

What is the best choice of treatment for pilonidal sinus disease with perianal openings?

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SUMMARY

Background & Aims: In this retrospective study, we investigated the value of the treatment methods for pilonidal sinus disease with perianal openings.

Methods: Patients records that were operated for pilonidal sinus disease with perianal openings between February 2008 and July 2011 were evaluated. The procedures included were excision of the pilonidal sinus with isolated fistulectomy or excision of the pilonidal sinus with fistulotomy + curettage + intraflexion. All the epidemiologic data (gender, age, disease duration, number of abscess drainage, surgical procedure, healing time, recurrence) were evaluated through correlation of surgical notes and discharge letters.

Results: The median healing time for the fistula tract excision and primary suture group was 9 days. The median healing time for the fistulotomy and intraflexion group was 30 days. No recurrences were noted in either group.

Conclusion: Isolated fistulectomy is recommended for the treatment of pilonidal sinus disease with perianal openings.

Keywords: perianal fistula, pilonidal cyst, fistulectomy

ÖZET

Perianal Açıklığı Olan Pilonidal Sinüs Hastalığında En İyi Tedavi Seçeneği

Amaç: Bu retrospektif çalışmada perianal açıklığı olan pilonidal sinüs hastalığı için uygulanan tedavi yöntemlerinin sonuçlarını araştırdık.

Metodları: Şubat 2008 ile Temmuz 2011 yılları arasında perianal açıklığı olan pilonidal sinüs hastalarının kayıtları değerlendirildi. Uygulanan prosedürler fistülektomi ile birlikte pilonidal sinüs eksizyonu veya fistülotomi+ küretaj+ intrafleksiyon ile birlikte pilonidal sinüs eksizyonudur. Epidemiyolojik veriler (cinsiyet, yaş, hastalık süresi, apse drenajının sayısı, cerrahi prosedür, iyileşme süresi, nüks) cerrahi notlar ve epikriz raporlarına göre değerlendirildi.

Bulgular: Fistül traktü eksizyonu ve primer sütür yapılan hasta grubunda ortalama iyileşme süresi 9 gün iken fistülotomi yapılan hastalarda 30 gün olarak bulundu. Her iki grupta da nüks saptanmadı.

Sonuç: Fistülektomi perianal açıklığı olan pilonidal sinüs hastalığı olanlarda tercih edilen tedavi yöntemidir.

Anahtar kelimeler: perianal fistül, pilonidal kist, fistülektomi

Introduction

The sinus pilonidalis disease was firstly described by Mayo in 1833(1). It is predominantly seen in males at the period of second and third decade of life (2). For the cause and pathogenesis, a few explanations like vestiges of the medullary tube (3), dermoid traction (4), inclusion dermoid (5), preen glands (6) and acquired conditions (7) were defined. Up to the lesion is infected, clinically the lesion doesn't show any discomfort for the patient. But through the infection, rugor, dolor, color and tumor can be seen. This state goes with discomfort and tenderness. With a formation of an abscess, a pus can be coming from the openings. The hygiene through the sacrococcygeal region is an important condition for the infection.

Various treatments were defined for sinus pilonidalis disease. After the abandon of congenital theory, the only way was thought as the excision of the lesion for treating the disease (2). Several methods were suggested as excision with secondary healing, excision with primary suture, excision with flap reconstructions, marsupialization, incision and curettage. But an ideal way hasn't been defined yet.

All of these technics were described for sacrococcygeal sinus disease. But the disease with perianal openings is rare. Also their treatment is very complex from the other sinus pilonidalis diseases because of proximity of anal region and sphincter mechanism. From this view, we want to investigate the treatment ways for sinus pilonidalis diseases with perianal opening.

Materials And Methods

A retrospective database was queried to identify patients undergoing sinus pilonidalis operation with perianal opening from February 2008 through July 2011. Eighteen patients were operated for this diagnosis. The procedures included were excision of pilonidal sinus with isolated fistulectomy or excision of pilonidal sinus with fistulotomy + curettage + intraflexion. All epidemiologic data and diagnostic accuracy was checked with correlating surgical notes and discharge letters.

