Supradentate Transmucosal Hemorrhoidopexy (Original Technical Variant)

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Rezumat

Hemoroidopexia transmucoasă suprapectinată (variantă tehnică originală)

Boala hemoroidală simptomatică reprezintă o problemă serioasă pentru calitatea vieții. Numeroasele tehnici intervenționale în uz reflectă eșecul în acoperirea tuturor aspectelor nosologice, fapt ce justifică căutarea de noi soluții operatorii. Cerințele unei noi tehnici operatorii sunt aplicabilitatea la categorii cât mai largi de pacienți, invazivitatea redusă, în contextul menținerii unor costuri rezonabile, unei eficacități corecte, unei morbidități și rate de recurență reduse, cu o tehnică suficient de simplă, reproductibilă și ușor de învățat. Țintind aceste obiective am conceput o variantă tehnică de hemoroidopexie aplicabilă în condițiile chirurgiei de zi, care nu necesită aparatură sau dispozitive medicale sofisticate/costisitoare și are un grad redus de invazivitate. Indicația operatorie a fost reprezentată de hemoroizii de grad II, III și IV. Anestezia necesară este cea regională (rahianestezia caudală), ceea ce o face aplicabilă practicii private. Reducerea prolapsului este urmată de pexia transmucoasă în 2 rânduri de suturi în X lent resorbabile decalate unul față de celălalt și plasate deasupra liniei pectinate. Rezultatele preliminarilor sunt încurajatoare, atât ca rată de succes terapeutic, cât și ca lejeritate a urmărilor postoperatorii. Această hemoroidopexie este o tehnică simplă, ieftină, larg aplicabilă,

generând dureri moderate, morbiditate scăzută și eficacitate bună, preferabilă altor tehnici pentru hemoroizii de grad III și cazuri selecționate de hemoroizi de grad IV.

Cuvinte cheie: hemoroizi, chirurgie de zi, hemoroidopexie

Abstract

Symptomatic hemorrhoidal disease is a serious issue affecting the quality of life. The multiplicity of current interventional procedures reflects the failure of covering all pathological aspects, thus justifying the quest for other operative solutions. Any new operative procedure is challenged by the need for broad applicability and less invasive attributes and should fit inside the frame of reasonable costs, fair efficacy, low morbidity and recurrence rate based on a procedural technique that is simple enough, reproducible and easy-to-learn. Aiming to achieve these goals we conceived a procedural variant of hemorrhoidopexy fit for outpatient surgery, a technique that does not require sophisticated/costly medical equipment or disposables and is less invasive. The operative indication concerned 2nd, 3rd and 4th grade hemorrhoids. The surgical indication was represented by 2nd, 3rd and 4th grade hemorrhoids. The needed anesthesia is regional (caudal spinal anesthesia), which qualifies this procedure for private medical services. Prolapse reduction is followed by transmucosal suturing using two rows of slowly absorbable half-step staggered en-X stitches placed just above the dentate line. Preliminary results are encouraging both as therapeutic success rate and legerity of postoperative consequences. This hemorrhoidopexy is a simple

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and broadly applicable technique, causing mild pain, low morbidity and good efficacy, preferable to other techniques used to treat 3rd grade and selected 4th grade hemorrhoids.

Key words: hemorrhoids, one day surgery, hemorrhoidopexy

Background

Symptomatic hemorrhoidal disease has a significant impact on patients' social and professional life, thus inducing a serious preoccupation in curing it for them as well as for their doctors (1, 2).

The interventional attitude (3,4) may involve physical and chemical procedures (Mitchell's sclerotherapy, atomization, cryosurgery, infrared, laser or radiofrequency coagulation), supradentate devascularisation [Baron's rubber banding, Pakravan's en Z-hemorrhoidopexy, Morinaga's hemorrhoid arterial ligation, De Longo's stapling hemorrhoidopexy (5)] or hemorrhoidectomies [segmental hemorrhoidectomy of Parks, Milligan-Morgan, Fergusson or their variants using the harmonic scalpel (6) or LigaSure (7) or the radical Whitehead-Vercescu's procedure (1)].

Within this framework, the hemorrhoidopexies are defined as moderate operative techniques, conceived to achieve the persistent decrease of venous outflow while correctly repositioning the hemorrhoidal plexuses and their overlaying mucosa. The sophistication of the imagined procedures and of the equipment and disposables required for them happens to be proportional to the resources offered by the healthcare system of the countries of origin of these procedures' creators and promoters. This is outstanding for Morinaga's procedure (transanal ultrasound identification of the hemorrhoidal arterial branches by single use endorectal ultrasound probes and their transmucosal ligation using an on-purpose designed speculum and dedicated suturing consumables) and for De Longo's operation (automated suture using a special endorectal circular stapler) and quite modest for Pakravan's hemorrhoidopexy (transmucoasal en-Z suture with limited excision (8), using trivial materials). Our constraining resources and the observation of some onerous principal sophistications in Morinaga's procedure case (9), completely unjustified by any supplemental efficacy, lead us to the dramatic technical abbreviation represented by the procedure described in the following section.

