

Fistule anale

Au-delà du séton

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Divulgation des conflits d'intérêts potentiels

TYPE D'AFFILIATION	COMPAGNIES	PÉRIODE
AUCUNE	AUCUNE	AUCUNE

Fistule anale: au-delà du séton

Objectifs

- ◆ Illustrer la physiopathologie et l'étiologie des fistules anales
- ◆ Expliquer le rôle et l'utilisation du séton
- ◆ Souligner les options chirurgicales en présence d'une fistule complexe

Fistule anale: au-delà du séton
Word of wisdom (parole de sage)

**SURGEONS TREAT PERINEAL
ABSCESSSES,
ANTIBIOTICS DON ' T**

BRUCE WOLFF, CONFÉRENCIER INVITÉ
ASSEMBLÉE ANNUELLE, CSCRS, EDMONTON, SEPT. 2000

Fistule anale: au-delà du séton Un peu d'histoire...



Fistule anale: au-delà du séton Un peu d'histoire...(suite)

- ◆ Nous sommes en 1686. Une fistule a fait son apparition sur le royal séant.
- ◆ Et il faut bien reconnaître que celle-ci est pour le moins mal placée. Mal placée mais pas étonnante. Ses médecins pratiquent souvent des lavements au roi. Pour cela, ils utilisent un clystère en métal.



Fistule anale: au-delà du séton

Un peu d'histoire...(suite)

- ◆ Fagon, le médecin du roi, lui conseille de boire de l'eau minérale. Non seulement, ça ne plait pas au roi, mais ça n'arrange pas le problème. C'est Louvois, un de ses ministres, qui le convint de voir son barbier-chirurgien, Charles-François Félix.
- ◆ « Sire je m'inquiète un peu, car l'opération que je vais devoir faire est cruciale ». Ce à quoi le roi répond:
- ◆ « Entraînez-vous Félix. Toutes mes galères et toutes mes prisons vous sont ouvertes »
- ◆ L'opération a lieu à Fontainebleau le 18 novembre 1686. Elle dure 3 heures. Le roi fit preuve de beaucoup de courage, Il n'y a pas d'anesthésie.

Fistule anale: au-delà du séton

Un peu d'histoire...(suite)

- ◆ Félix pratique une opération qui « met à plat » la fistule de façon à la guérir. Félix avait une recette imparable, il faisait les pansements avec du vin de Bourgogne!!!
- ◆ Pour soutenir son époux, Madame de Maintenon fit écrire un hymne.
- ◆ Comment cet air est devenu l'hymne britannique. Deux théories s'opposent:
- ◆ On prétend qu'en 1714, Haendel, alors compositeur officiel du roi britannique George 1, entend l'hymne, le note et fait adapter le texte en anglais pour le soumettre au roi. Énorme succès. L'hymne sera joué dans toutes les cérémonies où le roi est présent et s'impose au fil du temps comme l'hymne national.

Fistule anale: au-delà du séton

Un peu d'histoire...(suite)

- ◆ L'autre piste vient de la maison Stuart.
- ◆ Jacques Stuart, qui régna en Angleterre sous le nom de Jacques II, vit en exil en France à partir de 1689. Il aurait entendu l'hymne et aurait décidé de l'adopter en remontant sur le trône. Ce qui n'est jamais arrivé puisqu'il est mort en exil en 1701.
- ◆ Son fils, Jacques III, tenta à plusieurs reprises de récupérer le trône.
- ◆ Lors d'une ultime tentative en août 1745, ses partisans entonnèrent le fameux chant

Fistule anale: au-delà du séton

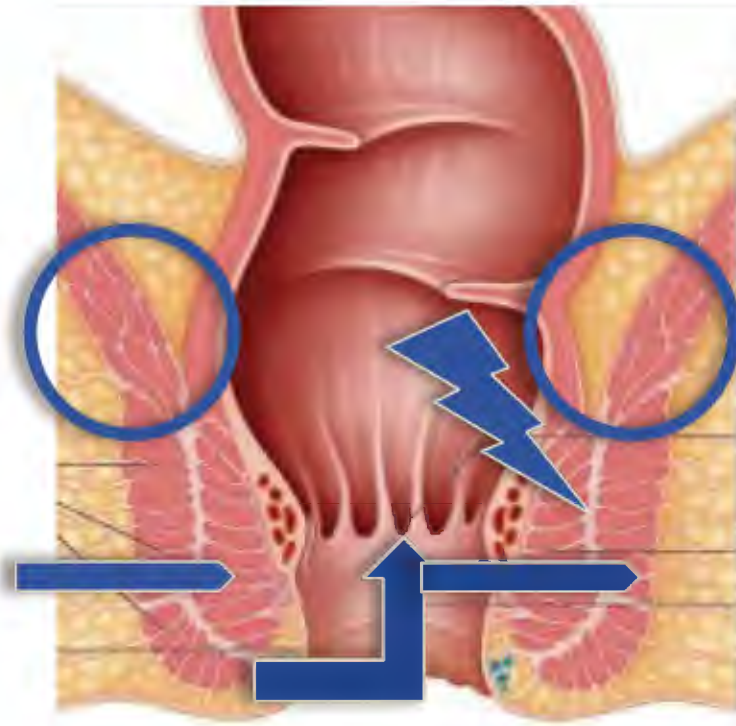
Un peu d'histoire...(suite)

- ◆ Morale de l'histoire....
- ◆ Les britanniques ont aujourd'hui, sans certainement le savoir, comme hymne national, un air composé pour le cul du roi Louis XIV.

Fistule anale: au-delà du séton

Rappels anatomiques importants

- ◆ Crypte et glande anale
- ◆ Sphincter interne
- ◆ Sphincter externe
- ◆ Plan intersphinctérien
- ◆ Puborectalis



Fistule anale: au-delà du séton

Étiologie

- ◆ Cryptogénique
- ◆ Maladie inflammatoire
- ◆ Infectieuse
 - ◆ Actinomycose
 - ◆ TB
 - ◆ ITS (LGV, HIV)
- ◆ Trauma(chx, lavement, pratique sexuelle)
- ◆ RTX
- ◆ Néoplasique
 - ◆ Rectum
 - ◆ Anus
 - ◆ Leucémie - lymphome



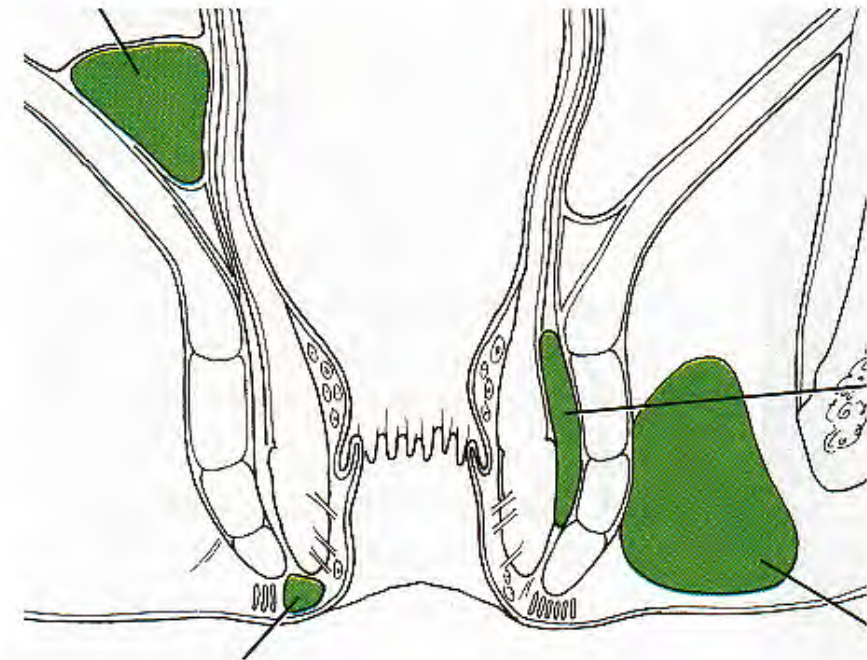
Fistule anale: au-delà du séton Attention à l'hydradénite suppurée



Fistule anale: au-delà du séton

Facteurs prédisposants

- ORIGINE CRYPTOGENÉRIQUE
 - DIARRHÉE
 - TRAUMA
 - DILATATION KYSTIQUE
 - ANATOMIE DES CRYPTES
 - OBÉSITÉ?



Fistule anale: au-delà du séton

Classification

Intersphincteric Fistulas

Simple low track
High blind track
High track with rectal opening
Rectal opening without a perineal opening
Extrarectal extension
Secondary to pelvic disease

Transsphincteric Fistulas

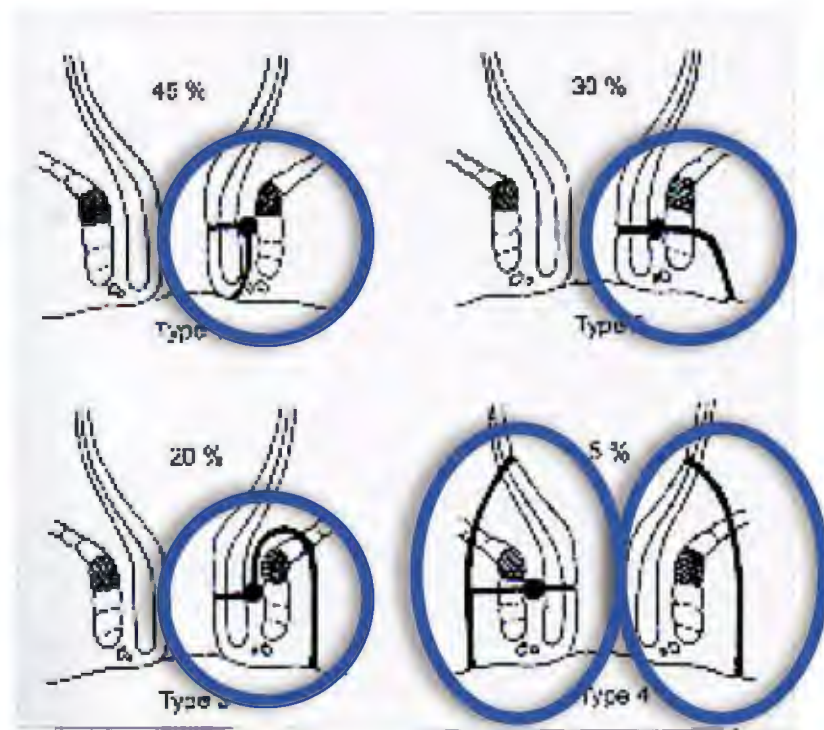
Uncomplicated
High blind track

Suprasphincteric Fistulas

Uncomplicated
High blind track

Extrasphincteric Fistulas

Secondary to anal fistula
Secondary to trauma
Secondary to anorectal disease
Caused by pelvic inflammation



Fistule anale: au-delà du séton

Diagnostic

- ◆ HISTOIRE ET EXAMEN PHYSIQUE
- ◆ *SIGMOIDOSCOPIE ET ANUSCOPIE*
- ◆ OPTIONNEL:
 - ◆ COLOSCOPIE
 - ◆ LAVEMENT BARYTÉ
 - ◆ FISTULOGRAPHIE
 - ◆ ÉCHOGRAPHIE ENDOANALE
 - ◆ TOMODENSITOMÉTRIE
 - ◆ IRM PELVIENNE????

