

Personal technique for treatment of perianal fistulas in outpatients



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AIM: Presentation of a personal technique for the treatment of perineal fistulas in outpatients.

MATERIAL OF STUDY: 17 patients with complete non-complex linear intersphincteric or trans-sphincteric fistulas were treated with this technique. First we facilitated the cannulation, then we used the same catheters to place the "seton". We had to use a more subtle and smooth, rugged nylon thread, instead of the floss, due to the difference between the large size of the silk thread and the small lumen of the cannula.

RESULTS: The elastic traction has determined not only a valid mean of capillary drainage, but also a rapid passage through the tissues without any functional impairment, in times ranging from 2 to 4 weeks.

DISCUSSION: The traditional surgery is burdened by a significant number of relapses. This is due to the anatomical characteristics of the anal canal, to the difficulty to ensure the integrity of the sphincteric structures and to the position of the fistula. It's essential to identify the whole extension of the fistula to avoid its partial removal and the persistence of granulation tissue therefore. With our technique, we got a good drainage of the fistula, avoiding to leave any residues or to create false paths causing relapses as may happen with the explorers.

CONCLUSIONS: The discomfort suffered by patients was minimal and the results achieved led us to support a greater diffusion of this technique in outpatients.

KEY WORDS: Fistula treatment, Perianal abscess, Perianal fistula.

Introduction

Abscesses and fistulas represent a different stage of the same disease. In fact, the accumulation of faeces and the subsequent bacterial proliferation in the Morgagni crypts, determine the onset of infection from which the perianal abscess starts. When chronic state begins, a way between mucosa and skin is created. The resulting fistula then extends gradually upward or downward, and sometimes reaches the striated sphincter of the anus¹⁻². Very often, the anal fistula has an internal opening through the ano-rectal orifice and an external opening on the skin. It is important to correctly evaluate the perianal fistulas, because their treatment is closely relat-

ed to the sphincteric apparatus. The digital exploration of the rectum and the simultaneous probing of the fistula allow, in most cases, a reliable assessment of the length and complexity of the fistula.

Perianal fistulas can be classified according to the location of the fistula's orifice and the characteristics of their path³ as:

- complete (when there is communication between mucosa and skin or between mucosa and mucosa);
- internal-blind (the fistulous orifice is only in the inside of the anal canal);
- External-blind (the fistulous orifice is only on the outside)⁴.

On the basis of the relationship the fistula contracts with the sphincter, the fistulas are classified into³:

- intramural (having subcutaneous / mucosal course);
- intersphincteric (running between the two sphincters);
- trans-sphincteric (reaching the two sphincters);
- oversphinteric (passing through the pelvi-rectal space);
- extrasphinteric (passing through the ischio-rectal space).

Sometimes, the etiopathogenetic noxa can be found in a pre-existing inflammatory bowel disease, in which the

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fistula is the epiphenomenon, such as Crohn's disease with localization in the large intestine and rectum⁵ or ulcerative recto-colitis. At last, perianal fistulas can be the result of trauma, foreign body injury, cancer of the anus-rectum, radiations, or hemorrhoids and inadequately treated fissures⁵. The high frequency of this condition, together with the increasingly urgent need to contain health care costs by reducing the number of treatable diseases by inpatient treatment, brought us to this study. We assessed a treatment without general anesthesia, for a selected number of outpatients, whose preliminary studies have already reported in another article⁶. The development of this protocol, as result of an experimental process lasted three years, has enabled us to make some modifications of the technique, with the aim of achieving better results.

Selection of patients

For the described treatment, patients having complete non-complex, linear, intersphincteric or trans-sphincteric fistulas were selected; in the figure below (Fig. 1) are shown in A the fistulas treated with our method. In B are shown those that for obvious technical difficulties were excluded. However, in one case of straight course Y fistula, our method was successful, making two passes of the floss (one in each fistula's arm).

For the patient's evaluation we used the clinical examination, while for unclear cases we recurred to the common diagnostic equipments (transrectal echography, fistulography, MRI, etc.)^{1,3}.

Technical notes

We assumed that the classic technique of "seton"⁷, commonly used in surgery during anesthesia (general or peripheral), could be practiced with equal or even greater success in outpatients without any cooperation of the anesthetist or assistant, but only with the support of a nurse. The attempt to pass the seton through the fistula by using a button-like needle or a probe with eye, was too

often painful and exposed to the risk of bleeding and formation of false paths. Moreover, the lack of a muscle relaxation, the frequent inflammation, and sometimes, the characteristics of the fistula, do not permit this technique to be widely performed. So we faced the problem in two stages: in the first stage we realized a minimal enlargement of the fistula, and stabilized its edges to facilitate the cannulation. Then we drained and cleaned the area with a solution of hydrogen peroxide (H_2O_2 10 volumes) initially diluted to 70% and then to 50% in saline, through a flexible "Branule" type tube (In the first 2 patients, we sprayed the fistula with more concentrated H_2O_2 , causing abdominal cramps and mild rectal bleeding in a case). After 1-2 weeks at most, the flexible tube, progressively and spontaneously proceeded up to the crypt where the process had begun, without any stress, pain, or bleeding, and in particular, without the risk of creating false paths.

