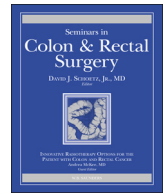




Contents lists available at ScienceDirect

Seminars in Colon and Rectal Surgery

journal homepage: www.elsevier.com/locate/yjcrs

Future directions in the management of anal fistula

Mia DeBarros, MD, Vance Y. Sohn, MD, Scott R. Steele, MD*



* Department of Surgery, Madigan Army Medical Center, 9040a Fitzsimmons Dr, Fort Lewis, WA 98431

A B S T R A C T

While evolution of surgical therapies is inevitable over time, it is not to say that all changes are helpful. Yet, many of the changes witnessed to date in the development and progression of fistula surgery have played a role in both minimizing morbidity and maximizing outcomes. Yankee's catcher Yogi Berra once said, "It's tough to make predictions, especially about the future." It is, however, clear that fistulas will continue to be a part of every colorectal surgeon's practice going forward. As such, we need to maintain efforts to improve outcomes, especially for recurrent and recalcitrant disease. In this article we will explore some of the novel and cutting-edge ideas to cure patients with fistula disease.

Published by Elsevier Inc.

Introduction

Anal fistula has been a condition of the human race since time immemorial with the first recording in the treatise "On Fistulae" from the Corpus Hippocraticum.¹ The basic principles of treatment are simplistic and have remained unchanged: treatment of perianal sepsis and removal/repair of the fistula without impairment of continence. Yet, how to put this into practice is not always as easy. As you have read in this volume, there are five common types of fistula according to the Parks Classification: submucosal (subcutaneous), intersphincteric, trans-sphincteric (sub-divided into high and low fistulas), supra-sphincteric, and extra-sphincteric. The location of the fistula is essentially defined by the involvement (or lack thereof) of the sphincter complex. For fistulas that are submucosal, intersphincteric, or low trans-sphincteric, fistulotomy is the recommended surgical therapy as there is minimal risk of incontinence.² However, there is mounting evidence that low trans-sphincteric fistulotomy may, in fact, pose a realistic risk of fecal incontinence, especially in those with previous borderline continence and females with anterior fistulae.^{3,4} For complex anal and high transsphincteric fistulas, successful treatment without causing damage that results incontinence disorders is less certain. Other authors in this edition have reviewed the data regarding setons, staged fistulotomy, fibrin glue, fistula plugs, and advancement flap—all of which are options with varying degrees of success and effect on fecal continence.

Persistent efforts therefore aim at reducing this morbidity and improving healing rates. In 2007, Rojanasakul reported the

Ligation of the Intersphincteric Fistula (LIFT) technique to treat complex anal fistula and spare the sphincter complex and thus help preserve fecal continence. The initial healing rate was reported at 94%, but subsequent studies with longer follow-up have demonstrated lower healing rates of 60–80%.⁵ In order to improve these outcomes, it is important to identify factors that lead to non-healing, most of which (in subsequent reports) are multi-factorial. Wallin et al.⁵ reported higher rates of failure associated with failure to identify a persistent fistula connection between the intersphincteric incision and fistula tract after ligation. Other authors have cited previous manipulations of the operating field, prior revascularization, complexity of the original fistula, obesity, tobacco usage, and underlying etiology (i.e., Crohn's disease) for causes of failed repair in the United States in order to explain the decreased reported success with LIFT as compared to that of Thailand, where the first reports of LIFT originated.^{5–7} Abcarian et al.⁷ found that healing rates were higher in those patients who had not had any or only one prior surgical intervention before the LIFT procedure compared to those who had greater than two interventions (90% and 75%, respectively vs. 65%). While the results of LIFT have comparable healing rates to other surgical therapies and the advantage of preservation of sphincter function, surgeons have sought to improve upon the original technique. In addition, other efforts have been described that attempt to build upon the successes of current practices or are novel in their own approach to fistula management. In the following article, we will discuss these techniques, including the various LIFT modifications currently reported in the literature, the use of stem cells in the management of complex and refractory disease, as well as novel therapies that may one day add to the armamentarium of complex anal fistula management.

* Corresponding author.

E-mail address: harkersteele@me.com (S.R. Steele).

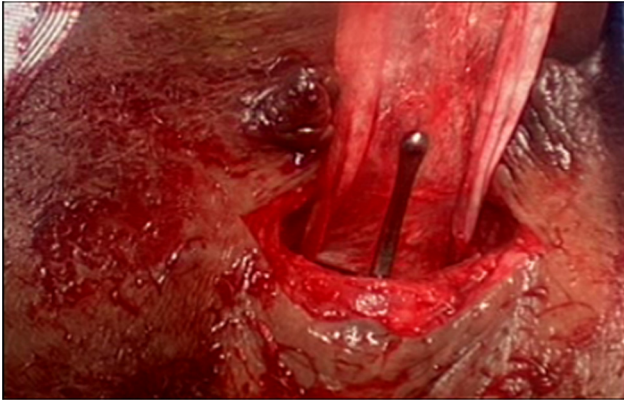


Fig. 1. Bio-LIFT with biological mesh placement for a rectovaginal fistula. (Courtesy of C. Neal Ellis, MD.)

LIFT modifications

Although the success rate of LIFT is comparable to other surgical therapies for complex anal fistula, modifications have been made that aim to improve healing rates and expand on the indications for the procedure. Currently, there are several modifications to the LIFT technique reported in the literature: Bio-LIFT, LIFT-Plug, and “coring out” the external opening after ligation of the intersphincteric tract.