Fistule anale: au-delà du séton

Buts du traitement

- ◆ Guérir la fistule
- ◆ Éviter la récurrence
- ◆ Préserver la continence
- ◆ Principes à retenir:
 - ◆ Identifier l'orifice interne
 - ◆ Évaluer la relation entre le trajet fistuleux et le puborectalis
 - ◆ Diviser le moins de muscle possible
 - ◆ Suivi serré de la guérison de la plaie

Fistule anale: au-delà du séton

Identification de l'orifice interne

- EXAMEN ANAL SOUS ANESTHÉSIE
- CANNULATION AVEC SONDE LACRIMALE
- INJECTION PAR L'ORIFICE EXTERNE:
 - bleu de méthylène
 - lait
 - peroxide d'hydrogène
- FISTULOTOMIE PARTIELLE

Fistule anale: au-delà du séton

Techniques chirurgicales

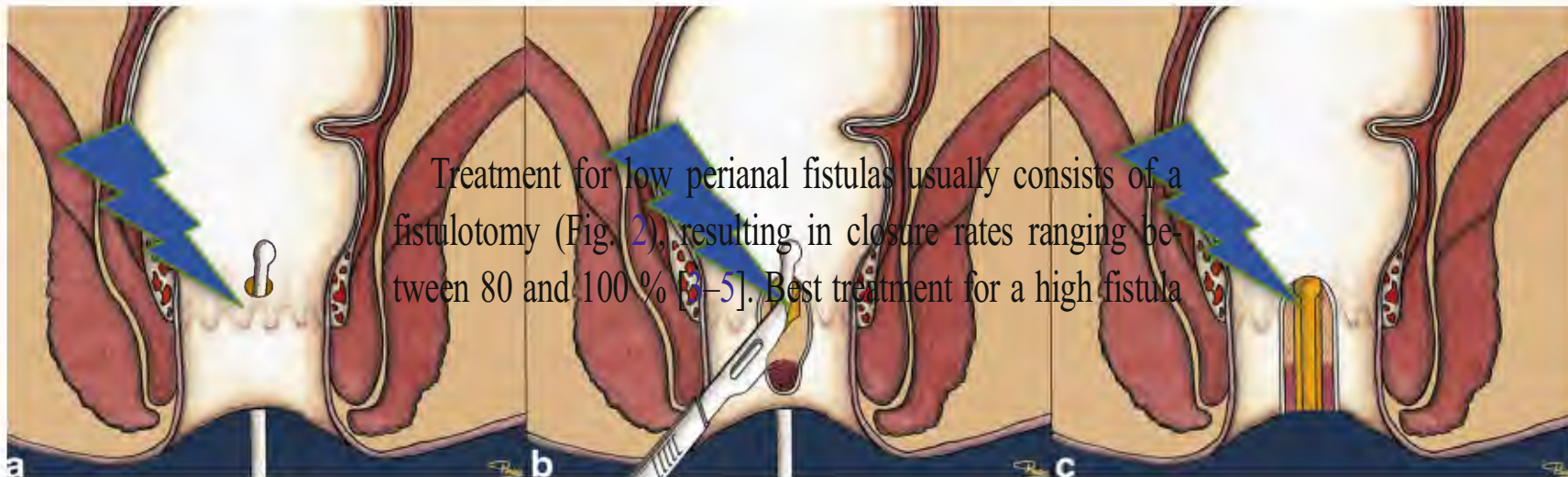
Modern management of anal fistula

- Thérapies conventionnelles:
 - Fistulotomie
 - Fistulectomie
 - Séton
 - Lambeau d'avancement
- Nouvelles thérapies
 - LIFT
 - Intersphinctérien
 - Latéral
 - Plug de sous-muqueuse
 - Colle biologique
 - Fermeture au laser
 - VAAFT
 - Cellules souches adipeuses

Fistule anale: au-delà du séton

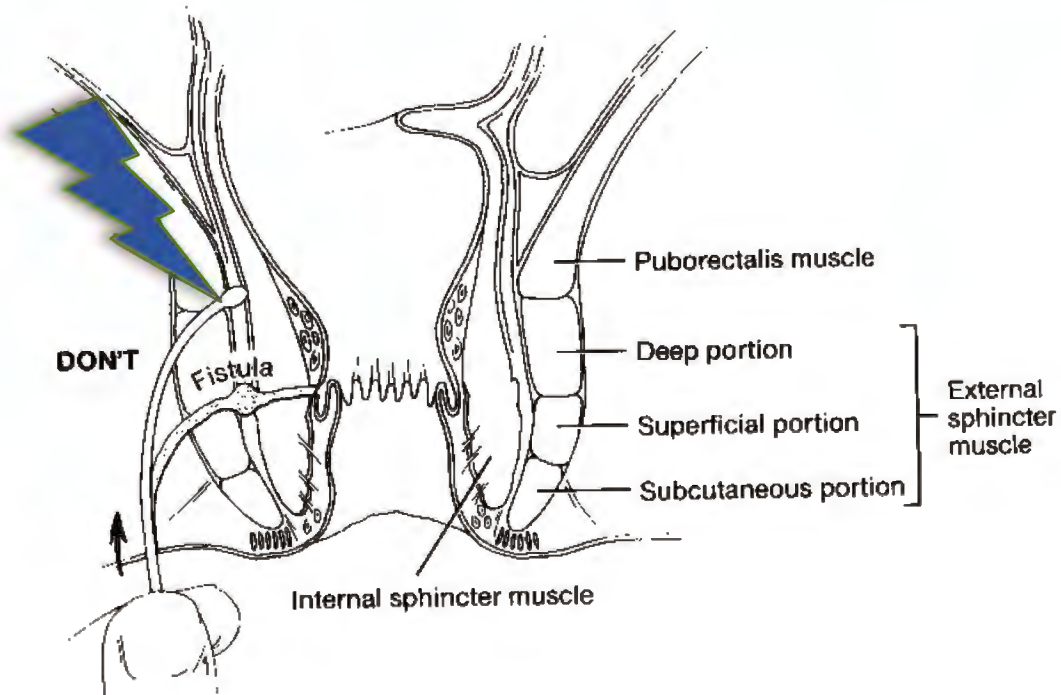
Fistulotomie

Systematic review and meta-analysis of surgical interventions for high cryptoglandular perianal fistula



Fistule anale: au-delà du séton

Identification de l'orifice interne(suite)