At the preoperative period, the complexity of the disease was evaluated with time of the disease, abscess drainage, ultrasonography and magnetic resonance imaging. From these results, the type of the surgery was planned. Less invasive procedures as excision of pilonidal sinus, fistula tract excision with primary suture was planned through patients with limited disease. Excision of pilonidal sinus with fistulotomy + curettage + intraflexion were chosen for patients who has multiple sinus openings and multiple abscess drainage, and could be defined as complex disease.

For prophylaxis against wound infection 30 minutes before the skin incision, a single dose of cephazolin (1 g) was

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applied. After regional anesthesia was administered, patients were placed in a semi-jackknife position with buttocks slightly separated. The sacrococcygeal area was shaved and cleaned with povidone-iodine. The extent of the sinuses was assessed with a styler, and hydrogen peroxide was injected thorough perianal opening to outline the cavities. The evaluation was done with intraoperative ultrasonography. For the less invasive procedures, excision of pilonidal sinus, fistula tract excision was applied with sharp dissection not to give harm to external sphincter mechanism. The bleeding was controlled. A suction drain was placed from sutured perianal opening through sinus tract and took out from another opening. The subcutaneous layers were closed with 2/0 absorbable glyconate sutures. Skin was approximated with 4/0 polypropylene sutures. For the complex disease, excision of pilonidal sinus with fistulotomy were applied. The cavity was curated. The intraflexion were done after controlling the bleeding. The patients were followed with dressing wounds for secondary healing.

Statistical Analysis

Parameters such as age, BMI, operative time were evaluated with Shapiro-Wilks test whether they are distributed normally. Abnormal distributed parameters were shown with median (Interquartile Range - IQR) and minimum; maximum values. With categorical variables as gender, drainage and anal hole site were represented with number (n) and percentage.

Mann-Whitney U test was used to determine the difference of parameters changing with operation type among groups.

For statistical analysis and calculations IBM SPSS Statistics 21.0 (IBM Corp. Released 2012. IBM SPSS Statistics for Windows, Version 21.0. Armonk, NY: IBM Corp.) was used. $P < 0.05$ was considered statistically significant.

Results

Apart from two female patients, the others are male with a median age of 24 years. The average BMI was 27. Time of the disease was 24.8 months on average (range 8– 74 months). Except one patient, the other had undergone abscess drainage at least one times before the operation. The mean number of midline pits was 2 (range 1-4). All of the patients had perianal opening (14 left and 4 right). We performed excision

of pilonidal sinus with isolated fistulectomy for 12 patients. The other 6 patients were operated with excision of pilonidal sinus with fistulotomy + curettage+ intraflexion. The average operation time was 37,9 min (range 28-58 min). The median healing time for the fistula tract excision and primary suture group was 9 days. The median healing time for the fistulotomy and intraflexion group was 30 days (Table I). There weren't any recurrence in both of the groups.

Discussion

The hair follicle infection at sacrococcygeal region causing natal cleft suppuration is engendering the pilonidal sinus disease. The persistent folliculitis is one of the main factors for the disease by chronic infection and subcutaneous abscess. The abscess formation is caused by hair entering through the cavity with inducing foreign body tissue reaction(8). From this view, congenital theory is exploded. The surgery is thought as the only way for the treatment of the pilonidal sinus disease (2). Several technics were described for surgery but an ideal and convenient method has not been described. But in all technics, the main aim is applying an adequate surgical border with tension free reconstruction.

The sinus pilonidalis diseases with perianal openings are usually related with sacrococcygeal disease and caused by the extension of them. These conditions defined as secondary. Also very rare cases of primary perianal sinus pilonidalis diseases are seen in the literature (9,10). At the preoperative period, the difference between two terms must be done carefully. For that radiological technics as ultrasonography and magnetic resonance imaging are used. Taylor et al. stated that magnetic resonance imaging revealed the distinction between fistula in ano and pilonidal sinus disease by showing the intersphincteric sepsis or enteric opening (11) Montes et al have used ultrasonography for detecting the borders of pilonidal sinus tissue(12). They found that especially the branches and sinus tract easily visualized by ultrasonography. In some cases of our series, sonographic imaging was performed during the operation. But we have injected hydrogen peroxide through the openings of the sinus pilonidalis disease. By the help of hydrogen peroxide, a better image was obtained. The borders of pilonidal disease and anatomic structures could be

