

# Definitive repair of anovaginal fistula in Crohn's disease

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**Key words:** Crohn's disease; Anal fistula; Vaginal fistula; Surgery

**Anovaginal fistula may be a very distressing complication of Crohn's disease. We review the definitive repair of such fistulas in ten patients. The objectives were to cure the fistula, maintain continence and avoid proctectomy. The fistula was low trans-sphincteric in five patients, high trans-sphincteric in three and suprasphincteric in two. Loop ileostomies were formed in nine patients. Overall, after 14 repair procedures 8/10 fistulas are healed. Seven remain healed at a mean of 38 months (range 10–66 months) after ileostomy closure (six) or repair without ileostomy (one). All of these patients are continent. Definitive repair is effective and worthwhile in selected patients with Crohn's anovaginal fistula.**

Fistulas between the anorectum and vagina develop in 3–10% of women with Crohn's disease attending specialist colorectal units (1,2). The majority are anovaginal (2). Patients who are relatively asymptomatic are best treated conservatively (1–3). Symptomatic patients, distressed by passage of flatus or faeces per vagina, may be managed by a defunctioning stoma, local repair or proctectomy. The choice of treatment is determined by the severity of symptoms caused by the fistula, the severity of anorectal disease, the relationship of the fistula to the anal sphincters, the patient's continence and the patient's wishes or concerns, especially with regard to a stoma. Typically, affected women are young and keen to avoid a stoma at all costs. Definitive repair of anovaginal fistulas is carried out in order to cure the fistula, avoid proctectomy and maintain continence.

## Methods

This is a retrospective review of all women with Crohn's disease undergoing definitive repair for anovaginal fistula from 1991–1996 under the care of a single coloproctologist. A standard proforma was completed to document presentation, extent of disease, operations undertaken, outcome, and follow-up.

## Results

Ten women, of mean age 32 years (range 24–39 years), underwent definitive repair of anovaginal fistulas. Crohn's disease had been diagnosed a mean of 4.6 years (range 0–20 years) before evidence of a vaginal fistula. Symptoms of anovaginal fistula had been present for a mean 4.8 years (range 0.2–14 years). In eight patients the fistula had been heralded by a perineal abscess. No patient had undergone a previous fistula repair. Seven patients had active Crohn's proctitis of mild/moderate severity; five had documented proximal disease involving colon or ileum. In one patient, local sepsis and an anovaginal fistula were the first manifestations of Crohn's disease. All were fully continent per anum. Definitive repair was not attempted in patients suffering from major incontinence, active sepsis or severe proctitis.

Our strategy was to drain sepsis, defunction the anorectum and drain the fistula tract before proceeding to a definitive operation to cure the fistula. Fistulas were classified according to their relationship to the anal sphincters (1,4) (Table I). Five patients had a low trans-sphincteric tract, three a high trans-sphincteric tract and two a suprasphincteric tract. A loop ileostomy was created in eight patients initially and in a further

Table I. Characteristics, management and outcome of patients with anovaginal fistula

Patient	Fistula	Proctitis	Primary repair	Outcome	Subsequent repairs	Outcome
1	Low TS	Yes	Laid open	Healed		Healed 66 months
2	High TS	Yes	Transperineal	Anoperineal fistula	Laid open	Healed 48 months
3	Low TS	Yes	TRAF	Healed		Healed 36 months
4	Low TS	Yes	TRAF	Healed		Healed 36 months
5	Low TS	Yes	Transvaginal	Failed	Transperineal	Healed 54 months
6	Low TS	No	TRAF	Failed	TRAF, T'sphincteric	Healed 10 months
7	High TS	No	TRAF	Failed	T'sphincteric	Failed
8	High TS	No	TRAF	Healed		Healed 14 months
9	SupraSph	Yes	TRAF	Failed		Failed
10	SupraSph	Yes	Transperineal	Healed		Healed 6 months

**Key:** Fistulas: TS = Trans-sphincteric, SupraSph = Suprasphincteric

Repair methods: TRAF = Transanal rectal advancement flap, T'sphincteric = Trans-sphincteric repair,

Transvaginal = transvaginal advancement flap, Transperineal = Transperineal intersphincteric repair in layers

patient after a failed repair. Loose Silastic® (Dow Corning, Midland, Michigan, USA) setons were placed in eight patients, usually at the time of ileostomy formation, to promote drainage of the track before definitive repair.