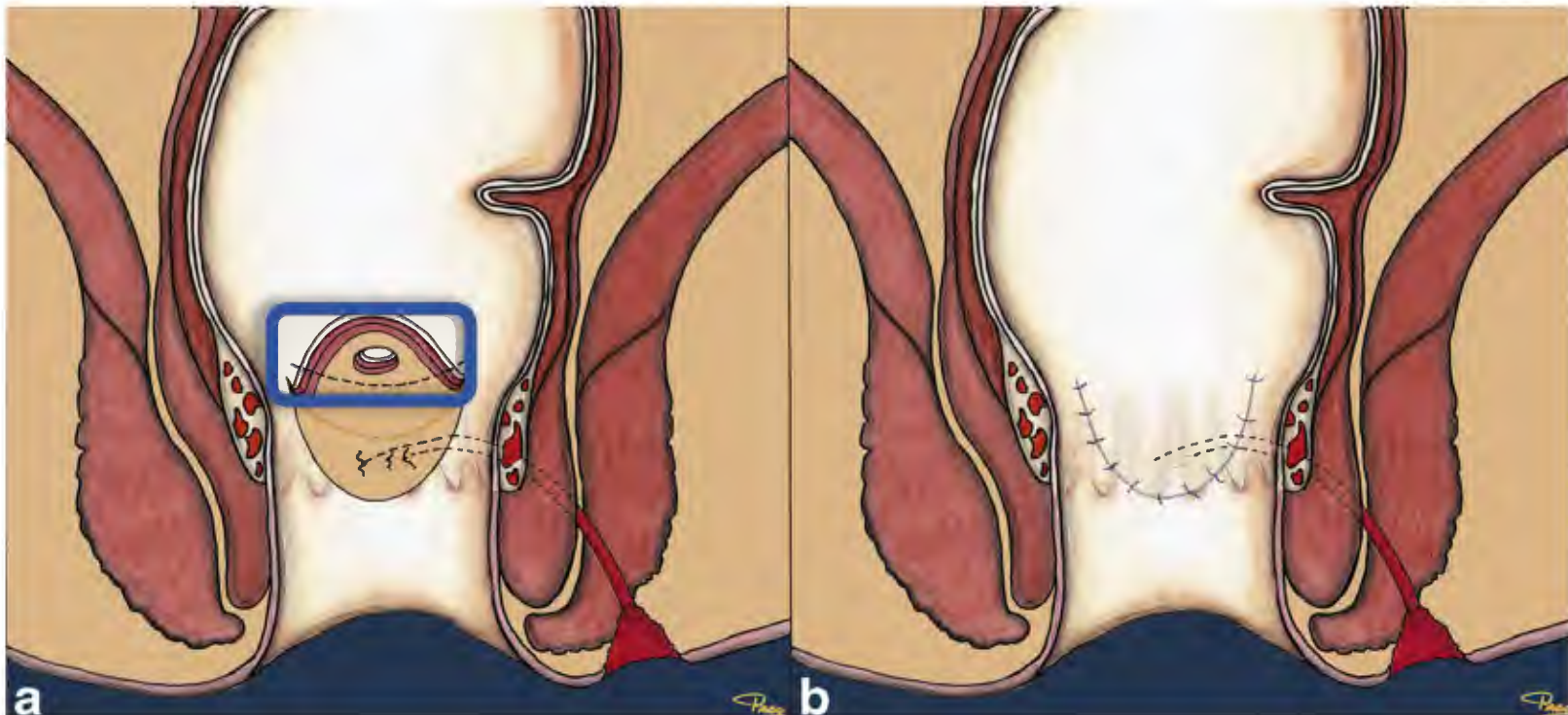
Fistule anale: au-delà du séton

Utilisation du séton

- ◆ DRAINAGE (PERMET D'ÉVITER LA RÉCIDIVE D'ABCÈS)
- ◆ LOCALISATION (PERMET DE SITUER EN POST-OP LE NIVEAU DE LA FISTULE)
- ◆ SECTION (PERMET DE COUPER LE SPHINCTER DE FAÇON PROGRESSIVE)

Fistule anale: au-delà du séton Lambeau d'avancement

**Systematic review and meta-analysis of surgical interventions
for high cryptoglandular perianal fistula**



Fistule anale: au-delà du séton

Procédure de LIFT

Modern management of anal fistula

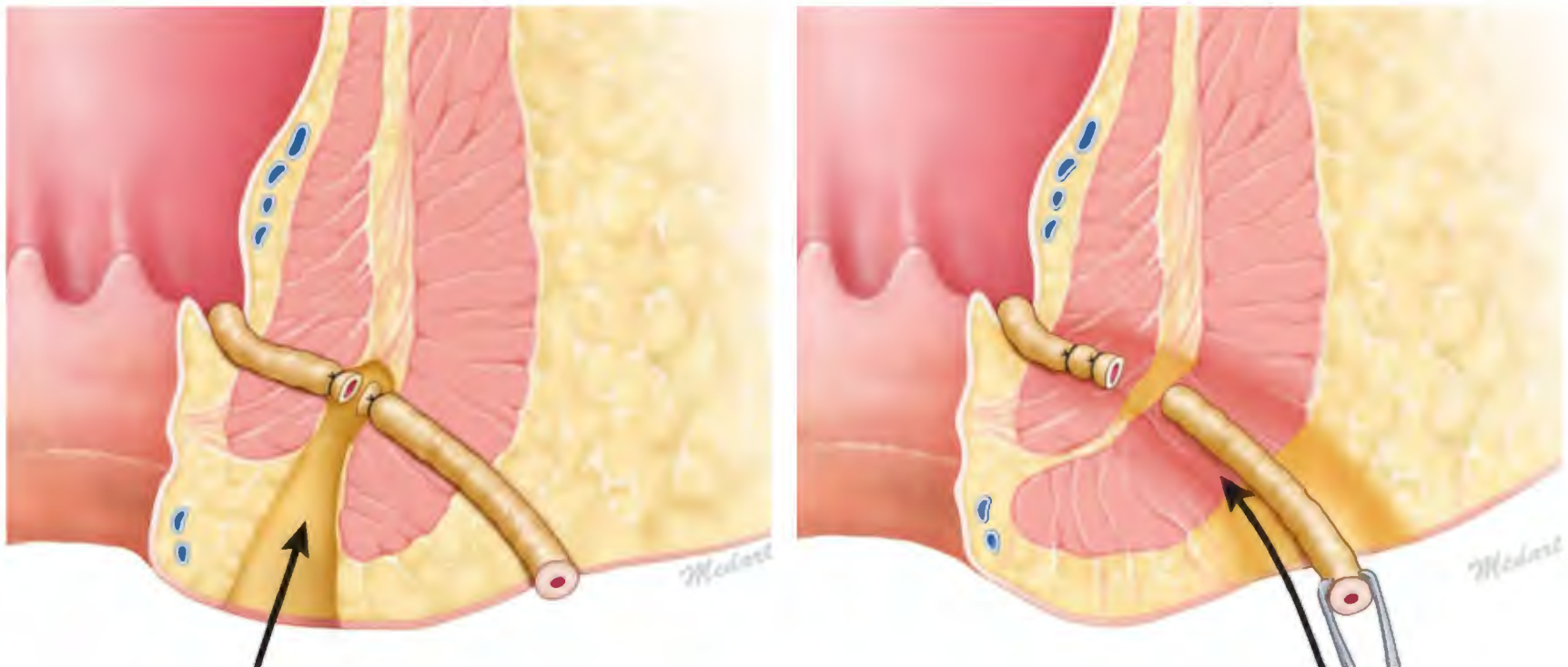
Table 1 Published articles on ligation of the intersphincteric fistula tract

Ref.	No. Patients	Follow-up (wk)	Healing rate	Complications	Type of study
Rojanasakul <i>et al</i> ^[23]	18	4	94%	NR	Prospective observational
Shanwani <i>et al</i> ^[26]	45	7	82%	NR	Prospective observational
Ellis <i>et al</i> ^[27]	31	6	94%	NR	Retrospective
Bleier <i>et al</i> ^[28]	39	10	57%	1 Anal fissure; 1 Persistent pain	Retrospective
Ooi <i>et al</i> ^[29]	25	6	96%	NR	Prospective observational
Tan <i>et al</i> ^[30]	93	4	92%	NR	Retrospective review
Steiner <i>et al</i> ^[31]	18	6	83%	1 hemorrhoidal thrombosis	Retrospective
Aboulian <i>et al</i> ^[32]	25	24	68%	2 Vaginal fungal infection	Retrospective review
Mushaya <i>et al</i> ^[33]	25	4	68%	1 Secondary bleeding; 2 Superficial perineal wound dehiscence	Prospective randomized
Abcarian <i>et al</i> ^[34]	50	15	74%	NR	Retrospective
Lo <i>et al</i> ^[35]	25	2	98%	NR	Retrospective
van Onkelen <i>et al</i> ^[36]	42	12	51%	NR	Prospective
Chen <i>et al</i> ^[37]	10	6	100%	NR	Retrospective
Lehmann <i>et al</i> ^[38]	17	4	47%	1 perianal haematoma; 1 wound infection	Prospective
Liu <i>et al</i> ^[39]	38	26	61%	NR	Retrospective

Fistule anale: au-delà du séton

Procédure de LIFT

High ligation of the anal fistula tract by lateral approach: A prospective cohort study on a modification of the ligation of the intersphincteric fistula tract (LIFT) technique



Fistule anale: au-delà du séton

Procédure de LIFT(suite)

High ligation of the anal fistula tract by lateral approach: A prospective cohort study on a modification of the ligation of the intersphincteric fistula tract (LIFT) technique

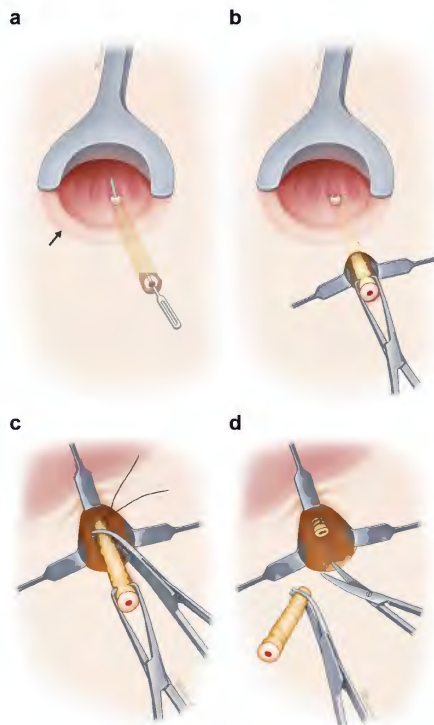


Table 2

Treatment results ($n = 28$).

Successful closure	21 (75%)
Treatment failure	7 (25%)
Failed healing (≤ 2 months)	2 (7%)
Recurrence (> 2 months)	5 (18%)
Median healing time, weeks	4 (3–7)
Median recurrence time, months	6 (2–23)
Median follow-up, months	16 (8–27)
Postoperative complications	
Fecal incontinence	0 (0%)
Bleeding	0 (0%)
Severe pain	0 (0%)
Anal pruritus	0 (0%)
Median operative time, minutes	28 (17–65)
Mean postoperative CCF-FI score	0.1 ± 0.378

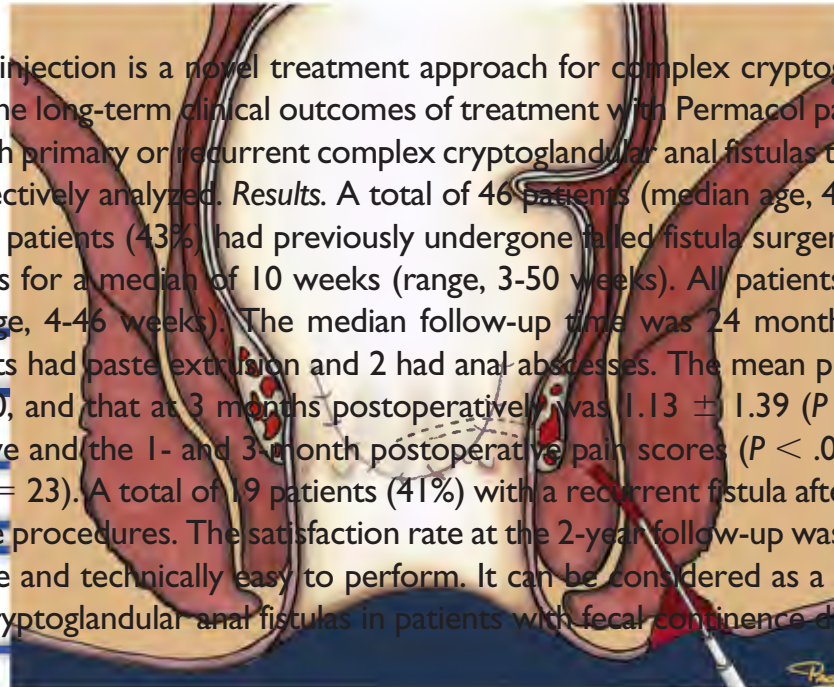
Fistule anale: au-delà du séton

Injections de tout type

Permacol Collagen Paste Injection for Treatment of Complex Cryptoglandular Anal Fistulas: An Observational Cohort Study With a 2-Year Follow-up