Table I. Clinical differences between two groups

	Fistulotomy+curettage+intraflexion (n=6)		Fistulectomy (n=12)		Z	p
	Min.; max.	Median	Min.; max	Median		
Age	20; 29	24 (8)	19; 46	25 (12)	0.283	0.820
BMI	23.0; 28.7	26.1 (4.6)	22.5; 35.0	27.6 (2.2)	0.563	0.616
Disease duration (month)	17; 74	33 (38)	8; 38	19 (19)	2.018	0.041
Number of abscess drainage	2; 3	3 (1)	0; 2	1 (0)	3.483	<0.001
Length of the fistula (cm)	4.5; 6.0	5.3 (0.8)	3.0; 6.0	4.0 (1.4)	2.229	0.024
Distance to anal verge (mm)	10; 19	33 (38)	8; 38	19 (19)	1.929	0.053
Number of sinus pits	3; 4	4 (1)	1; 2	1 (1)	3.628	<0.001
Operating time (min)	29; 43	41 (11)	28; 58	37 (13)	0.469	0.682
Healing time (day)	19; 37	30 (12)	7; 14	9 (3)	3.395	<0.001

distinct easily.

After the distinction between primary and secondary sinus pilonidalis diseases with perianal openings, the surgical way must be considered. For primary ones, fistulotomy without giving harm to the sphincter mechanism is the treatment of choice (9,10). But the secondary ones, the treatment is changing according to the author's choice. Because some of the authors thought that there hasn't been any difference between sacrococcygeal sinus pilonidalis disease and them. A normal procedure can be applied (13). Kulacoglu et al. stated that for sacrococcygeal pilonidal disease with secondary perianal opening, total subcutaneous fistulectomy with Karydakias flap was an effective technic (14). In our series, we had performed intraflexion after the excision of the pilonidal sinus tissue for the complex ones. The complex criteria was defined by multiple abscess drainage, multiple openings. But the main criterion was obtained by the help of ultrasonography. When the number of branches were increased, a larger size of tissue must be excised. For that reason, an intraflexion was applied. But the post operative period was the critical time. The wound must be followed carefully avoiding any infection or disherence. In the other ones, a simple fistulectomy excision could be enough. We have applied drain routinely. Because seroma or any other fluid collection could cause wound disherence. Also while extracting the drain, we had made it in 5 days slowly to allow adhesion from the bottom of the drain through the extracting opening.

Another big problem after the operation for pilonidal sinus disease is recurrence. Its rate varies between 0% and 25% related with the applied technic (15).

In our series, we didn't face with any recurrence. In this condition, the follow up time is important. Our follow up time is between 5 and 50 months.

Also a convenient method for sinus pilonidalis disease at perianal region haven't been described yet. There is a big problem from sinus pilonidalis disease at the intergluteal. That is risk of anal incontinence formation during surgery. In the recent studies, V-Y plasty, Kardiakis and Limberg flap reconstruction are recommended for pilonidal sinus disease at intergluteal region. (14,16,17). But the flap procedures for the perianal openings aren't convenient. Because as the area is nearby the anal canal, there is a risk of infection. And the flap can easily affect. By this condition, the infection of flap can effect the sphincter mechanism with a risk of anal incontinence. Decreasing the risk of incontinence, the evaluation of type of operation is important. In isolated fistulectomy, the surgeon has a chance for minimal damage for the external sphincter if the fistula reaches to the related area. In our series we didn't face with any anal incontinence

Excision of pilonidal sinus with fistulotomy + curettage + intraflexion is another method for pilonidal sinus abscess at the perianal area. By the help of this procedure, the surgeon have a chance of controlling the extent of infection as the area is proximal to the anal canal.

Furthermore personal problems as hairy skin, diabetes mellitus and inflammatory bowel diseases are factors which effects the type of operation.

As a conclusion, for the treatment of the sinus pilonidalis diseases with perianal openings for the chosen patients isolated fistulectomy is recommended because of minimal skin defect and less damage of sphincter mechanism. Also at

complex cases, the usage of ultrasonography is needed for the type of operation.

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