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Bascom cleft lift technique in sacrococcygeal pilonidal disease: Results of tezel 4 and 5 cases

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Abstract

According to the Tezel classification, the surgical method to be applied for type 4 and type 5 sacrococcygeal pilonidal disease (SPD) patients is controversial. Our aim is to discuss the success of the Bascom Cleft Lift (BCL) technique in treating these patients. In the present study, patients who were operated on for primary or recurrent pilonidal sinus disease by the same surgeon (IAT) in a tertiary medical faculty hospital between January 2018 and January 2020 were retrospectively analyzed. Complication and recurrence rates after BCL were compared with the available literature. There were 10 patients who underwent BCL for SPD Tezel type 4 and type 5. The average age of the patients was 21 (16-29) years and 9 (90%) of them were male. The mean follow-up time was 22 (11-26) months. The mean operation time was 42 (35-58) minutes. The duration of hospitalization was 2.4 (1-5) days. Although the first patients stayed in the hospital for a long time, the last three patients stayed for a day each. Seroma developed in 2 (20%) patients, superficial infection in 1 (10%) and recurrence in 1 (10%) patient. Recurrence developed only in the patient who was operated in the eigth row. No patient was reoperated. BCL is a successful technique for treating Tezel type 4 and type 5 SPD patients.

Keywords: Bascom cleft lift, recurrence, sacrococcygeal pilonidal disease, pilonidal sinus

1. Introduction

Sacrococcygeal pilonidal disease (SPD) is a common disease that mostly affects young men (1). Damage to the epidermis in the deep natal cleft (intergluteal sulcus) due to moisture, hypoxia, bacteria, and hair(s) are blamed factors in the etiology of SPD (2). The disease sometimes persists for years without symptoms or it sometimes manifests with an acute abscess. The first abscess sometimes opens to the skin and drains spontaneously, and sometimes the abscess is treated by incision and drainage. However, most of them develop into chronic inflammatory lesions with discharge. There are many surgical methods recommended for both primary and recurrent cases. However, there is no consensus on which surgical method is most suitable to treat this disease.

SPD may present as asymptomatic sinus orifices, large abscesses, multiple sinuses, and patients who have undergone more than one surgical technique. Due to the differences in the manifestation of the SPD and the variation in the severity of the symptoms, it is illogical to apply the same surgical method to SPD cases. There are various classifications such as the Modified Cruse and Foord categorization (3), which are used to plan SPD treatment. However, we prefer the Tezel classification shown in Table 1 (4).

Table 1. Tezel classification for pilonidal disease.

Type	Definition
1	Asymptomatic
2	Acute pilonidal abscess
3	Symptomatic disease limited to navicular area
4	Extensive disease which extents outside the navicular area
5	Recurrent disease after any kind of definitive pilonidal surgery

Many methods such as rhomboid excision have been described, eliminating the natal cleft. Limberg flap or elliptical excision, Karydakis or V-Y advancement flap; and the Bascom Cleft Lift (BCL) technique is one of them (5). We prefer this technique in cases where one or more sinus mouths are outside the navicular region (Tezel type 4) and cases with recurrence (Tezel type 5).

Our aim in this study is to discuss the success of the

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BCL technique in treating Tezel type 4 and 5 SPD those through using patient data collected over a 2 year period.

2. Materials and Methods

In the present study, patients who were operated on for primary or recurrent pilonidal sinus disease by the same surgeon in a tertiary medical faculty hospital between January 2018 and January 2020 were retrospectively analyzed. Patients data were collected from the automation system of the hospital and by phone calling the patients for one on one interviews. Cases to whom BCL were applied that type 4 (Fig. 1) and type 5 according to the Tezel classification were included in the study (4). Cases that manifested as Tezel type 1, 2, 3 and those in which other techniques were applied were excluded from the study.

Patients' data on age, gender, body mass index (BMI), history of diabetes mellitus (DM), active smoking, type of Tezel classification and previous surgical treatments were recorded. In addition, information on the duration of the surgery, drain application, hospitalization time, complications, postoperative follow-up period, recovery, and whether a repeat surgery was needed were also recorded.