Abstract

Background. Permacol paste injection is a novel treatment approach for complex cryptoglandular anal fistulas. This study was performed to evaluate the long-term clinical outcomes of treatment with Permacol paste for complex cryptoglandular fistulas. **Methods.** Patients with primary or recurrent complex cryptoglandular anal fistulas treated with Permacol paste from 2014 to 2016 were retrospectively analyzed. **Results.** A total of 46 patients (median age, 41.3 years; 21 female) underwent Permacol paste injection; 20 patients (43%) had previously undergone failed fistula surgery. The patients had experienced anal fistula-related symptoms for a median of 10 weeks (range, 3-50 weeks). All patients had a draining seton in situ for a median of 10 weeks (range, 4-46 weeks). The median follow-up time was 24 months (range, 1-25 months). At the 1-month follow-up, 2 patients had paste extrusion and 2 had anal abscesses. The mean preoperative Continence Grading Scale score was 1.10 ± 1.40 , and that at 3 months postoperatively was 1.13 ± 1.39 ($P = .322$). There was a significant difference in the preoperative and the 1- and 3-month postoperative pain scores ($P < .001$). At the 24-month follow-up, the healing rate was 50% ($n = 23$). A total of 19 patients (41%) with a recurrent fistula after failed Permacol paste injection required additional operative procedures. The satisfaction rate at the 2-year follow-up was 65%. **Conclusion.** Permacol paste injection is minimally invasive and technically easy to perform. It can be considered as a viable and reasonable option for the treatment of complex cryptoglandular anal fistulas in patients with fecal continence disorders.



Fistule anale: au-delà du séton Bouchon pour fistule(ss-muqueuse porcine)

Modern management of anal fistula

Table 2 Published studies on anal fistula plug

Ref.	Type of study	No. Patients	Success rate	Follow-up (mo)
Johnson <i>et al</i> ^[41]	Prospective Non-randomized Controlled trial	15	87%	7
Champagne <i>et al</i> ^[44]	Prospective	46	83%	12
O'Connor <i>et al</i> ^[45]	Prospective	20 (Crohn's)	80%	10
Van Koperen <i>et al</i> ^[46]	Prospective	17	42%	7
Ellis ^[47]	Retrospective	18 (5 rectovaginal)	88%	6
Lawes <i>et al</i> ^[48]	Retrospective	17 plug 3 pug+flap	66%	7.4
Ky <i>et al</i> ^[49]	Prospective	44 plug+flap	54.6%	6.5
Schwandner <i>et al</i> ^[50]	Prospective	19 (7 Crohn's)	61% overall 45.5% cryptoglandular 85.7% Crohn's	9
Garg ^[51]	Prospective	21	71%	10
Christoforidis <i>et al</i> ^[52]	Retrospective	47	43%	6.5
Thekkinkattil <i>et al</i> ^[53]	Prospective	43	44%	11
Safar <i>et al</i> ^[54]	Retrospective	35	14%	4
Ortiz <i>et al</i> ^[55]	Prospective Randomized trial	31 cryptoglandular: -15 plug -16 endorectal-advancement flap (EAF)	20% (plug group) 87.5% (EAF)	12
El-Gazzaz <i>et al</i> ^[56]	Retrospective	33	25%	7.4
Chan <i>et al</i> ^[57]	Prospective	44	50%	10.5
Cintron <i>et al</i> ^[58]	Prospective	73	42.5%	15

Fistule anale: au-delà du séton

Bouchon pour fistule (Gore absorbable)

Modern management of anal fistula

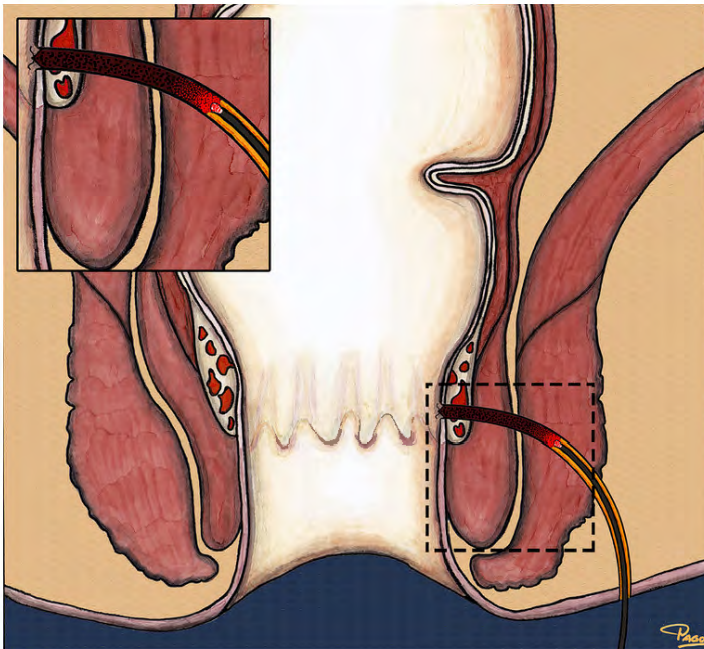
Table 3 Published studies on GORE BioA fistula plug

Ref.	Study design	No. patients	Aetiology and classification	Healing-rate	Follow-up (mo)	Complications
Buchberg <i>et al</i> ^[61]	Retrospective Case-series	10	6 cryptoglandular 3 iatrogenic 1 HIV	54%	2	NR
de la Portilla <i>et al</i> ^[62]	Prospective Case-series	19	10 high- transphincteric 9 low transphincteric	16%	12	1 Acute sepsis 1 Urge incontinence 1 Plug extrusion NR
Ratto <i>et al</i> ^[63]	Prospective Case-series	11	11 High- transphincteric	73%	5	NR
Ommer <i>et al</i> ^[64]	Retrospective Case-series	40	28 High-transphincteric 12 Suprasphincteric 4 Crohn's	57.5%	12	1 Plug extrusion 1 abscess 1 Dehiscence

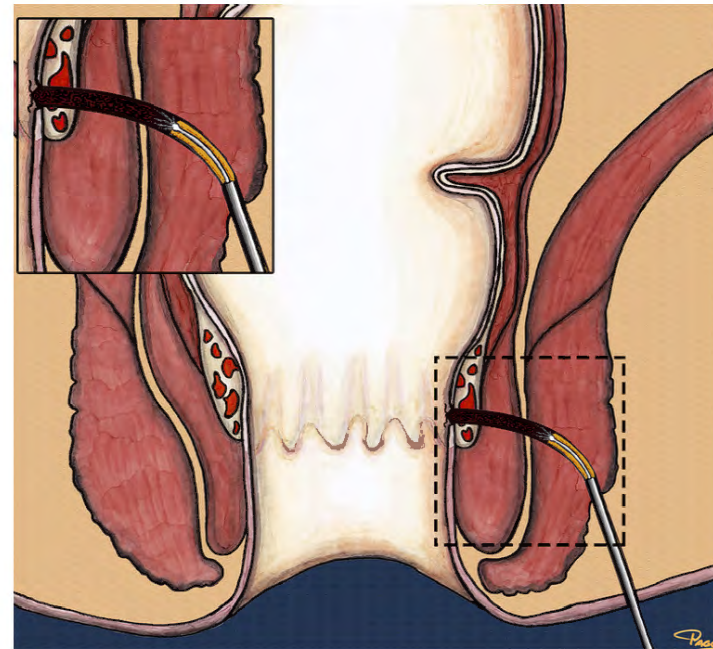
Fistule anale: au-delà du séton

Procédures « endo-fistuleuses »

Traitement au laser



VAAFT



Fistule anale: au-delà du séton VAAFT(video-assisted anal fistula treatment)

Video-Assisted Anal Fistula Treatment (VAAFT) in Cryptoglandular fistula-in-ano: A systematic review and proportional meta-analysis



Fistule anale: au-delà du séton

VAAFT(video-assisted anal fistula treatment)

Video-Assisted Anal Fistula Treatment (VAAFT) in Cryptoglandular fistula-in-ano: A systematic review and proportional meta-analysis

Background: Video-Assisted Anal Fistula Treatment (VAAFT) is a relatively new minimally invasive videoendoscopic procedure for treating fistula-in-ano. We reviewed and performed metaanalysis to evaluate the efficacy of this procedure.

Methods: Studies from the period 2010 to 2016 were searched in PubMed, Medline, Scopus, Embase, Ovid, SCI database, Cochrane Central Register of Controlled Trials (CENTRAL) & Google Scholar database. All studies which utilized VAAFT to treat fistula-in-ano were extracted. The studies in which the Cryptoglandular fistula were treated were included. Procedure's done in patients with Crohn's disease, pediatric patients and associated malignancy were excluded from the study. The primary outcome parameter was success rate in fistula healing and the secondary outcome parameters were operating time, hospital stay, return to work, incontinence rate and complication rate.

Results: A total of 1378 studies were screened. Out of these, eight studies were finally included for meta-analysis. The analysis (n = 786) demonstrated a net Proportion Meta-analysis pooled rate of 76.01% (95% CI = 68.1 to 83.9) for success rate, 16.2% (95% CI = 12.1 to 20.2) for complications, 44.7 min (95% CI = 38.3 to 51.2) for operating time, 1–4.1 days for mean hospital stay and 1–11 days for return to work. None of the studies reported worsening of continence levels.

