Stretching of Anal Sphincters Compared to Internal Sphincterotomy: A Retrospective Study

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The **purpose** of the study was to evaluate two methods of surgical treatment of anal fissure used for a period of 15 (1985–1999) years: stretching of anal sphincters and left lateral closed internal sphincterotomy.

Methods. Over the period 1985–1999, at our department a total of 85 patients underwent surgery for anal fissure: 56 patients underwent stretching of anal sphincters (in 43, or 76.8% cases accompanied by fissure excision) and 29 patients internal sphincterotomy. There were 53 women and 32 men, age range 16–73 years, mean 44 years. Main symptoms included pain and bleeding in 69, pain alone in 21, and bleeding alone in 3 cases. Duration of symptoms ranged from one week to 35 years, mean 5.7 years. In 89% of cases posterior and in 11% anterior fissures were noted. Two fissures were noted in 3 cases. Fifty-nine patients were operated on under general, 6 under spinal and 20 under local anesthesia. In 32 (37.6%) cases simultaneous surgery was done: haemorrhoidectomy in 28, rectal polypectomy in 2, and laparoscopic cholecystectomy in 2. Patients were interviewed or filled in a questionaire in May 2000, the minimal time after surgery being 6 months.

Results. Early postoperative complications occurred in 3 (3.5%) cases: subcutaneous haematoma in 1 and prolonged pain in 2 (one from sphincterotomy group). From 85 patients responded 52 (61.2%): 33 from sphincter-stretching and 19 from sphincterotomy group. All patients but one (from sphincter-stretching group) were satisfied with the result of surgical treatment. An overall of 47 patients (90.4%) from 52 evaluated the treatment as excellent or good, with similar percentage in both groups. Seventeen patients (51.5%) from sphincter-stretching and 3 (15.8%) from sphincterotomy group noted minor anal discomfort. Impaired control of gas was noted in 3 (9.1%) and 1 (5.3%) and flatus in 4 (12.1%) and 4 (21.1%) cases, respectively.

Conclusions. Both lateral sphincterotomy and stretching of anal sphincters were safe and effective in the treatment of anal fissure. As the loss of the anal control is unavoidable in some cases, therapeutic modalities should be strongly considered before referring the patient into the surgical ward.

Key words: anal fissure, lateral sphincterotomy, anal stretch, complications, incontinence

INTRODUCTION

Anal fissure is a common anal disorder. An epidemiological survey conducted in 1994 among Italian proctologic clinics revealed that 10% of 15,161 consecutive outpatients were affected by anal fissure (1). There is a large disproportion between the size of this lesion and amount of suffering it may cause. Standard conservative treatment for years consisted of warm sitz-baths, stool softeners, topical analgesia and steroid creams. Stretching of the anal sphincters described in the 19th century was been a most popular surgical option in the past. Internal sphincterotomy became a procedure of choice after the publication by Eisenhammer in 1951 (2), and since a little more than three decades ago a modification

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of this procedure – lateral subcutaneous internal sphincterotomy (3) – has been most widely introduced.

Even though the etiology of anal fissure remains controversial, it has long been recognized to play an essential role in the pathogenesis of anal fissure (4). The process of healing is adversely affected by local ischaemia (5) and the fact that blood perfusion is worse in the posterior midline compared to other portions of the anal canal (6), where the lesion is most commonly located.

Both stretching of the anal sphincters and internal sphincterotomy aim at decreasing the elevated internal anal sphincter tone and thus normalizing the processes that impair healing. Even though the number of postoperative complications is generally very low, the loss of anal control in some individuals after both of these procedures is unavoidable.

The purpose of our study was to compare retrospectively the two methods of the surgical treatment of anal fissure at the department of general surgery in the period of 15 years (1985 to 1999), with special reference to long-term functional results.

MATERIALS AND METHODS

During the period 1985 to 1999, at our department 85 patients were treated for anal fissure: 56 underwent stretching of the anal sphincters (in 43 (76.8%) cases anal fissure itself was excised) and 29 patients underwent sphincterotomy. There were 53 women and 32 men, age range 16–73 years, mean 44 years.