Fig. 1. Type 4 SPD photo according to Tezel classification

2.1. Surgical technique

A single dose of prophylactic antibiotic (1 gram Cefazolin) was administered 30 minutes before starting the operation. Spinal anesthesia was applied to all patients. The patients were placed on the operating table in the prone jackknife position and the operation area shaved. The navicular region was drawn first. Both gluteal areas were opened to both sides with sticking plasters. The surgery area was widely prepared with Betadine and draped in a sterile fashion. The planned flap was drawn with a sterile pen (Fig. 2). Only the skin containing the pits was removed by making an asymmetric elliptical incision in the navicular region. The sinuses were opened using a cautery by advancing the excised subcutaneous area through the sinus mouths to the stylet. The hairs were cleaned and all foreign bodies were removed from the environment by the curetted sinuses. Making sure that the granulation tissue does not contain hair, it was left in place. Subsequently, the flap was prepared, paying attention not to cross the border of the contralateral navicular region. When preparing the opposite flap a scalpel was used instead of a cautery in order not to damage the flap. Following hemostasis, the sticking plasters were opened and the gluteal regions were liberated. If a drain was to be placed, it was placed in the lowest plan. Deep subcutaneous tissues were sutured with 1/0 vicyrl, superficial subcutaneous tissues were sutured with 3/0 vicryl. The skin was closed primarily using the matress technique using 2/0 prolene.

Fig. 2. The planned flap was drawn with a sterile pen

2.2. Statistical analysis

Data were entered into the Statistical Package for the Social Sciences (SPSS Inc., Chicago, IL, USA) version 16.0. Complete descriptive statistics were used for all the nominal variables, and the data were presented as mean, frequency and percentage values.

3. Results

The specified period, 20 patients were operated by the same surgeon for SPD. Ten patients who During had Tezel type 4 and type 5 and underwent the BCL procedure were included in the study. Others were excluded from the study.

Table 2 shows that the median age of the patients was 21 years (range 16-29 years) and most of the patients were male (90%). The mean BMI was 25 kg/m^2 (range 20–30.5; Table 1). None of the patients had DM and one third of them were active smokers (3, 30%). Half of the patients had previously undergone surgery for SPD (5, 50%). Abscess drainage had previously performed in 2 (20%) patients before while closed-suction drain was applied to 8 (80%)

patients. The mean operation time was 42 (35-58) minutes, closed-suction drain was applied to 8 (80%) patients. The duration of hospital stay was 2.4 (1-5) days and the follow-up period was 22 (11-26) months. No complications were seen except seroma in 2 (20%) patients and superficial infection in 1 (10%) patient. While only 1 (10%) patient had recurrence, there was no patient who was reoperated (Table 2).

Table 2. Demographics, surgical history, operative details

Variable	Bascom cleft lift (n=10)
Age (years, range	21 (16-29)
Sex (n, %)	
Male	9 (%90)
Female	1 (%10)
BMI (kg/m2, range)	25 (20-30.5)
Obese (BMI>30) (n, %)	1 (%10)
Diabetes Mellitus, (n)	0
Active Smoker, (n, %)	3 (%30)
Presentation, (n, %)	
Primary	5 (%50)
Recurrence	5 (%50)
Previous drainage, (n, %)	2 (%20)
Operation duration (min, range)	42 (35–58)
Closed-suction Drain, (n, %)	8 (%80)
Hospital Duration (day, range)	2.4 (1-5)
Surgical area-related complications, (n,%)	
Wound Separation	0
Hematoma	0

The patients are listed in Table 3 according to the order of surgery. According to the classification 5 (50%) patients were Tezel type 4 while the other 5 (50%) were Tezel type 5. Three patients had no previous surgical intervention, including abscess drainage. Although the first patient stayed in the hospital for a long time, the last three patients stayed for a day each. Closed-suction drain was applied to two patients who developed seroma, and these two patients were hospitalized for four days. Superficial wound infection developed in the last operated patient. Recurrence developed only in the patient who was operated in the eighth row.

4. Discussion

Surgical procedures with flap preparation are not preferred for asymptomatic SPD and symptomatic SPD limited in the navicular area (Tezel type 1,2,3). Many methods are applied to such cases, from suggestions such as hygiene, clean cotton underwear and wide pants to simple procedures such as drainage and cleaning. With the advancement in technology, new methods such as laser destruction of the pilonidal sinus have been developed (6,7). We encounter many patients with Tezel type 1, type 2 and type 3 who do not benefit from the interventions and surgical methods performed. These patients tend to develop recurrence (Tezel type 5) and sometimes have one or more sinus orifices (Tezel type 4) that exceeded the navicular area when first diagnosed. However, simple methods are insufficient for Tezel type 4 and type 5 patients, thus, midline shift and flap methods come to the front. Yet, till today, the most suitable method for treating Tezel type 4 and type 5 SPD is disputable (8-10).