Conclusions: VAAFT is a safe videoendoscopic method to treat fistula-in-ano with an overall success rate of 76% (net Proportion Meta-analysis pooled rate). The main benefit of the procedure is minimal risk to incontinence, minimal hospital stay and early return to work.

Fistule anale: au-delà du séton

VAAFT(video-assisted anal fistula treatment)

Video-Assisted Anal Fistula Treatment (VAAFT) in Cryptoglandular fistula-in-ano: A systematic review and proportional meta-analysis

Table 1
Demographic data, the patient characteristics & Quality assessment of the included studies (n = 8).

Author	Total (n)	Retro/prospective	Sex (M/F)	Age	Follow up	Anesthesia	Method of Closure	Internal opening not found	Fistula Characteristics
Liu	11	Retrospective	NR	NR	1–3.2 months	NR	Mattress suture-10 Endo-GIA Stapler-1	NR	Complex
Chowbey	416	Prospective	NR	NR	12	NR	Stapler	101(24.2%)	Intersphincteric (41%) transsphincteric (34%) suprasphincteric (22%)
Mendes	8	Prospective	7 male 1 female	43(29–6)	5months	SA	Suture	0	Complex Transphenctri6 Extrasphincteric2 Recurrent 2 Not mentioned
Walega	18	Prospective	13 male 5 females	47	10months	GA 9 SA 11	Advancement flap 3 Mattress suture 15	0	Simple 16(40%) Complex 24(60%)
Zarin	40	NR	NR	NR	6months	SA + midazolam	Suture	6(15%)	Recurrent 8 2 multiple branch
Selvarajan	8		7 male 1 female	42.5	NR		Suture	5(62.5%)	61 low 21 high
Kochhar	82	Prospective	6 male 16-female	35.4(23.1– 47.7)	6 months	SA	Suture or Staple	23(28%)	
Meinero 2014	203	Prospective	124 male 79 females	42(21–77)	15 (6–69 months)		Stapler 118 Flap Suture 58%	32(15.8%)	Recurrent 149 Simple Complex High transsphincteric 153 Extrasphincteric 21 Suprasphincteric 12 Horseshoe 17

Fistule anale: au-delà du séton

Comparaison lambeau-Permacol

Comparison of porcine collagen paste injection and rectal advancement flap for the treatment of complex cryptoglandular anal fistulas: a 2-year follow-up study

Abstract

Background Rectal advancement flap is the standard surgical treatment for complex cryptoglandular anal fistulas, while Permacol™ collagen paste is considered an innovative treatment option for anorectal fistulas. This study aimed to compare the clinical outcomes of patients with complex cryptoglandular fistulas treated by endorectal advancement flap versus Permacol™ paste.

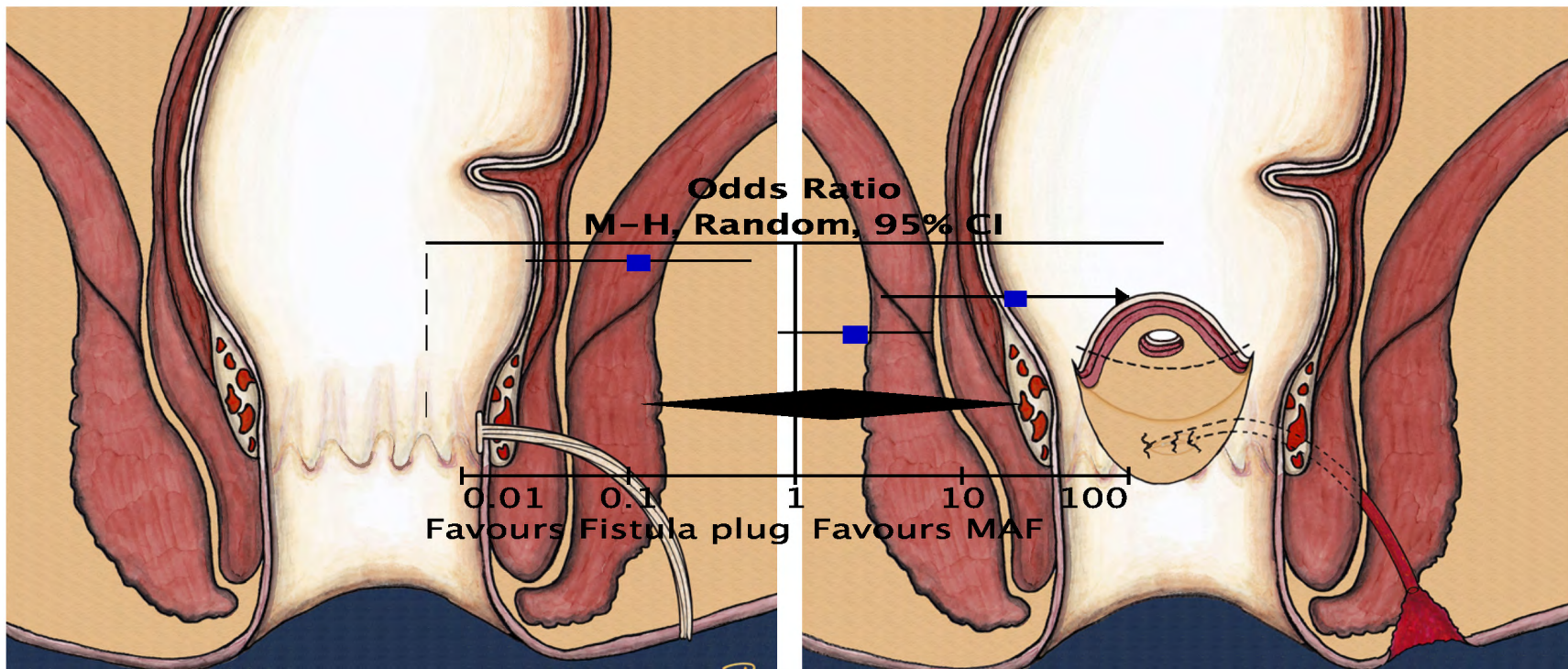
Methods This study was a retrospective analysis of patients with complex cryptoglandular anal fistulas. Thirty-one patients were treated with the rectal advancement flap (RAF group), while 21 were treated with Permacol™ paste injection (PP group). In PP group, the approach consisted of loose seton positioning followed several weeks later by closure internal opening with a resorbable sutures associated with paste injection into the fistula track. Clinical outcomes were assessed in terms of healing rate, faecal continence and patient satisfaction.

Results Seton drainage was done in all patients in both groups for a median duration of 8 weeks (range 4–18 weeks) before the final surgery ($p = 0.719$). No patient had faecal incontinence ($CGS \geq 5$) preoperatively. Five patients (16%) in the RAF group and one (5%) in the PP group experienced faecal incontinence postoperatively. The 2-year disease-free survival was 65% in the RAF group and 52% in the PP group ($p = 0.659$). The median satisfaction scores were 5 (range 1–10) in the RAF group and 7 (range 2–10) in the PP group ($p = 0.299$).

Conclusion The RAF appeared superior to PP in terms of fistula healing, although this result was not statistically significant. On the contrary, PP has a potential advantage in terms of continence disorders. Permacol™ paste can be considered as the initial treatment option for complex cryptoglandular anal fistulas in patients with faecal continence disorders.

Fistule anale: au-delà du séton C'est quoi le mieux?

Systematic review and meta-analysis of surgical interventions for high cryptoglandular perianal fistula



Fistule anale: au-delà du séton

Comparaison Bouchon-Lambeau

Anal fistula plug *vs* rectal advancement flap for the treatment of complex cryptoglandular anal fistulas: a system review and meta-analysis of studies with long-term follow-up

Abstract

Aim The aim was to compare the effectiveness of the anal fistula plug (AFP) with the rectal advancement flap (RAF) for complex cryptoglandular anal fistulas.

Methods We conducted a literature search to identify relevant available articles published without language restriction from Embase and PubMed databases and the Cochrane Library. Studies comparing outcomes with the AFP *vs* RAF for complex cryptoglandular anal fistulas were eligible for inclusion.

Results A total of 11 articles with 810 patients were included in this meta-analysis. Four RCTs and one observational clinical study provided long-term follow-up. The pooled analysis of all 11 studies indicated that there was no significant difference between the AFP and RAF in terms of healing rate, recurrence rate and

incidence of fistula complications. However, the pooled results of studies with long-term follow-up revealed that the RAF group had a significantly higher healing rate (OR 0.32, 95% CI 0.13, 0.78, $P = 0.01$) and lower recurrence rate (OR 4.45, 95% CI 1.45, 13.65, $P = 0.009$) than the AFP group.

Conclusions For the treatment of complex cryptoglandular anal fistulas, the RAF was superior to the AFP in terms of healing and recurrence rate after pooling of randomized controlled trials with long-term follow-up, even though a comparison based on the pooling of all studies showed no significant difference.

Keywords anal fistula plug, rectal advancement flap, complex cryptoglandular anal fistulas, long-term follow-up, meta-analysis

Fistule anale: au-delà du séton

Comparaison LIFT-Lambeau

Ligation of intersphincteric fistula tract compared with advancement flap for complex anorectal fistulas requiring initial seton drainage

Abstract

BACKGROUND: The ligation of intersphincteric fistula tract (LIFT) is a relatively new surgical technique for treating complex anorectal fistulas.

METHODS: LIFT was compared with anorectal advancement flap management (ARAF) of complex anorectal fistulas requiring previous seton drainage. Crohn's patients were excluded. Patients with no confirmed recurrent sepsis after 6 months were randomized to day surgery performance of LIFT (25; 17 male) or ARAF (14; 10 male) with removal of the seton. Outcome measures included recurrences, surgical time, complications, hospital readmissions, and fecal incontinence.