Main symptoms were as follows: pain and bleeding in 61 (71.8%) patients, pain alone in 21 (24.7%) and bleeding alone in 3 (3.5%) patients. In addition to bleeding and/or pain, roughly 2/3 of patients complained of burning and/or itching. None of the patients had any urinary symptoms.

Duration of these symptoms ranged from one week to 35 years, mean 5.7 years. In 77 (90.1%) cases symptoms were present for more than 2 months.

In 89 % anal fissures had posterior and in 11% anterior localization.

In 3 (3.5%) cases two fissures were noted.

Fifty-nine (69.4%) operations were performed under general anesthesia, 6 (7.1%) under spinal and 20 (23.5%) under local anesthesia. Thirty-two (37.6%) patients underwent simultaneous surgery: 28 haemorrhoidectomy, 2 rectal polypectomy and 2 laparoscopic cholecystectomy.

All 85 operations were performed by 17 surgeons (1 to 20 operations per surgeon, on an average 5 operations per surgeon). Eighty operations were performed by experienced surgeons and 5 by trainees assisted by an experienced surgeon.

In May 2000, all the patients were sent a questionnaire or interviewed. Minimal time after surgery was 6 months.

RESULTS

Early postoperative complications occurred in three cases: subcutaneous hemorrhaghia in one and prolonged pain in two (one in sphincterotomy group).

From 85 patients, 52 (61.2%) responded: 33 from sphincter stretching group and 19 from sphincterotomy group.

From 33 non-responders, 14 (42.4%) failed to respond due to change of address and 2 (6.1%) due to death unrelated to operation. In the rest of the cases the causes were unknown.

All patient but one (from sphincter stretching group) were satisfied with the result, and 47 (90.4%) from 52 responders evaluated the result of surgical treatment as excellent or good (similar percentages in both groups). However, minor anal discomfort (mild itching, burning, occasional mild pain, etc.) were present in 17 (51.5%) of patients after sphincter stretching and 3 (15.8%) after sphincterotomy.

Table summarizes occasional impairment of continence after two types of surgical intervention.

Table. **Impairment of continence after sphincter stretching and lateral sphincterotomy for anal fissure**

Impairment of continence	Sphincter stretching (33)	Lateral sphincterotomy (19)	P value
Gas	3 (9.1%)	1 (5.3%)	0.1 (NS)
Flatus	4 (12.1%)	4 (21.1%)	0.08 (NS)
Solid stools	–	–	

DISCUSSION

It seems to be proven now that patients with anal fissure have elevated resting anal pressure, even though spastic origin is not the only one which should be considered in causing this disease. As an argument to complex nature of the disease is demonstration of reduced anal canal pressures in women developing postpartum anal fissure (7). Both stretching of anal sphincters and lateral sphincterotomy attempts to decrease the resting tone of the internal sphincter and prevent overshoot contraction following passage of stool. One of the disadvantages of our study is that anal manometry was not used as a supplement to physical examination, thus we could not attempt differentiation of those who might be considered to be treated with non-surgical or sphincter-saving options. Another obvio-

us disadvantage is that this is a retrospective and not randomized study, which makes both groups not equal for a more precise comparison.

The number of surgeons (17 all in all) involved in our 85 procedures is very large, and it is obvious that even standardized anal stretch might have individual variations. More exact is lateral sphincterotomy in this respect. The majority of our patients (in fact all but one) were satisfied with the result, even though quite a few noted some anal discomfort. In our series, none developed gross incontinence, but even occasional impairment of gas and flatus should not be neglected. In the literature, percentage of patients with impaired continence after surgery for anal fissure is very different, but that is in part as well due to the lack of universal scoring systems. Most of the prospective randomized trials comparing anal stretch and lateral sphincterotomy (or more than those two methods) find lateral sphincterotomy better, especially regarding continence (8–11), and this is confirmed in a recent review by Nelson (12).

