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Review Article

THE TYPES AND MANAGEMENT OF ANAL FISTULA

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Abstract:

Introduction: *Fistula-in-ano has constantly examined the patience of even the best surgeons. There has never been agreement on the best surgeries for the fistula-in-ano, especially those with cryptoglandular origin. Recent classic surgeries such as ligation of intersphincteric fistula tract (LIFT) and video-assisted anal fistula treatment (VAAFT) have been successful but require more research and longer follow-up period to confirm them. Developments in flaps and setons are still hugely utilized. Setons are used as a cutting seton or as a draining seton. Cutting seton and fistulotomy have excellent success rates however we should take into consideration the complications such as incontinence associated with it. Fistulectomy with primary sphincter reconstruction sounds to be a very hopeful surgery, however long-term findings are still awaited. Most of the research have small sample size, and there is no equivalent comparison between the different kind of surgeries to give a definitive result. Cryptoglandular infection is considered to be responsible for about more than ninety percent of anal fistulas. There has been no agreement on surgical options for managing it. The available options have not produced significant results; so, there is a need to find new options. Recurrence and incontinence are the 2 main paradoxical factors which a surgeon fears and drives them to tilt on one side or the other. The recently developed techniques aim to be less invasive with less complications, but at the cost of increased recurrence rate. **Aim of work:** In this review, we will discuss the types and management of Anal fistula*

Methodology: *We did a systematic search for the types and management of Anal fistula using PubMed search engine (<http://www.ncbi.nlm.nih.gov/>) and Google Scholar search engine (<https://scholar.google.com>). All relevant studies were retrieved and discussed. We only included full articles. **Conclusions:** Recently, new surgeries have been developed to the available list of surgeries for anal fistula. This has only added to the number of surgeries existing and could potentially confuse the surgeons further with the best choice. Advancement flaps and seton placement have been widely spread and used and are still being implemented as a first line of treat for anal fistula. But, recently new technique such as LIFT have been used. The anal fistula plug has success rates like advancement flap and has not been able to be proven very popular. VAAFT and autologous adipose-derived stem cells are recently developed techniques with not much research on their success rates. Fibrin glue has moderate result with simple low fistula, but poor results with high or complex anal fistula. Cutting seton and fistulotomy have good success rate, however surgeons have to consider the complications such as incontinence. Primary suturing after fistulectomy for transsphincteric fistula appears to take care of this incontinence and is something to look out for in the future. Recurrence after draining an anorectal abscess could be lowered, if fistulotomy is done primarily by experienced surgeons. There are limitations to the available studies such as small size, and there are no randomized trials available, that compare the success of various procedures against equivalent types of fistula. In the present, there is no evidence to recommend or go against any single procedure. There is definitely no golden surgery as for anal fistula. The surgeon has to decide the procedure based on his past experience and the type of fistula he/she is dealing with. There is definitely a lot of need for more research.*

Key words: *The types, presentation, management, anal fistula, surgery.*

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INTRODUCTION:

Fistula-in-ano has constantly examined the patience of even the best surgeons. There has never been agreement on the best surgeries for the fistula-in-ano, especially those with cryptoglandular origin. Recent classic surgeries such as ligation of intersphincteric fistula tract (LIFT) and video-assisted anal fistula treatment (VAAFT) have been successful but require more research and longer follow-up period to confirm them. Developments in flaps and Setons are still hugely utilized. Setons are used as a cutting Seton or as a draining Seton. Cutting Seton and fistulotomy have excellent success rates however we should take into consideration the complications such as incontinence associated with it. Fistulectomy with primary sphincter reconstruction sounds to be a very hopeful surgery; however long-term findings are still awaited. Most of the researches have small sample size, and there is no equivalent comparison between the different kinds of surgeries to give a definitive result [1].

Cryptoglandular infection is considered to be responsible for about more than ninety percent of anal fistulas. There has been no agreement on surgical options for managing it. The available options have not produced significant results; so, there is a need to find new options. Recurrence and incontinence are the 2 main paradoxical factors which a surgeon fears and drives them to tilt on one side or the other. The recently developed techniques aim to be less invasive with less complications, but at the cost of increased recurrence rate [2].

In this review, we will discuss the most recent evidence regarding the types and management of anal fistula

METHODOLOGY:

We did a systematic search for the types and management of anal fistula using PubMed search engine (<http://www.ncbi.nlm.nih.gov/>) and Google Scholar search engine (<https://scholar.google.com>). All relevant studies were retrieved and discussed. We only included full articles.

The terms used in the search were: The types, presentation, management, anal fistula, surgery.

Advancement Flap

Advancements flaps have been utilized to close the internal opening in fistula since long. The results with advancement flap as a standalone procedure range from sixty to seventy percent. Crohn's fistulas have a much lower success rate. Repeating this surgery several times could improve the success rate to as much as ninety percent [3]. Continence could worsen

in ten percent of patients after this surgery. Recently, there have been several research that compared the management with advancement flaps versus anal fistula plug [4].

Fibrin Glue

Fibrin glue has been utilized as a sphincter sparing approach for the management of anal fistula for twenty years. The benefit of this procedure is that it is easy to use, has minimal morbidity and should not affect later management plan in the event of its failure.