RESULTS: LIFT was 32.5 minutes shorter than ARAF ($P < .001$). Complications were similar, with no hospital readmissions. Return to normal activities was 1 week for LIFT patients, 2 weeks for ARAF patients ($P = .016$). At 19 months there were 3 recurrences (2 in the LIFT group). One ARAF patient had minor incontinence.

CONCLUSIONS: The LIFT procedure was simple, safe, shorter, and patients returned to work earlier. All patients had preliminary seton drainage, possibly contributing to the low recurrence rates. © 2012 Elsevier Inc. All rights reserved.

Fistule anale: au-delà du séton

Comparaison colle-séton

Seton or glue for trans-sphincteric anal fistulae: a prospective randomized crossover clinical trial

Abstract

Objective Fibrin glue treatment of anal fistulae has been proposed to minimize the risk of faecal incontinence but its acceptance by coloproctologists is still poor because the published data is controversial. Therefore, we carried out a prospective randomized crossover trial comparing treatment with a commercial fibrin glue to classical seton treatment, with healing rate, hospital stay, healing time, faecal incontinence and postoperative pain as study outcomes.

Method Sixty-four homogeneous patients with trans-sphincteric anal fistulae referred to seven colorectal units were randomized to undergo fibrin glue (39 patients) or seton (25 patients) treatment. Patients failing to heal after treatment with fibrin glue were re-randomized to undergo a second injection with glue or seton treatment.

Results Sixty-two of the 64 patients completed the minimum 1-year follow-up period. Twenty-one of 24 patients healed in the seton group compared with 15/38

in the fibrin glue group ($P = 0.0007$). The 23 failures after glue treatment were re-randomized to have a second glue injection (eight patients) or a seton treatment (15 patients). Four of the eight (50%) patients treated with a second injection of glue, and nine out of the 15 (60%) patients in the seton group, healed. Patients treated with fibrin glue reported less postoperative pain and had a shorter hospital stay than patients treated with a seton; furthermore, faecal continence and anal manometry significantly worsened after seton treatment.

Conclusion Seton treatment has a significantly higher probability of success compared with fibrin glue treatment but poses a higher risk of faecal incontinence. Fibrin glue could be considered as a first line of treatment for patients at risk of faecal incontinence or other comorbidities.

Keywords Fibrin glue, trans-sphincteric anal fistulae, seton, incontinence, prospective randomized trial

Fistule anale: au-delà du séton

Comparaison lambeau vs lambeau+colle

Fibrin Glue as an Adjunct to Flap Repair of Anal Fistulas: A Randomized, Controlled Study

PURPOSE: Both flap repair and fibrin glue are accepted sphincter-preserving techniques for managing anal fistulas. Additionally, the two techniques are not mutually exclusive and can be combined. This trial was undertaken to determine whether the combination of flap repair and fibrin glue resulted in better outcomes than flap repair alone. **METHODS:** Between July 2000 and March 2004, patients with transsphincteric anal fistulas were randomly assigned to advancement flap repair alone or flap repair combined with fibrin glue obliteration of the fistula tract. Data regarding age, gender, fistula anatomy, race, and previous repairs were collected. Fistulas managed by fistulotomy or caused by Crohn's disease, acute obstetric trauma, or radiation were excluded from this study. **RESULTS:** There were 58 patients randomized to flap repair alone or flap repair with fibrin glue (47 males; median age, 47 (range, 29-68) years). Mucosal advancement flap was performed in 36 patients and anodermal advancement flap was performed in 22. The median follow-up was 22 (range, 12-36) months. Total fistula recurrence rate for all patients was 32.6 percent. The recurrence rate for fistulas repaired by advancement flap alone was 20 percent, whereas the recurrence rate for fistulas repaired by advancement flap with fibrin glue was 46.4 percent ($P < .05$). **CONCLUSIONS:** The data fail to show improved outcomes when fibrin sealant is used in combination with an advancement flap compared with advancement flap alone for the management of complex anal fistulas. [Key words: Fibrin glue; Anal fistula; Treatment; Advancement flap]

Fistule anale: au-delà du séton

Comparaison colle vs cellules souches+colle

Autologous Expanded Adipose-Derived Stem Cells for the Treatment of Complex Cryptoglandular Perianal Fistulas: A Phase III Randomized Clinical Trial (FATT 1: Fistula Advanced Therapy Trial 1) and Long-term Evaluation

CONCLUSIONS: In treatment of complex fistula-in-ano, a dose of 20 or 60 million adipose-derived stem cells alone or in combination with fibrin glue was considered a safe treatment, achieving healing rates of approximately 40% at 6 months and of more than 50% at 1-year follow-up. It was equivalent to fibrin glue alone. No statistically significant differences were found when the 3 groups were compared. Clinical trials registration: www.clinicaltrials.gov, identifier NCT00475410; Sponsor, Cellerix SA.

Fistule anale: au-delà du séton

Comparaison lambeau vs fistulotomie-seton

Controlled, randomized trial of island flap anoplasty for treatment of trans-sphincteric fistula-in-ano: early results

Table 1 Results after conventional fistulotomy with or without seton (CVN) or island flap anoplasty (IFA) for trans-sphincteric fistula-in-ano. Values are number (percentage) of patients unless otherwise indicated. No differences between groups are significant

	CVN (n=10)	IFA (n=10)
Results at 4 weeks		
Re-admission for wound problem	0 (0)	1 (10)
Re-admission for bleeding	2 (20)	2 (20)
Pain	3 (30)	4 (40)
Pruritis	4 (40)	6 (60)
Wound discharge	5 (50)	3 (30)
Maximal pain score at rest ^a	3.6 (1.2)	3.0 (1.2)
Pain score during bowel movement ^a	1.9 (1.3)	2.9 (1.2)
Satisfaction score ^a	8.4 (1.3)	8.1 (4.0)
Fecal incontinence score ^a	3.7 (1.9)	2.6 (1.3)
Quality of life score ^a	117.0 (6.0)	125.5 (5.7)
Results at 16 weeks		
Re-admissions for wound problem	0 (0)	0 (0)
Wound bleeding	1 (10)	0 (0)
Pain	1 (10)	0 (0)
Pruritis	1 (10)	0 (0)
Wound healed	9 (90)	9 (90)
Fecal incontinence score ^a	1.3 (1.0)	1.3 (1.3)
Quality of life score ^a	123.5 (11.3)	124 (16.0)

Fistule anale: au-delà du séton

Comparaison lambeau muqueux vs paroi

Treatment of anal fistulas by partial rectal wall advancement flap or mucosal advancement flap: A prospective randomized study

Table 3

Postoperative complications in 1st group (mucosa, submucosa, muscosa) and 2nd group (mucosa, submucosa).

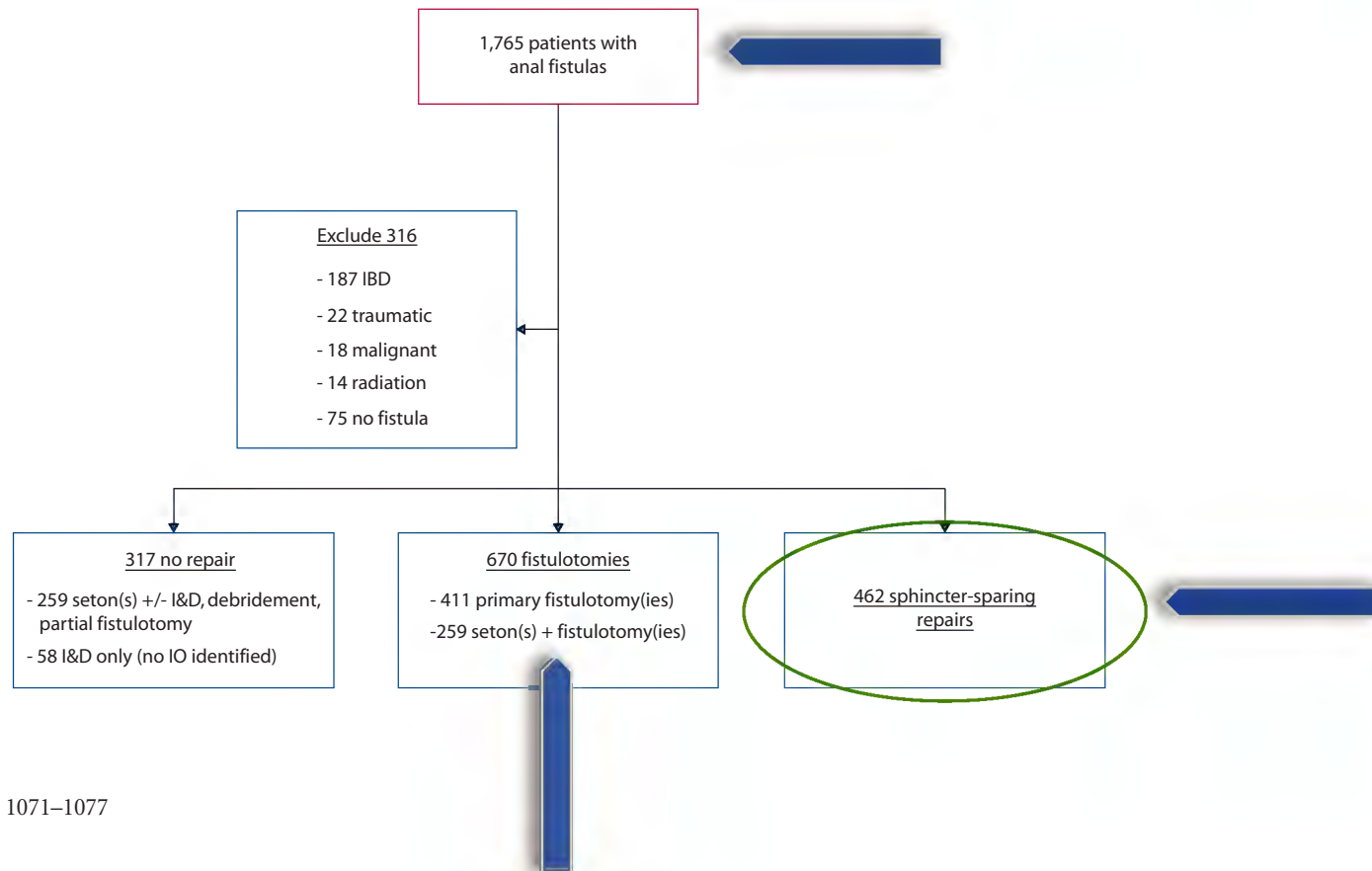
	1st Group (<i>n</i> = 20)	2nd Group (<i>n</i> = 20)	<i>P</i> value
Disruption	1 (5%)	6 (30%)	0.04 (S)
Recurrence	2 (10%)	8 (40%)	0.03 (S)
Incontinence	2 (10%)	0 (0%)	(NS) 0.15

NS = non significant, S = significant.