The methods and results of definitive repair are given in the Table I. The initial procedure was a low fistulotomy in one patient and a transanal rectal mucosal advancement flap in six (5). In two patients, a transperineal intersphincteric approach was used to define the fistula and core it out (6). The anal and vaginal defects were sutured and an anterior levatorplasty carried out. A single repair was performed in seven patients, two repairs in two patients and three repairs in one. Of nine patients, six have had their ileostomies closed after a mean 13 months (range 7–19 months). There have been no ileostomy-related complications. Six of 10 (60%) initial procedures and two of four subsequent procedures were successful. Eight of 10 (80%) fistulas were healed after 14 repairs. Seven remain healed at a mean of 38 months (range 10–66 months) after ileostomy closure (six) or repair without ileostomy (one). All of these patients are continent. One patient is healed after 6 months and awaits ileostomy closure.

One transperineal intersphincteric repair led to successful vaginal healing but conversion to a low anoperineal fistula which healed after laying open. Two patients have persistent anovaginal fistulas after a total of three repairs, including one who has developed moderately severe proctitis.

## Discussion

Enthusiasm for local repair of Crohn's anovaginal fistulas has been dampened by reports of poor healing (7), frequent recurrence (8), and an ultimately high proctectomy rate (1,9). However, other series, including our own, demonstrate that definitive repair may be very worthwhile in selected patients, although more than one attempt may be required to achieve healing (10,11). Case selection is important; repair should not be attempted in

the presence of active sepsis or severe proctitis (1,10,12). If proctitis is severe, management will usually be determined primarily by the rectal symptoms.

The safety of fistulotomy for 'low' Crohn's anovaginal fistula is questionable (13,14). We believe that even low trans-sphincteric anovaginal fistulas should be repaired rather than laid open because of the risks of impaired continence reported with limited sphincter division in Crohn's disease (13), together with the likelihood of future impairment of sphincter function by recurrent Crohn's inflammation, sepsis and further operations.

Methods for repairing Crohn's anovaginal fistula are evolving. Most reported series have been small (the largest having 35 cases) and have included various operative techniques (1,7,10) which have not been compared rigorously. Repairs which do not divide sphincter muscle offer the advantage that they should not impair continence (10,11,15). Transanal rectal advancement flaps or sleeve advancements are favoured by the Cleveland Clinical group whose reports document primary healing in 6/10 and in 19/35 patients, respectively, and ultimate success in 24/35 (68%) after repeat procedures (10,16). Similar results have been observed by Radcliffe *et al.* (1) and in the present study. Hesterberg *et al.* (17) achieved primary healing in each of ten patients managed using a new anal advancement flap. This technique appeared particularly suitable for low fistulas and avoided use of potentially inflamed or scarred rectal mucosa. Long-term results are unavailable as yet. Transperineal sphincter-preserving approaches have been reported less frequently in Crohn's disease (6,18,19). They require careful separation and repair of the anorectum and the vagina without injuring either. We used an intersphincteric modification of this type of repair adding an anterior levatorplasty as a barrier between the anal and vaginal suture lines. This multilayered repair proved effective in all three patients in whom it was used. In trans-sphincteric repair the fistula is approached by dividing all tissues superficial to it and repairing them carefully. This would appear to jeopardise continence unnecessarily; Francois *et al.* (20) achieved healing in all of nine women with low rectovaginal fistulas, three of

whom had some incontinence of liquid stool thereafter. It is argued that fistulas between the anorectum and vagina behave like a shunt and that local repairs must close the anorectal opening of the fistula since this is the high-pressure side and the site of origin (21). Simple closure of the vaginal opening is inadequate. However, a transvaginal approach which incorporated repair of the anorectal defect, anterior levatorplasty to buttress the repair, and a vaginal advancement flap resulted in healing in 13/14 cases (11).

We and others have used a defunctioning stoma routinely to protect an anovaginal fistula repair by reducing faecal contamination of the operative site, improving rectal inflammation and reducing pressure within the anorectum (3,11). Some units recommend diversion only where inflammation is severe or if the fistula recurs (8,10). Others have achieved good results from repair without defunctioning (20).

Definitive repair of symptomatic Crohn's anovaginal fistula is worthwhile in the absence of active sepsis or severe proctitis. Continence need not be jeopardised by attempted repair. The true value of a defunctioning stoma needs to be defined; in many patients it may be unnecessary. Patients need to be informed that the initial failure rate is substantial but that further procedures may be successful.

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The authors gratefully acknowledge the advice of Mr Alan Roe, Southmead Hospital, Bristol, during the preparation of this manuscript.

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Received 16 March 1998