Seton

Setons have been used in anal fistulas for the purpose of cutting the sphincter in a phased manner as well as to mature the tract for another definitive surgery. Seton placement is suggested to decrease postoperative faecal incontinence, but curiously, a good range of functional loss after surgery with Seton has been established. A systematic review, studied the cutting Seton, has shown a recurrence rate of five percent in patients, in whom the internal sphincter was preserved. In those patients where the internal sphincter was not preserved, the recurrence rate was only three percent [5]. The total faecal incontinence rate was less than six percent in the former group and as high as twenty five percent in the latter group.

Anal Fistula Plug

In 2006 a study was published studied fistula using a biological plug derived from the submucosa of porcine small intestine [6]. They had a great success rate of eighty five percent in forty six patients followed up for a median time of one year. Unfortunately, similar success rate can not be performed by most surgeons. This showed an overall healing rate for non-Crohn's fistula to be around fifty four percent. One of the common causes of failure was the extrusion of the plug in almost eight percent of the cases. The healing rates in Crohn's fistula were higher in many studies about eighty five percent ⁷.

LIFT

In 2007, Dr. Arun Rojanasakul published a research on a total sphincter saving surgery which he termed as ligation of intersphincteric fistula tract (LIFT). The surgery was fairly simple and consisted of ligation of the fistula tract in the intersphincteric space with curettage of the remaining tract. Dr. Rojanasakul's initial success rate was ninety four percent [8].

The sample sizes of most of these studies are small. Lately, 2 large series have been reported with a longer follow-up. The series from Singapore reported ninety three cases with a mean follow-up of twenty

three weeks. At the end of one year, seventy eight percent of their patients were treated [9]. A very critical finding, which was made in this study, was that the median time to recurrence was twenty two weeks. So, researches with longer follow-up are required to validate the success or failure of a particular procedure.

Alterations of the LIFT technique have been illustrated to improve its success rate. One of the causes of failure of the LIFT methods has been attributed to insufficient clearance of all granulation tissue/sepsis in the distal tract. A new study of forty one cases compared the LIFT technique, with LIFT along with the additional step of coring fistulectomy, which was done from the external opening till the anal sphincter [10]. No significant difference in success rate was noted (eighty five percent versus eighty one percent).

VAAFT

In 2006, Dr. P. Meinero showed the video-assisted anal fistula treatment (VAAFT) technique for fistula-in-ano. This method consists of an initial diagnostic phase which is done by an eighteen cm long rigid fistuloscope with an eight degree angled eyepiece, which is passed through the external opening. Glycine-mannitol solution is used to open the fistula tract. The fistuloscope is advanced till the internal opening.

Autologous Adipose-Derived Stem Cell

Autologous adipose-derived stem cells (twenty million) derived from liposuction have been utilized to treat the fistula-in-ano. They could be used in combination with fibrin glue. The results at 1 year vary from fifty to seventy percent [11]. The results could be better than the use of fibrin glue alone. There were no major adverse effects with minimal morbidity after this procedure. But, the low success rates and the as-yet experimental nature of this procedure still preclude it from being recommended as a standard treatment for the fistula-in-ano.

Fistulectomy

Fistulectomy is often recommended for low anal fistulas, as the success rate is high with this type of surgery, and with minimal incontinence. The success rates could potentially be one hundred percent in expert surgeons [12]. The incontinence is usually minor and can range from ten to twenty percent.

Fistulectomy with Primary Sphincter Reconstruction

Cutting setons have an excellent success rate, however one has to deal with the higher rate of

incontinence that goes with it. The reason for the incontinence is that even though the seton cuts slowly; so, enabling the sphincter ends not to retract much, it still does cut the anal sphincter. If one were to cut the sphincter and suture it primarily, the success rates would be still very high, whereas decreasing the incontinence rates. Based on this idea, 2 recent studies revealed a success rate as high as ninety five percent with an insignificant change in the continence scores [13].

Abscess with Primary Fistulotomy

Performing a primary fistula procedure along with drainage of the anorectal abscess has been a matter of argument. The fear of causing incontinence that more than half of all drained abscesses may not complicate a fistula, has led to in condemning a primary surgery for an anorectal abscess. But, a new systematic review comparing outcome after primary fistula surgery done along with drainage of perianal abscess, compared with drainage alone, revealed that fistula surgery with abscess drainage, significantly reduces recurrence or persistence of abscess/fistula, or the need for repeat surgery [14]. There was no statistically significant result of incontinence after fistula surgery with abscess drainage. This procedure could be suggested in very selected patients. Another meta-analysis comparing the 2 procedures showed that there was no conclusive evidence if simple drainage or sphincter-cutting procedure is better in the management of anorectal abscess-fistula [15]. A long-term follow-up seems not to change the results of fistulotomy group and ascertain that fistulotomy is an efficient and safe treatment of anal abscess with excellent long-term results [16]. Exclusion is a high fistula, where fistulotomy may be linked to a risk of recurrence and incontinence.

CONCLUSIONS:

Recently, new surgeries have been developed to the available list of surgeries for anal fistula. This has only added to the number of surgeries existing, and could potentially confuse the surgeons further with the best choice. Advancement flaps and seton placement have been widely spread and used, and are still being implemented as a first line of treat for anal fistula. But, recently new techniques such as LIFT have been used. The anal fistula plug has success rates like advancement flap and has not been able to be proven very popular. VAAFT and autologous adipose-derived stem cells are recently developed techniques with not much research on their success rates. Fibrin glue has moderate result with simple low fistula, but poor results with high or complex anal fistula. Cutting seton and fistulotomy have good success rate, however surgeons have to consider the

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