In our opinion, the ideal treatment for relapsed or widespread SPD should be a simple method that does requires a short or no hospitalization, less painful, cost-free and presents minimal chances of recurrence. In our clinic, BCL technique has been preferred for Tezel type 4 and type 5 cases. The BCL technique has undergone some modifications since it was first described, and its effectiveness is still debated (2, 11-13). Most of the people we applied BCL to, for Tezel type 4 and type 5 were men. In our study of the 10 cases, the median follow-up period of the patients was 22 (11-26) months and the median duration of operation was 42 (35-58) minutes. There are studies reporting operation time between 25-54 minutes (12-15). We think that our experience will improve as the number of patients we apply BCL increases and our operation time will shorten a little. In literature, there were reported values between 1.28 days and 2.95 days for hospital stay after BCL (12-16). In our results, the duration of hospital stay was found to be 2.4 (1-5) days. At this value, the recommended value was in the range but slightly higher. Looking at Table 3, it can be seen that the first BCL cases we performed were hospitalized for up to five days, but the last three cases were discharged one day later. This supports the idea that as our experience increases, the duration of hospital stay will decrease.

Dutkiewicz et al. (2019) performed BCL in 50 patients diagnosed with primary pilonidal sinus and reported the rate of major complications as 0% (16). Hatch et al. (2020) evaluated the postoperative outcomes of patients who

Table 3. Patient characteristics and results

Patient no.	Sex	Age (years)	Tezel Type	BMI (kg/m2)	Previous treatment	Hospital Stay (day)	Follow-up (month)	Morbidity
1	M	16	5	28	Primary closure Limberg flap	5	26	None
2	M	23	5	25	Marsupialization	2	25	None
3	M	29	4	25	Incision/drainage	1	25	None
4	M	21	5	28	Marsupialization	3	24	None
5	M	20	4	20	None	4	24	Seroma
6	F	18	4	23.5	Incision/drainage	2	23	None
7	M	17	5	30.5	Primary closure	4	23	Seroma
8	M	18	4	26	None	1	22	Rekurrens
9	M	18	5	19.5	Primary closure	1	16	None
10	M	26	4	25	None	1	11	Superficial Infection

underwent BCL in a retrospective study of 235 patients and reported a major complication rate of 19.4% (2). However, in recent studies, major complications after BCL have been reported with a rate of 1% to 14.5% (9, 12,14). When we look at Table 2, it is seen that we do not have major complications such as wound dehiscence, flap necrosis that would require re-operation. On the other hand, it is seen in Table 2 that while there is no hematoma in our results, seroma developed in two cases (20%) and superficial infection developed in one case (10%). Although Ortega et al. (2014) reported the rate of seroma as 15% in their study on 74 patients who underwent BCL (12), this rate was between 5.1% and 6.5% in other studies (2, 13, 14). In our study, rate of seroma is very high. The low number cases studied makes this rate seem high. Dutkiewicz et al. reported the superficial infection rates as 0% (16), but in literature, this rate ranges from 1% to 10% (2, 9, 12-15). Our superficial infection rate is at the upper limit of this average and it is high in our opinion.

At the same time, there are many different values reported for the recurrence rates of BCL applied cases. Umesh et al. reported the long-term results of 22 patients who underwent BCL, and reported the recurrence rate as high as 9% (17). On the contrary, in a prospective randomized study by (14), none of the 61 patients who underwent BCL developed recurrence (14). In literature, this rate is seen to be between 1.3% and 6% (9, 12-16). In our results, it is seen that recurrence developed in one case (10%). In Table 3, where the cases are listed chronologically from the first to the last, it is seen that the patient who developed recurrence was operated on in the 8th order. It is seen in Table 3 that half of the cases either had no surgery or only incision and drainage were applied, and the other half had at least one operation. Although it is conceivable that the performing BCL on patients who have undergone previous surgery and recurrence poses higher risks of developing, our only case of recurrence was primary pilonidal sinus case.

Although our complication and recurrence rates are a bit high, in our opinion, the BCL method is a flap method with very high success rates. We hope that our complication and recurrence rates will decrease once our number of patients increases and our learning curve process is completed. There are many studies in literature evaluating the results of the BCL method and reporting success results (9, 12-16). Despite these studies, the BCL technique has not yet become a standard technique by surgeons. The difficult in the application of the technique may be the reason why surgeons do not prefer this technique. In our opinion, for Tezel type 4 and type 5 cases, BCL is a very successful method with short hospitalization, low cost and low recurrence rate after a difficult learning process.

The weaknesses of our study are that our study is retrospective, the number of patients is very small and the surgeon performing the procedure has not yet completed the learning curve.

The BCL method is a successful method that should be preferred by a surgeon who has completed the learning process in Tezel type 4 and type 5 cases.

Conflict of interest

The authors declare that they have no conflicts of interest.

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