions, pain, a small amount of bleeding, urinary symptoms, and local swelling and edema. Most patients, however, tolerated multiple hemorrhoidal banding in a single session. We identified no episodes of sepsis.¹⁹ Discomfort and pain, resulting from the treatment, if it occurs, is well tolerated and easily managed. Multiple banding in a single session is a safe and cost-effective alternative, with acceptable and manageable increased risk of local symptoms.

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