Bio-LIFT was first described by Ellis in the repair of rectovaginal fistulas (Figs. 1 and 2) and then adapted for use in the management of complex anal fistula.⁸ In his series of 31 patients, Ellis reported a 94% success rate when he augmented the LIFT procedure with the Surgisis[®] biologic prosthesis (Cook Surgical Inc., Bloomington, IL). Interestingly, his series included patients that used tobacco, had diabetes, or had Crohn’s disease. The author speculated that the addition of the mesh served as a physical barrier in separating the transected ends of the fistula. Limitations of the study were that it originated from a single institution, had a small sample size, lacked randomization, and that this technique required more extensive dissection in order to place the mesh, which potentially could cause sphincter dysfunction, although fecal incontinence rates were not studied.⁹ Subsequently, Chew et al. adopted the technique as an alternative in the management of LIFT failures and recurrences and performed pre- and post-operative manometry to assess for changes in continence. In their retrospective review, the Bio-LIFT technique was utilized in five out of 33 patients as a primary procedure and in five more patients after failure of a primary LIFT. The study reported an overall 63%

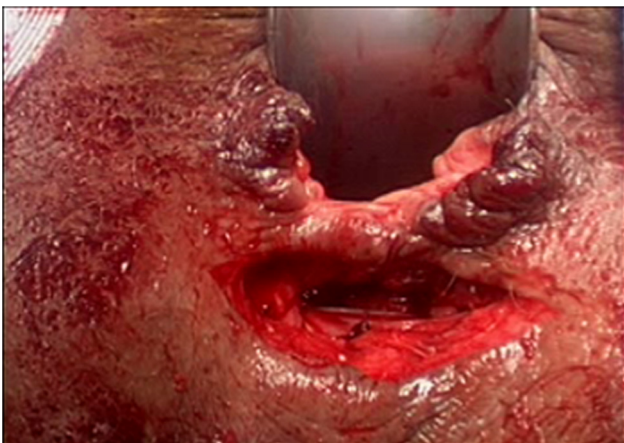


Fig. 2. Biological mesh in place for the Bio-LIFT. (Courtesy of C. Neal Ellis, MD.)

primary success rate followed by an 88% secondary success rate; however, it did not report success rates solely for Bio-LIFT patients. The authors attributed failure to the presence of anteriorly located fistulas (which are well known to be at higher risk for failure as a result of thinner muscle), incomplete or inadequate ligation of the fistula tract, and hematomas and seromas, which led to suture breakdown.¹⁰ Although the study was limited by its small sample size [and even smaller sample size for the Bio-LIFT technique ($n = 10$)], the authors did note that baseline continence was preserved, and patients who failed had fistulas that were “down-staged” to intersphincteric fistulas that were subsequently easily salvaged with a lay-open fistulotomy. This finding has been confirmed by other authors who have also utilized the LIFT technique.^{6,11,12} Almost simultaneously, Tan et al. reported their experience with Bio-LIFT on 13 patients with trans-sphincteric fistula after failing a previous LIFT procedure. They cited a primary success rate of 68.8% and secondary success rate of 81.3% after the fistulotomy was performed for patients where the fistula was down-staged to an inter-sphincteric fistula.¹¹ This technique appears to have promise as an adjunct to LIFT, especially in the setting of LIFT failures or recurrences or as a way to down-stage complex fistulas to more simple fistulas that are amenable to fistulotomy. Unfortunately, its limitations include a lack of available long-term data, as well as the high cost of the biologic prosthesis. Therefore, the Bio-LIFT procedure might be considered in carefully selected patients or as a secondary procedure for recurrent or recalcitrant disease.

The initial success of the Bio-LIFT technique led to the development of the LIFT-Plug procedure by a group in Beijing, China, who combined the LIFT procedure with an anal fistula plug placement. The authors performed the procedure on 21 patients with trans-sphincteric fistulas using a human acellular dermal matrix (Qingyuanweiyi Inc, Beijing, China) that was rolled into a conical configuration and placed in the intersphincteric groove and pulled through the external opening after ligation of the fistula tract. This study was also notable for the authors modifying the LIFT technique by excising a portion of the tract. The primary success rate for this technique was 95% with one patient reporting rare incontinence for gas (Wexner Score of 1). The authors attributed their high success rate to excision of the fistula tract as well as the presence of the fistula plug as accelerants to healing (4 vs. 6 weeks with traditional LIFT). The limitations of the study include small sample size with a limited population of single trans-sphincteric tracts without previous fistula procedures; however, a larger randomized, multicenter trial comparing LIFT-Plug to LIFT (NCT014781390) was performed and recently completed enrollment.¹³ This technique appears promising and further long-term data is eagerly awaited.

Finally, the technique of “coring out” the external opening after ligation of the tract was recently reported by Shanwani et al.⁶ with a reported success rate of 82.2%. Although, the study was only comprised of 45 patients, it did include patients with complex fistulas related to radiation, pre-existing incontinence, or Crohn’s disease, all of which have been exclusion criteria for other studies analyzing LIFT or its modifications. The technique continues to enjoy success as other surgical groups adopt it; however, similar to the other described techniques, more long-term data is needed to determine if it truly does contribute to higher rates of closure compared to ligation of the fistula tract alone.¹³

Stem cells: Use in the treatment of complex anal fistula disease

Despite these promising new techniques, it is important to keep in mind that the mainstay of fistula management remains surgical, with a fistulotomy still being the most successful method either through the “laying-open” technique or following a seton.

Download English Version:

<https://daneshyari.com/en/article/3319241>

Download Persian Version:

<https://daneshyari.com/article/3319241>

[Daneshyari.com](https://daneshyari.com)