Fistule anale: au-delà du séton

Résultats

Sphincter-Sparing Anal Fistula Repair: Are We Getting Better?



Fistule anale: au-delà du séton

Résultats

Sphincter-Sparing Anal Fistula Repair: Are We Getting Better?

TABLE 1. Patient characteristics

Characteristic	Healers (n = 220)	Nonhealers (n = 283)	p
Age, y	46 (20–78)	46 (18–74)	0.21 ^a
Male	132 (65)	185 (65)	0.85 ^b
BMI	29 (16–58)	29 (16–55)	0.97 ^a
ASA classification			
I	86 (39)	111 (40)	1.0 ^c
II	115 (53)	147 (52)	
III	18 (8)	23 (8)	
Diabetics	26 (12)	23 (8)	0.18 ^b
HIV ^c	4 (2)	6 (2)	1.0 ^b
Smokers	64 (29)	76 (27)	0.62 ^b
Charlson Comorbidity Index	0 (0–6)	0 (0–7)	0.63 ^a

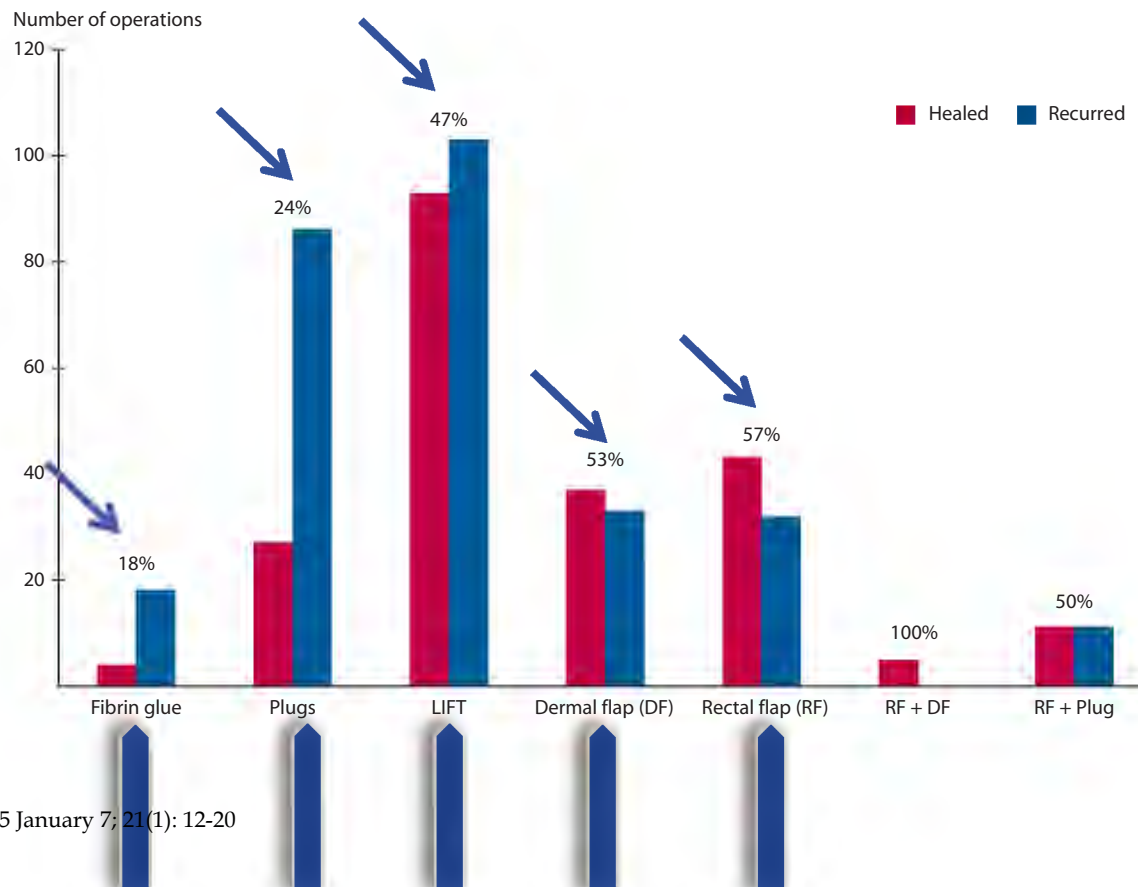
TABLE 2. Fistula characteristics

Characteristic	Healers (n = 220)	Nonhealers (n = 283)	p
Parks classification			
Intersphincteric	6 (3)	5 (2)	
Transsphincteric	209 (95)	269 (96)	0.62 ^a
Suprasphincteric	3 (1)	4 (2)	
Extrasphincteric	1 (1)	0	
Symptom duration, mo	16 (1–422)	15 (1–369)	0.47 ^b
Draining seton before repair	134 (61)	171 (60)	0.93 ^c
Failed prior attempt at repair	64 (29)	95 (34)	0.29 ^c
Depth of IO			
Distal to dentate line	15 (14)	12 (8)	
At dentate line	86 (78)	111 (76)	0.1 ^a
Proximal to dentate line	9 (8)	23 (16)	
Tract length, cm	3 (1–10)	3 (1–10)	0.69 ^b
Posterior midline IO	86 (39)	112 (40)	0.93 ^c
Abscess cavity at time of repair	10 (5)	11 (4)	0.82 ^c
Placement of drain into EO	26 (12)	24 (8)	0.23 ^c

Fistule anale: au-delà du séton

Résultats

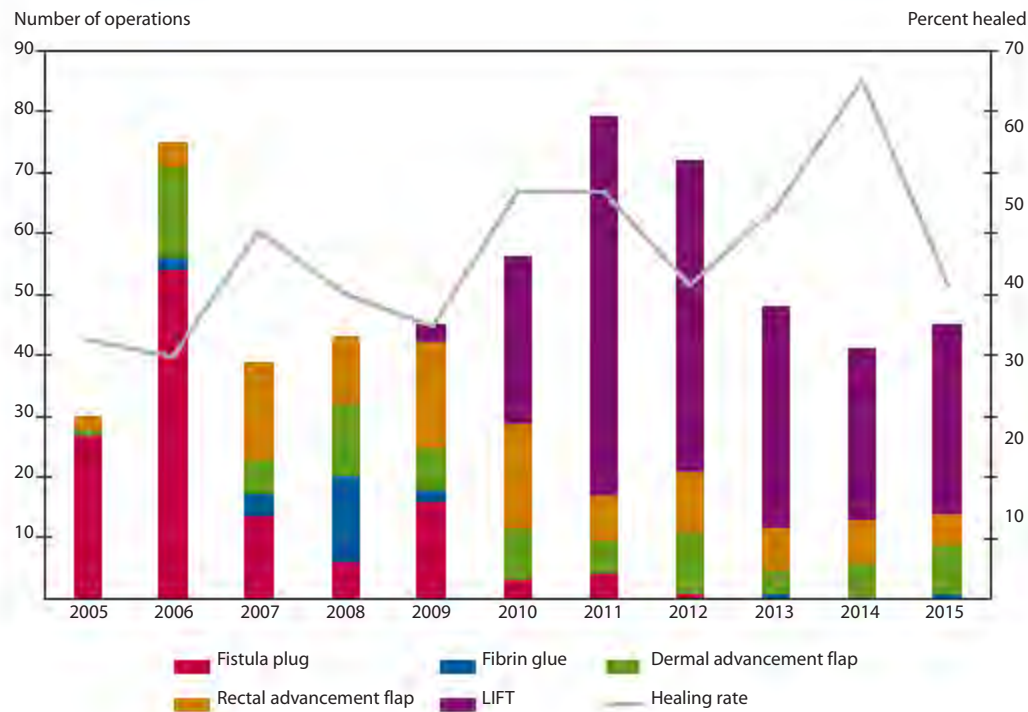
Sphincter-Sparing Anal Fistula Repair: Are We Getting Better?



Fistule anale: au-delà du séton

Résultats

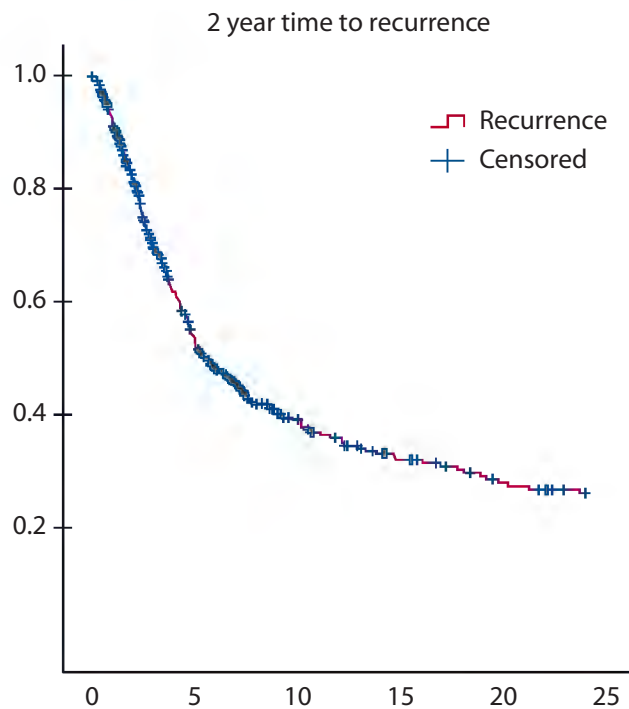
Sphincter-Sparing Anal Fistula Repair: Are We Getting Better?