In the second phase we used the same catheters to position the seton, but due to the difference between the large size of the silk thread and the small lumen of the cannula, a rugged, more subtle and smooth nylon thread was used instead of floss.

In the first patient, we left the nylon thread because of the difficulty in passing through the seton into the cannula needle and applied a light elastic pull. The nylon, however, made a poor drainage, generated considerable pain due to its inelasticity and broke after a week.

On the second attempt, we passed the nylon again, but this time we used it only as a guide to place the seton. This caused only a light discomfort when the connecting node of the two threads crossed the fistula. So, in patients in whom sepsis resolved, we put the elastic traction to the thread. In those in which, however, sepsis was not fully resolved or the pain threshold was lower, we left it as a drainage without any traction. In both situations, the seton gradually crossed the whole sphincter and the subcutaneous tissue over a period of 2 to 5 weeks. When we had the palpatory feedback that the silk thread was located in the subcutaneous tissue, we infiltrated a few drops of local anesthetic in the remaining fibrosclerotic bridge and cut it. In all cases we have

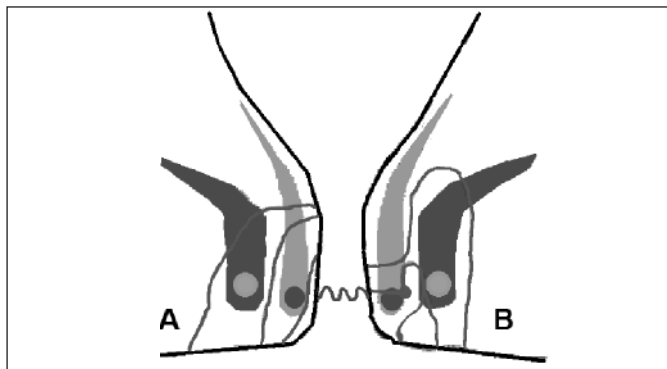


Fig. 1



Fig. 2: Photo of a case in which a silk thread was placed without any trauma.

noticed that the incision bleeding was minimal, due to the sclerosis determined by the thread of silk. This observation also encouraged us about the validity of this procedure for outpatients.

Personal experience and results

Our study, brought out at U.O.C. / U.P. of Surgical Physiopathology B (Director Prof. V. Pasta) in the Department of Surgical Sciences, University of Rome "Sapienza" - Azienda Policlinico Umberto I in Rome, involved 17 patients, 10 women and 7 men, aged between 30 to 65 years.

7 had intersphincteric fistulas, 6 trans-sphincteric, 3 subcutaneous-mucosa and 1 with Y-subcutaneous-mucosa. 5 out of 17 had previously been treated for perianal abscess whose fistula was the natural result. In one case only (not shown in the table) we have not been able to apply this technique: a 36 years old man, with poor compliance, a funnel shape of the perineum and particularly high placement of fistula in the canal. A day-hospital fistulectomy in anesthetic sedation was performed in this case.

As stated above, a thin nylon thread was used only for the first patient. The small caliber and the high smoothness of the monofilament in the lumen of the cannula caused poor drainage and because of its unelasticity created discomfort and broke after nine days. On the basis of this experience, we used to introduce of a second thread, a silk one, through a nylon guide thread as described. In all patients, the elastic traction determined not only a valid mean of capillary drainage, but also a rapid passage through the tissues without any functional impairment, in times ranging between 2 and 4 weeks. The only discomfort in patients with residual inflammation, was the pain due to the tension of the thread during wide movements of the lower limbs. For that reason, in more sensitive patients, traction to the thread wasn't applied, agreeing to relatively longer healing time. Only when inflammation was resolved, a gentle traction was then applied. 4 patients (2, 3, 4 and 14 in our Table) refused the traction for lack of compliance.

The placement of the seton or the traction had were uneventful. However, in the first two cases the irrigation with a few diluted solution of H₂O₂ caused transient rectal bleeding and rectal spasms. A more diluted solution, solved the problem.

Discussion

Given that perianal fistulas may be an epiphenomenon of chronic inflammatory diseases such as ulcerative colitis or Crohn's disease³, the surgical solution in these cases, should be deferred to a period of remission of the disease (when possible), because of a risk of recurrence from 48% to 59%^{4,8}. The common treatment of perianal fistulas requi-

res a surgical approach that may vary depending on the situation. Almost never they tend to spontaneous healing because of the continuous bacterial contamination (sometimes anaerobic) coming from the internal opening and the inadequate drainage of the micro or macro abscesses found along its course.

In the rare cases in which the fistula tends to spontaneous closing in a part of its course, usually at one endpoint (external blind fistula or internal blind fistula), patients undergo very often to repeated perianal abscesses². For these reasons traditional surgery is burdened by a significant number of relapses (45%)⁹. This is also due to the anatomical characteristics of the anal canal, to the difficulty to preserve the sphincteric structures⁹⁻¹⁰, and finally to the position of the fistula. Is therefore essential to identify the whole extension of the fistula to avoid its partial removal and to eliminate all the granulation inflammatory tissue that would drive to relapses^{10,11}.

