Controversies in Fistula in Ano

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Abstract Managing a complex fistula in ano can be a daunting task for most surgeons; largely due to the two major dreaded complications—recurrence & fecal incontinence. It is important to understand the anatomy of the anal sphincters & the aetiopathological process of the disease to provide better patient care. There are quite a few controversies associated with fistula in ano & its management, which compound the difficulty in treating fistula in ano. This article attempts to clear some of those major controversies.

Keywords Fistula in ano · Anal fistula

High Fistulas Have High Internal Openings

More than 90 % of all fistulas are caused by cryptoglandular infection [1]. The crypt is located at the pectinate line; thus the internal opening of the fistula, which corresponds to the opening of the duct at the crypt, is always at the level of the pectinate line. The sepsis may spread above the anorectal ring, but the internal opening is always at the pectinate line. One can have a high secondary internal opening at the site where a high inter-sphincteric fistula has ruptured intra-anally or a secondary opening has been created iatrogenically at a previous surgery. Fistulas caused by Crohns disease or other causes can have a high primary internal opening.

Internal Opening is Not Always Present

By virtue of its definition, a fistula in ano has to have an internal opening—it is another matter that it may not be possible to locate the internal opening in a few cases. If the internal opening is blocked, the radiologist may report it as a sinus & not a fistula, which is actually not true. If one cannot locate the internal opening in the clinic, a hydrogen peroxide enhanced ultrasound may be able to identify it. Majority of the previously unidentified internal opening can be identified under anesthesia—one needs to look in the midline at the pectinate line for it.

Fistulas with Multiple Openings are Tuberculus in Origin

It was earlier thought that fistulas with multiple openings were most probably tuberculus in origin & empirical anti-tuberculus treatment (ATT) was given to these patients. The histology of these types of fistulas usually do not reveal tuberculosis (Figs. 1 and 2). The multiple openings on one side of the anal canal are interconnected subcutaneously, & are representative of the sepsis spreading subcutaneously, when the existing external opening gets sealed off. No ATT should be given unless there is radiological or histological proof of active tuberculus disease.

Every Fistula Requires an MRI/Endoanal USG

Investigations in fistula in ano are additional tools available to the surgeon in case of difficulty. They do not replace a good clinical examination to diagnose the type & extent of fistula. It is not necessary to investigate every case of fistula

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Fig. 1 Multiple external openings over the right buttock—non tuberculous

in ano; even the complex ones can be diagnosed fairly accurately by a good clinical examination. MRI & Endoanal ultrasound both give comparable results [1] (Fig. 3). Delineating the tracts by intra-operative dye study may be more helpful than the above investigations. Fistulograms have a very limited role in the diagnosis of fistula in ano.

Whether Ano-rectal Abscess Should be Just Drained or Treated Like a Fistula?

All fistulas essentially start as abscesses, which may either rupture spontaneously or may need a surgical drainage (Fig. 4). Almost one third of all abscesses develop a fistula. Abscesses caused by gut organism like *E. coli* & *Bacteroides* are more likely to develop a fistula, rather than those caused by skin organism like staphylococcus or streptococcus [2]. There has been much controversy whether all abscesses should be treated like fistula to lower recurrence rate. In a Cochrane database published in 2010 [3], six trials were identified, involving 479 subjects, comparing incision and drainage of perianal abscess alone versus incision and drainage with fistula treatment. The authors concluded that

Fig 2 Horseshoe fistula in ano

Fig 3 Endoanal USG showing an inter-sphincteric abscess

fistula surgery with abscess drainage significantly reduces recurrence or persistence of abscess/fistula, or the need for repeat surgery. There was no statistically significant evidence of incontinence following fistula surgery with abscess drainage. Thus primary surgery for fistula along with drainage of the abscess can be recommended as the preferred surgery to those surgeons who have sufficient experience in treating fistulas, provided the patients' general condition & local anatomical circumstances are favorable [4]. Perianal abscesses have a lower incidence of developing a fistula as compared to ischioanal abscesses.

Which is the Best Surgery for Fistula in Ano?

There are many options to treat fistula in ano; new options are being added each year. Fistulotomy or fistulectomy involves division of the underlying sphincter tissue & is generally recommended for low fistulas. However, sphincter-preserving treatment may be advocated for patients with low preoperative voluntary contraction

Fig 4 Pus pouring through the internal opening of an inter-sphincteric abscess

pressure or those who have undergone multiple drainage surgeries [5]. Fistulectomy with primary sphincter reconstruction can improve both anal continence and manometric values in incontinent patients, without compromising them in fully continent ones [6].

In 2005, David Armstrong described the anal fistula plug which was derived from the submucosa of the porcine small intestine. His initial results showed a success rate of 83 % [7]. The high success rate of David Armstrong could not be replicated by most others & various published data has shown success rates varying from 29 % to 53 %. The results with the plug have been comparable or inferior to the advancement flap. The plug may however be useful in Crohn's fistulas, where it may be considered as an alternative treatment, although the success rate even in these cases is low [8–11]. Some studies have shown that longer tracts have better chances of closure [12]. Results with bioprosthetic plugs have shown higher results varying from 54 % to 72 %, although the test series have been very small [13–15].

Seton is the preferred treatment for fistula in the west as it is a less radical approach with minimal damage to the sphincter. However the main disadvantage is the prolonged period required for wound healing & the discomfort caused to the patient during that time [16]. The preferred method of using a seton is to use it as a “draining” seton rather than a “cutting” seton. Although a cutting seton can have better success rate as high as 99 % [17], it can cause severe discomfort to the patient & can have an incidence of incontinence as high as 18 %–25 % [18, 19]. Draining seton can have a persistent fistula rate ranging between 20 % and 40 %, but with a low incidence of incontinence. It may be the preferred surgical treatment of choice in Crohn's fistula, but with a recurrence rate as high as 40 % [20, 21].

Advancement flaps have a success rate between 48 % and 62 %. The flap should consist of the mucosa & part of the internal sphincter, should have a broad base with good blood supply & should be sutured without tension. The success rate can be improved by excising the underlying infected anal gland & curetting the rest of the tract. The results are comparable to anal fistula plug. Combining plug with advancement flap will further increase the success rate. Though fibrin glue has been widely used, the high recurrence rates associated with using it as primary treatment for fistula, does not make it as a favorable method of treatment.

In 2007, Dr. Arun Rojanasakul first published an article on a total sphincter saving procedure which he termed as L.I.F.T. (ligation of inter-sphincteric fistula tract) [22]. Subsequent studies have revealed an healing rate ranging from 68 % to 83 % with an average healing time from 6 to 7 weeks [23–26]. Since it is a sphincter sparing procedure, LIFT has now become a very popular surgery worldwide.

VAAFT (Video assisted anal fistula treatment) first described by Prof. Meinero, is done with the help of a rigid

endoscope. The tract is cauterized, curetted & the internal opening is stapled. This technique is relatively new & can be performed only in some types of fistula. As yet not much data is available about this technique

Cochrane database in 2010 by Jacob TJ et al. have concluded that there seems to be no major difference between the various techniques used as far as recurrence rates are concerned. The use of fibrin glue and advancement flaps are associated with low incontinence rates. There is a crying need for well powered, well conducted randomized controlled trials comparing various modes of treatment of fistula in ano. Newer operations like the anal fistula plug and the LIFT procedure need to be evaluated by randomized clinical trials [27]. Thus there is no single method that is ideal & one has to choose the surgery depending on his/her experience, the type of fistula & the other local conditions.

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