Fistule anale: au-delà du séton

Résultats

Sphincter-Sparing Anal Fistula Repair: Are We Getting Better?



RESULTS: Five hundred three sphincter-sparing repairs were analyzed, whereas 70 were lost to follow-up. Two hundred twenty sphincter-sparing repairs (44%) resulted in healing, 283 (56%) resulted in nonhealing with a median follow-up of 9 (range, 1–125) months. The median time to fistula recurrence was 3 (range, 0–75) months with 79% and 91% of recurrences noted within 6 and 12 months. Patients treated with a dermal advancement flap, rectal advancement flap, or ligation of the intersphincteric tract procedure were less likely to have a recurrence than patients treated with a fistula plug or fibrin glue ($p < 0.001$). Over time, there was a significantly increased use of the ligation of the intersphincteric tract procedure ($p < 0.001$) and a significantly decreased use of fistula plugs and fibrin glue ($p < 0.001$); healing rates improved accordingly. There were no significant differences in healing rates with respect to patient demographics, comorbidities, or fistula characteristics.

Fistule anale: au-delà du séton

Méta-analyse des résultats

Systematic review and meta-analysis of surgical interventions for high cryptoglandular perianal fistula

Results The number of randomized trials available was low.

Fourteen studies could be included in the review. A meta-analysis could only be performed for the mucosa advancement flap versus the fistula plug, and did not show a result in favour of either technique in recurrence or complication rate. The

mucosa advancement flap was the most investigated technique, but did not show an advantage over any other technique. Other techniques identified in randomized studies were

seton treatment, medicated seton treatment, fibrin glue, autologous stem cells, island flap anoplasty, rectal wall advancement flap, ligation of intersphincteric fistula tract, sphincter reconstruction, sphincter-preserving seton and techniques

combined with antibiotics. None of these techniques seem superior to each other.

Fistule anale: au-delà du séton

Maladie de Crohn

- ◆ Les grands principes:

- ◆ Les fistules peuvent être d'origine importante parce que différents traitements peuvent être nécessaires. Fistulas related to Crohn's disease are associated with higher recurrence rate and are often treated differently compared to cryptoglandular fistulas. The most occurring fistulas are relat-
- ◆ Les fistules secondaires à la maladie de Crohn sont traitées de manière différente par rapport à Goodsall
- ◆ Toute fistule complexe doit laisser suspecter un Crohn
- ◆ Une plaie de fistulotomie qui ne veut pas guérir signe un Crohn à moins de preuve du contraire



Fistule anale: au-delà du séton

Maladie de Crohn(suite)

- ◆ Un patient avec douleur progressive se mérite un examen anal sous anesthésie pas une IRM
- ◆ Connaître l'état du rectum
- ◆ Drainer les abcès et insérer un seton si possible
- ◆ Fistulotomie possible dans les fistules simples avec rectum N
- ◆ Pour les autres, immunosuppresseurs et anti-TNF
- ◆ A l'occasion, dérivation proximale



Fistule anale: au-delà du séton Maladie de Crohn(suite)

Surgical Treatment of Anorectal Crohn Disease

Robert T. Lewis, MD¹ Joshua I. S. Bleier, MD, FACS, FASCRS²



Crohn's-like

Surgical leak/sinus

Cryptoglandular

Gender

M=F

M: presacral sinus
F: pouch-vaginal fistula

M>F

Complexity

Complex

Single

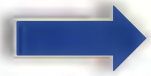
Single

Timing

Anytime, but
often late onset

History of leak within 6–12 months
of pouch construction

Pre- or post-op; associated
with severe diarrhea



Location

Anal canal

Anastomosis or tip of "J"

Dentate line

Orifice

Covered with
granular tissue

"Fish mouth" like

Opened



Response to
anti-TNF

Equivocal

No

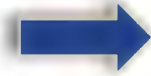
No

Granulomas

10%–12%

No

No



Cuff

Inflamed

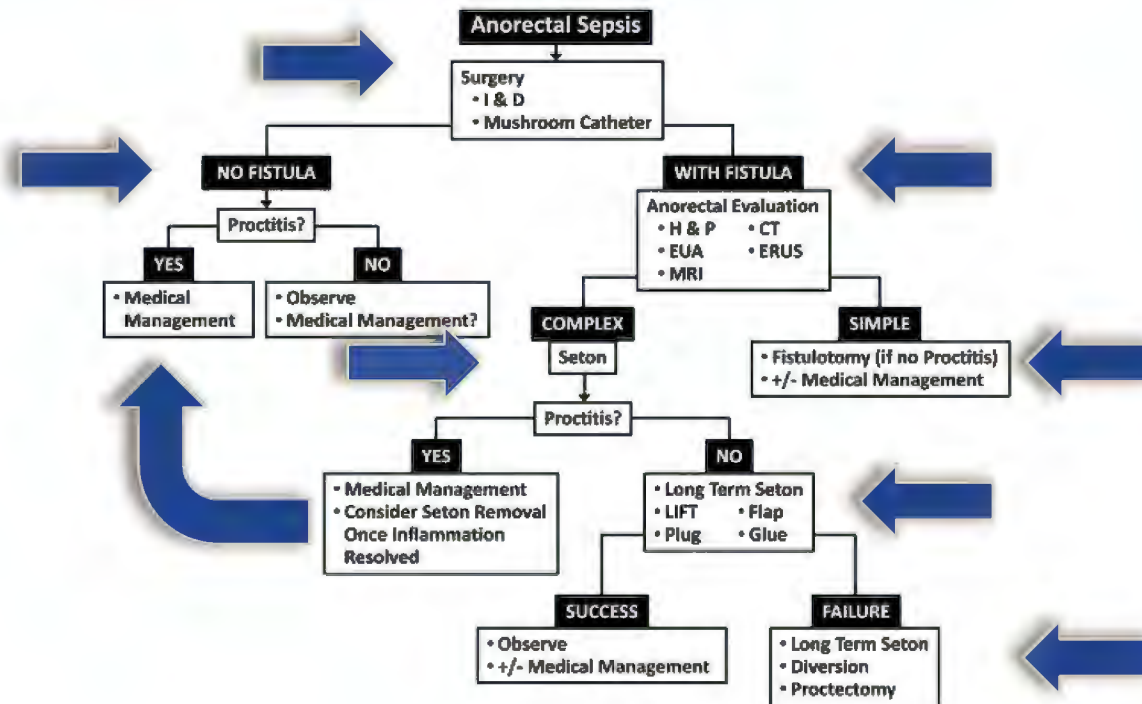
Can be normal

Can be normal

Fistule anale: au-delà du séton Maladie de Crohn (suite)

Surgical Treatment of Anorectal Crohn Disease

Robert T. Lewis, MD¹ Joshua I. S. Bleier, MD, FACS, FASCRS²



Fistule anale: au-delà du séton

Fistules complexes non cryptogéniques

Outcomes following Turnbull-Cutait abdominoperineal pull-through compared with coloanal anastomosis

F. H. Remzi, G. El Gazzaz, R. P. Kiran, H. T. Kirat and V. W. Fazio

Indication

Persistent RVF after surgery for rectal cancer or diverticulitis, colonic J pouch, related to CD, RT for anal or cervical cancer	13 (19)
Persistent RUF after RT for prostate or rectal cancer, diverticulitis, TAH + BSO followed by RT, related to CD	12 (18)
Complicated rectal cancer due to coexisting prostate cancer, excessive fibrosis and rigidity after RT, vaginal involvement, morbid obesity	10 (15)
Complex perianal fistula due to CD	10 (15)
Anastomotic leak or stricture after LAR and RT for rectal cancer	10 (15)
Severe radiation proctitis after rectal or prostate cancer	6 (9)
Stricture secondary to CD	3 (4)
Technical difficulty related to reversal of Hartmann's procedure	3 (4)

Values in parentheses are percentages. RVF, rectovaginal fistula; CD, Crohn's disease; RT, radiotherapy; RUF, rectourethral fistula; TAH + BSO, total abdominal hysterectomy + bilateral salpingo-oophorectomy; LAR, low anterior resection.

Br J Surge. 2009 Apr;96(4):424-9.

Fistule anale: au-delà du séton

Fistules non cryptogéniques (suite)

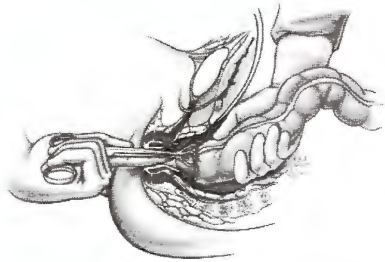


Fig. 1 Colon pulled through the anal canal with a Babcock clamp

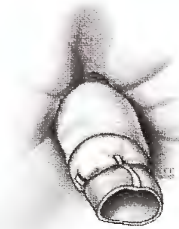


Fig. 2 Exteriorized segment wrapped in gauze

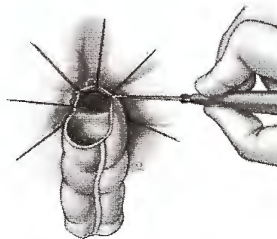


Fig. 3 Amputation of the colon

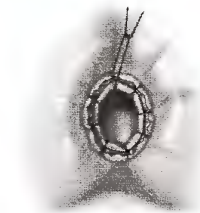


Fig. 4 Maturation completed in standard fashion using the previously placed sutures through all layers

Fistule anale: au-delà du séton Fistules non cryptogéniques (suite)



Fistule anale: au-delà du séton

Conclusions

- ◆ Le diagnostic de la fistule anale est simple mais le traitement ne l'est pas
- ◆ Avant toute procédure thérapeutique, l'anatomie du trajet est primordial
- ◆ La fistulotomie demeure un traitement acceptable chez les patients sélectionnés
- ◆ La récurrence reflète plus la complexité de la maladie que la qualité de la chirurgie

Fistule anale: au-delà du séton

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Fistule anale: au-delà du séton

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