The most frequent surgical procedures used are:

- the fistulotomy, which consists in making the entire fistula plane, from the external to the internal orifice. The wound heals by secondary intention forming granulation tissue from the depth to the top^{12, 13};

- the fistulectomy, which consists of the dissection and removal of the entire fistula, including a few millimeters of healthy tissue around^{3,12};

- placement of a "seton", i.e. a suture (silk or nylon) through the fistula, for draining the and allowing the crossing of the sphincters without any functional damages¹⁴.

The technique we experienced, referring to this last procedure, proposed a new surgical approach for outpatients, able to ensure a satisfactory percentage of final resolution of the disease. Unfortunately, not all the anal fistulas can be treated with this technique but in our patients (suitably chosen), we got a good drainage of the fistula, avoiding to leave any residues of inflammation. This technique also prevented the potential risk of creating false paths as may happen using the common explorers. With the only discomfort of a little longer time, all patients had a good healing and no recurrences have been reported during a follow up period of 3 years.

Conclusions

The high health care costs impose an ever more urgent searching for faster and more cheap solutions to various diseases that once used to take hospital admissions or day surgery.

The technique we proposed and tested on 17 patients, although applicable only in selected cases, seemed to be effectively responding to these demands with the added benefit of reducing the risk of damaging the sphincter, or creating false paths exposing to relapses.

The discomfort for the patients was minimal and the results achieved to this date lead us to support a greater diffusion of this technique.

TABLE I

	Sex	Passes of Thread	Type of Thread	Type of Fistula	Phlogosis	Bleeding	Days	Pain 1-5
1	M	2	1 Nylon	Intersphincteric	No	-	Total 31	3
		2 Silk					(9+22)	3
2	M	1	Silk	Trans-sphincteric	No	-	32	1
3	F	1	Silk	Intersphincteric	No	-	25	1
4	M	1	Silk	Trans-sphincteric	No	-	31	2
5	F	1	Silk		Yes	-	15	2
6	F	1	Silk	Intersphincteric	No	-	23	2
7	F	1	Silk	Trans-sphincteric	No	-	17	1
8	M	1	Silk	Intersphincteric	Yes	-	21	3
9	M	1	Silk	Intersphincteric	Yes	-	19	4
10	F	1	Silk	Trans-sphincteric	No	-	22	1
11	F	1	Silk	Intersphincteric	No	-	21	2
12	M	1	Silk	Trans-sphincteric	No	-	22	2
13	F	1	Silk	Trans-sphincteric	No	-	20	2
14	F	2	1 Silk	Y	Yes	+ -	28	2
			2 Silk					
15	M	1	Silk	Subcutaneous-mucosa	Yes	-	13	3
16	F	1	Silk	Intersphincteric	Yes	-	22	1
17	F	1	Silk	Subcutaneous-mucosa	Yes	-	17	2

Riassunto

Ascessi e fistole rappresentano differenti fasi di sviluppo della stessa malattia. L'alta frequenza di queste condizioni, unita alla necessità sempre più urgente di contenere i costi dell'assistenza sanitaria, attraverso la riduzione della quantità di patologie trattabili con il ricovero ospedaliero, ci ha stimolato a studiarne, in pazienti selezionati, un trattamento strettamente ambulatoriale e privo di anestesia. In questo protocollo, durato circa tre anni, abbiamo selezionato 17 pazienti con fistole intersphinteriche o trans-sphinteriche complete, con un tramite lineare, non complesso. Abbiamo affrontato il problema in due fasi: nella prima fase abbiamo creato le condizioni per facilitare l'incannulazione. Nella seconda fase abbiamo utilizzato gli stessi cateteri per posizionare il setone, ma a causa della incongruenza tra il filo di seta di grandi dimensioni e il piccolo lume della cannula abbiamo dovuto usare al posto del filo di seta, un più sottile e liscio, filo di nylon. Quindi, in pazienti in cui la sepsi era stata risolta, abbiamo messo in trazione il filo su elastico. In quelli, invece, in cui, la sepsi non si era completamente risolta o la soglia del dolore era più bassa, abbiamo lasciato il filo come drenaggio, senza applicare alcuna trazione. In un periodo di 2-5 settimane, il setone ha gradualmente attraversato l'intero sfintere e il relativo tessuto sottocutaneo. Poi, quando ci siamo resi conto che il filo di seta era giunto al tessuto sottocutaneo, abbiamo deciso di tagliare il ponte rimanente che era prevalentemente costituito da tessuto fibrosclerotico. In questo modo abbiamo ottenuto un buon drenaggio della fistola, evitando il rischio di creazione di false strade. Il sanguinamento dovuto all'incisione è stato minimo, a causa della sclerosi determinata dallo stesso filo di seta. Con l'unico disagio di un tempo di guarigione un po' più lungo, abbiamo ottenuto la guarigione in tutti i pazienti e fino ad oggi (come dimostrato da un periodo di follow up da 4 mesi a 3 anni) non abbiamo avuto alcun caso di recidiva.

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