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Rectal flap experience in high transsphincteric cryptoglandular anal fistula

Yüksek transsfinkterik kriptoglandüler anal fistülde rektal flep deneyimi

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Abstract

Aim: Despite many treatment modalities, anal fistula disease remains an important problem. High recurrence rates have been reported in the surgical treatment of complicated anal fistulas. We hereby present complicated anal fistula patients treated with rectal advancement flaps.

Methods: Patients who underwent rectal advancement flap surgery by a single surgeon between 2009 and 2019 were analyzed in this retrospective cohort study. Demographic data, number of previous operations, recurrence rate and complications were recorded.

Results: Twenty patients (15 males and 5 females) underwent surgery with the rectal advancement flap technique. Nine patients had more than one previous operation. Seton, partial fistulectomy and curettage were the most performed operative techniques in their previous surgeries. The mean follow-up period was 31 months (3-74). Among 13 patients with follow up periods longer than 12 months, 3 patients had recurrences (23%), all of which had been previously operated twice or more.

Conclusion: Although rectal advancement flap is not the first choice in the treatment of complicated and high transsphincteric fistulas, it still maintains its importance. Experienced surgeons prefer this method due to its sphincter-sparing nature. In our study we detected a recurrence rate of 23% and incontinence rate of 5%, which was thought to be related to previous surgeries.

Keywords: Complicated anal fistula, Rectal advancement flap

Öz

Giriş: Birçok tedavi yöntemine rağmen, anal fistül hastalığı önemli bir problemdir. Özellikle komplike anal fistüllerin cerrahi tedavisinde yüksek nüks oranları bildirilmiştir. Bu çalışmada rektal ilerletme flepleri ile tedavi edilen karmaşık anal fistül hastalarını analiz etmek amaçlandı.

Yöntemler: 2009-2019 yılları arasında tek cerrah tarafından rektal ilerleme flep yapılan hastalar bu retrospektif kohort çalışmada incelendi. Demografik veriler, önceki operasyon sayısı, nüks oranı ve komplikasyonlar kaydedildi.

Bulgular: Yirmi hastaya (15 erkek ve 5 kadın) rektal ilerleme flep tekniği uygulandı. Dokuz hasta önceden birden fazla ameliyat geçirmişti. Hastalara daha önce seton, parsiyel fistülektomi ve küretaj yapılmıştı. Ortalama takip süresi 31 aydı (3-74). 12 aydan daha uzun takip süreleri olan 13 hastanın 3'ünde nüks (%23) saptandı, bunların hepsi daha önce iki kez veya daha fazla ameliyat geçiren hastalardı.

Sonuç: Rektal ilerletme flebi, komplike ve yüksek transsfinkterik fistüllerin tedavisinde ilk seçenek olarak kullanılmamasına rağmen, önemini korumaktadır. Deneyimli cerrahlar sfinkter koruyucu yapısı nedeniyle bu yöntemi tercih ediyorlar. Çalışmamızda, önceki ameliyatlara bağlı olarak düşünülebilecek %23'lük bir rekürrens oranı ve %5 inkontinans oranı analiz edildi.

Anahtar kelimeler: Komplike anal fistül, Rektal ilerletme flebi

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Introduction

Perianal fistula disease is an ancient disease of which the gold standard treatment is yet to be found [1]. Diversity of treatment and differences in practice are indications that the search continues. Although sphincter sparing therapies have gained importance with advancing technology, surgery remains the main treatment. Difficulties persist in the treatment of high transsphincteric and complicated fistulas [2]. In cases where the fistula tract is complicatedly related to the sphincter, treating the disease without damaging the sphincter structure and continence constitutes a difficult part of perianal fistula treatment. In order to cope with this situation, the surgeon must know the different treatment methods and choose the most appropriate one for the patient. Several methods have been described for the treatment of high transsphincteric fistulas without damaging the sphincter mechanism. Rectal advancement flaps are one of the sphincter-preserving methods based on the closure of the internal fistula orifice [3]. Other methods such as fibrin glue [4,5], seton [6-8], collagen plugs [9,10], OTSC® (Over-The-Scope Clip) system [11,12] have also been described.

In this study, we aimed to share the results of perianal fistula patients treated with the rectal advancement flap method.

Materials and methods

Patients who were operated by a single surgeon with 10 years of anal fistula surgery experience for perianal fistula between January 2009 and January 2019 were evaluated retrospectively from the hospital registry and surgical procedures were recorded. Among them, patients who underwent rectal advancement flap procedure were included in the study. Demographic data, physical examination findings, fistula types according to preoperative imaging (based on Parks classification), previous number of operations and methods used, postoperative complications and recurrences were evaluated from hospital registry or by telephone.