Some authors state manual dilation of the anus as such to be unsuitable in treating anal disorders (13) due to a high complication rate. We did not find any statistical difference between the two methods in either complication rate or anal function. It should be noted that last 15 years have offered a great number of non-surgical options of anal fissure treatment, including botulinum toxinum therapy (14), nitric oxide donor therapy (15, 16), treatment with calcium channel antagonists (17, 18) and some others. With some of these, success rate is impressing.

CONCLUSIONS

Both lateral sphincterotomy and stretching of anal sphincters were safe and effective in the treatment of anal fissure. As the loss of anal control is unavoidable in some cases, therapeutic modalities should be strongly considered before referring the patient into the surgical ward.

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IŠANGĖS RAUKŲ IŠPLĖTIMAS IR LATERALINĖ SFINKTEROTOMIJA GYDANT IŠANGĖS ĮPLĖŠĄ: RETROSPEKTYVI STUDIJA

S a n t r a u k a

Šio **darbo tikslas** buvo įvertinti dviejų chirurginių operacijų rezultatus gydant išangės įplėšą 1985–1999 m. Vilniaus universitetinėje centro ligoninėje.

Metodai. Per 15 metų, 1985–1999 metais, operuoti 85 pacientai dėl išangės įplėšos: 56 atvejais atlikta išangės raukų išplėtimas (43 (76,8%) su įplėšos ekscizija) ir 29 – lateralinė sfinkterotomija. Operuotos 53 moterys ir 32 vyrai, amžius 16–73 metai, vidurkis 44 metai. Pagrindiniai simptomai: kraujavimas ir skausmas 69 atvejais, tik skausmas 21 atveju ir tik kraujavimas 3 atvejais. Simptomų anamnezė buvo nuo vienos savaitės iki 35 metų, vidurkis 5,7 metų. 89% atvejų buvo užpakalinė, 11% atvejų – priekinė įplėša. Trimis atvejais buvo dvi įplėšos. 59 pacientams taikyta bendra, 6 – spinalinė ir 20 – vietinė anestezija. 32 (37,6%) atvejais atliktos simultaninės operacijos: hemoroidektomija (28), tiesiosios žarnos polipo pašalinimas (2) ir laparoskopinė cholecistektomija (2 pacientams).

Pacientai buvo apklausti ar užpildė klausimyną 2000 metų gegužės mėnėsį.

Rezultatai. Pooperacinė eiga komplikavosi 3 (3,5%) atvejais: poodine hemoragija (vienas atvejis) ir užsitęsusiu pooperaciniu skausmu (2 atvejai). Apklausoje dalyvavo 52 (61,2%) ligoniai iš 85: 33 po išangės raukų išplėtimo ir 19 po lateralinės sfinkterotomijos. Visi, išskyrus vieną pacientą (po išangės raukų išplėtimo), buvo patenkinti chirurginio gydymo rezultatais. 47 (90,4%) iš 52 apklaustųjų įvertino gydymą gerai ir labai gerai (panašus procentas abiejose grupėse). 17 (51,5%) po išangės raukų išplėtimo grupėje ir 3 (15,8%) ligoniai po lateralinės sfinkterotomijos skundėsi nedideliu diskomfortu išangės srityje. Dujų nelaikė atitinkamai 3 (9,1%) ir vienas (5,3%) pacientas, o skystų išmatų nelaikė atitinkamai 4 (12,1%) ir 4 (21,1%) pacientai abiejose grupėse.

Išvada. Tiek išangės raukų išplėtimas, tiek lateralinė sfinkterotomija buvo saugios ir efektyvios operacijos gydant išangės įplėšą. Kadangi tam tikram procentui pacientų po operacijos sutrinka kontinencija, būtina išbandyti terapines priemones prieš nukreipiant pacientą chirurgo globai.

Raktažodžiai: išangės įplėša, lateralinė sfinkterotomija, išangės raukų išplėtimas, komplikacijos, išmatų nelaikymas