Operative technique

Preparations

Bowel preparation is not required, but rectal voidance would be desirable. The use of a frontally closed lateral window rectal speculum renders it optional. Preoperative bladder voidance is to be considered and so is perineal hair removal.

Operation scenery

The conditions offered by a room for small operations are more than sufficient, thus qualifying the procedure for office practice. The operating table may be a gynecological table or one adaptable to this purpose. Obviously the respect of asepsy and antisepsy is mandatory, but the instruments and materials used are trivial. The presence of an assistant is not mandatory, but whenever the conditions are allowing, he is welcome. Even if the surgeon may perform the anesthesia by himself, the actual guidelines are claiming the involvement of an anesthesiologist for this task. One nurse is enough for this procedure.

Instrumentarium and materials

The instrumentarium has to include a rectal speculum (one with a lateral window will be appreciated), a needle-holder (a Hagedorn one is to be preferred to a Mathieu needle-holder!), scissors for stitches (curve or straight), a pair of $\frac{3}{4}$ surgical tweezers and a Kelly/Pean forceps (a curve one would be more helpful). A dozen of gauze pads and 3 or 4 threads of 2/0 or 3/0 slowly absorbable sutures attached to a $\frac{1}{2}$ circle round needle (polydioxanone, for example) are enough.

Technique's description

The patient lays in lithotomy position, with one peripheral venous catheter and a conventional saline infusion. After regional disinfection and operative field preparation the hemorrhoidal prolapse is evaluated and the external piles distribution is registered (Fig. 1). The hemorrhoidal prolapse is reduced (usually the simple passage of the rectal speculum is enough, as seen in Fig. 2). The dentate line and internal hemorrhoids are emphasized. The onset of en-X stitches (Fig. 3) starts in the five-o'clock position (for right-handed surgeons) at 0.5-1 cm cephalad from the dentate line. The suture advances clockwise on two half-step staggered rows (zigzag-like), anchoring with the cranial bite the rectal mucosa to the underneath

Figure 1. The initial image of internal and external hemorrhoids (grade III)

Figure 2. *Introducing the side window rectal speculum accomplishes hemorrhoidal prolapse reduction*

Figure 3. *Starting the first row of transmucosal suprapectineal stitches*

muscular layer, eventually covering the cross-passed hemorrhoidal plexuses. More vertical and encompassing more mucosa is better for the prolapsed reduction. Starting in the lower part of the rectal circumference avoids the risk of flooding by any unexpected (exceptional!) bleeding caused by vascular disruption. The suture threads are cut short (a few millimeters long, Fig. 4), lacking the elasticity change issue as catgut threads used to have. Normally a total of 15 en-X stitches are enough to cover the entire circumference (thus four 75 cm long threads must be available). Moving backwards the speculum after getting-over a segment is helpful to notice the progressive correction of prolapse and deflation of piles compared to the operation's start (Fig. 6). Bleeding control may be achieved by supplemental en-X sutures. In fact, the total blood loss in this operation is surprisingly low (as one can notice in Fig. 7). The operative time is between 20 and 50 minutes depending on surgeon's ability and cases peculiarities, usually being of about 30 minutes. It proved to be very helpful to use in the post-operative period for 3 weeks 3 tablets per day of hesperidin-methyl-calcone in association with C-vitamin.

Morbidity

The patient may be submitted to this procedure in day surgery or hospitalized for one to maximum 2 days (thus some complications may occur after discharging the patient, so it is wise to schedule his medical follow up). Post procedural pain is usually mild and tend to be limited to the first postoperative week, and to be strained by pelvic diaphragm's contraction and rectal voiding.

Occasionally pain may be intense and/or persistent. We rarely noticed complications, such as:

- acute urinary retention (needing a bladder catheter);

Figure 4. *Complete two rows of staggered radial circumferential sutures*

- pile thrombosis (either conservative treatment or thrombectomy);
- perianal swelling (dexametasone);
- delayed bleeding (even after 2 weeks, with spontaneous resolution).

The recurrence rate seems to be of 4-5% in the first five years interval, but not all patients were systematically followed-up and some might address other medical centers without our

Figure 5. Final aspect

Figure 6. Preoperative image

Figure 7. Postoperative image
(prolapse reduction, minimal blood loss)

knowledge. Like the rubber banding, this procedure allows iterations.

Procedure's assessment

This supradentate hemorrhoidopexy proves itself to be a simple, inexpensive, largely applicable and less invasive procedure, carrying a low morbidity and fair efficacy as compared with alternative methods.

Retrospectively, we may consider that supradentate trans-mucosal hemorrhoidopexy is a good choice for patients with 3rd degree and selected cases of 4th degree hemorrhoid, but for 2nd degree hemorrhoids the similar efficacy of Baron's rubber banding seems to be more beneficial.

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