Surgical technique of rectal mucosal advancement flap

Preoperative intestinal cleansing was performed to all patients with 210 ml of sodium dihydrogenphosphate + disodium hydrogenphosphate enemas, and they were operated after the administration of a single dose of 1st generation cephalosporin. An anoscope was placed in the anus in the lithotomy position and internal orifice was visualized under general or spinal anesthesia. A probe was advanced through the outer orifice towards the inner orifice. If probe could not be advanced, the internal orifice was found by administering oxygenated water from external orifice. Subsequently, wedge excision was performed to the mucosa and submucosa of the internal orifice. The edges of the excised part were released, and the inner orifice was closed with 2 or 3 sutures. Then, the probe-guided fistula tract was cored out starting from the external orifice.

Statistical analysis

SPSS (Statistical Package for Social Sciences) 22.0 program was used for statistical analysis. Descriptive data were expressed by mean, standard deviation, frequency, and median.

Results

184 male and 40 female (n_{total}=224) patients were operated on for anal fistula, 29 of whom had undergone multiple surgeries. A total of 260 surgical records were found. Fistulotomy or fistulectomy were performed in 145 patients due to low transsphincteric or simple fistulas and one or more setons were placed in 40 patients.

Twenty patients (15 males and 5 females), all of which had high transsphincteric fistulas, underwent rectal advancement flap technique including the mucosa and submucosa, and core out excision was performed for the part of the fistula outside the rectum wall. The mean age of the patients was 41.2 (17-71) years. 9 patients had more than one operation. Two patients had been operated four times, two patients had been operated three times and five patients had been operated twice. Seton, partial fistulectomy and curettage were the most performed techniques to patients in their previous operations. The mean follow-up period was 31 months (3-74). Recurrence was detected in 4 patients. Among 13 patients with follow up periods longer than 12 months, 3 patients had recurrences (23%), all of which had been previously operated twice or more. One patient had incontinence classified as Wexner incontinence score 2.

Discussion

Perianal fistula is an ancient disease dating back to the 4th century BC, and a gold standard treatment is yet to be found. There are few diseases with more treatment options than anal fistula. According to Parks classification, fistulas can be suprasphincteric, extrasphincteric, transsphincteric or intersphincteric [2]. Perianal fistulas can be classified as simple or complex. Intersphincteric and low transsphincteric fistulas, which constitute about 90-95% of all fistulas, are simple fistulas that are easier to treat. Favorable results are obtained with non-sphincter-sparing procedures such as fistulotomy and fistulectomy [13]. If a high transsphincteric fistula is misdiagnosed as a low transsphincteric fistula during preoperative evaluation, the wrong surgical method may be chosen, resulting in inadequate treatment and recurrence. Complicated fistulas and high fistulas require alternative surgical procedures with careful evaluation [14]. Many sphincter and anal continence-sparing methods have been developed for the treatment of complicated fistulas, and research is still underway [4-12]. The main sphincter-sparing methods include seton, fibrin glue application, LIFT, rectal mucosal flap, clip application and stem cell injections. Each method is presented with high success rates when first described, after which these rates decrease with the increasing number of studies. Individual differences in the implementation of the procedures and differences in patient preference likely play a role in this decrease.

Flap technique for the treatment of anal fistula was first described by Noble for the treatment of rectovaginal fistula in 1902, after which Elting and Leird modified this operation to use it for treating anal fistulas [15,16]. Although it is not used as the first choice in the treatment of complicated and high transsphincteric fistulas, it still maintains its importance. Experienced surgeons prefer this method due to its sphincter-sparing nature. The basic principle of the operation is based on the closure of the cavity formed by the excision of the primary

orifice of the fistula with mucosal (mucosa and submucosa), partial-thickness (with a portion of the mucosa and internal sphincter fibers) or a full-thickness flap prepared from the rectum wall. Core out excision or curettage is preferred for the fistula tract outside the rectum wall [17]. Rectal sleeve flap advancement is another operation method developed to treat complicated fistulas which occurred due to radiotherapy or Crohn's disease [18]. In the meta-analysis performed by Balciscueta et al. [16], recurrence rate was reported as 21% (0-40), and full-thickness flaps had better results. It was determined that all patients developed some degree of incontinence correlating with the flap thickness. Core out and curettage methods did not have any effect on the results.

Approximately half of the patients in our study had previously undergone multiple operations due to fistula and had had recurrences. Since flap surgery will not be the right option when perianal sepsis is present, procedures like Seton may be considered as preparation for this operation to eliminate sepsis. Rectal advancement flap should not be preferred in patients in which the internal orifice cannot be detected. We believe that rectal advancement flap surgery may be the first choice of treatment in high transsphincteric complicated fistulas without perianal sepsis and with one, easily visualized inner orifice. The lower incontinence rate in our study compared to those in the literature may be due to the implementation of mucosal flap technique. Previous and unsuccessful surgical interventions should be considered among the causes of incontinence. Recurrence rates in our study were similar with those in the literature [16,19].

Conclusion

In recurring cases of high transsphincteric fistulas, rectal advancement flap technique may be preferred as a feasible method with low complication rates by experienced surgeons.

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