

Complications and recurrence after Karydakis Flap surgery

Powikłania i nawroty po leczeniu torbieli pilonidalnej metodą rekonstrukcji płatowej Karydakisa

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ABSTRACT:

Introduction: Pilonidal sinus is a disease affecting individuals at young age. Numerous surgical methods have been described in the treatment of pilonidal sinus disease. Currently, there is no treatment method providing a rapid recovery with low recurrence risk.

Aim: In this study, we aimed to evaluate the results of our patients who underwent Karydakis surgery.

Material and methods: Results of 112 patients operated on between 2012 and 2019 were retrospectively evaluated. Only the patients who underwent Karydakis surgery were included in the study.

Results: Of all patients, 20 were female and 92 were male. The mean age was 21 years in the female and 20.8 years in the male patients. The mean BMI was 29.6 kg/m². The patients were followed up for a mean of 28 months. Postoperative length of stay in hospital was 2.1 days. The complications included wound dehiscence in 10.2%, infection in 3.6%, and bleeding (hematome) in 7.1%. Four patients developed recurrence during follow-up.

Conclusions: Karydakis surgery is a preferable surgical technique with low rates of complications and recurrence.

KEYWORDS:

karydakis, pilonidal sinus, result

STRESZCZENIE:

Wprowadzenie: Torbiel pilonidalna (TP) jest schorzeniem dotykającym młode grupy wiekowe. Opisano liczne metody chirurgiczne stosowane w jej leczeniu. Jak dotąd nie powstała jednak metoda leczenia zapewniająca szybki powrót do zdrowia z niskim ryzykiem ponownego wystąpienia.

Cel: Celem niniejszego badania było dokonanie oceny wyników uzyskanych u pacjentów leczonych w naszym ośrodku techniką rekonstrukcji płatowej Karydakisa.

Materiał i metodyka: Dokonano retrospektywnej oceny wyników uzyskanych u 112 chorych operowanych w latach 2012–2019. Do badania włączono wyłącznie pacjentów poddawanych rekonstrukcji metodą Karydakisa.

Wyniki: Populacja pacjentów składała się z 20 kobiet i 92 mężczyzn. Średnia wieku wynosiła 21 lat u kobiet i 20,8 lat u mężczyzn. Średni wskaźnik masy ciała (BMI) to: 29,6 kg/m². Chorych poddawano obserwacji kontrolnej przez okres wynoszący średnio 28 miesięcy. Długość hospitalizacji po operacji wynosiła 2,1 dni. Powikłania obejmowały rozejście rany w 10,2% przypadków, zakażenie w 3,6% przypadków i krwawienie (krwiak) w 7,1% przypadków. U 4 osób doszło do nawrotu choroby w okresie obserwacji.

Wnioski: Rekonstrukcja płatowa Karydakisa jest preferowaną techniką chirurgiczną, charakteryzującą się niskim poziomem powikłań i nawrotów.

SŁOWA KLUCZOWE: Karydakis, torbiel pilonidalna, wynik

ABBREVIATIONS

KF – Karydakis flap

PSD – Pilonidal sinus disease

INTRODUCTION

Pilonidal sinus disease (PSD) is a chronic disease, which affects especially young men. Many theories have been proposed to explain its etiology. However, the accepted opinion is that pilonidal

sinus disease is a condition acquired with the presence of hair in the gluteal cleft [1]. Hairs in this region penetrate under the skin with a trauma occurring in the natal cleft. This causes the development of foreign body infection in this region [2]. The clinical course includes chronic discharge from the sinuses with the effect of inflammation or acute abscess.

There is no exact consensus on the treatment of PSD. The search for a treatment method providing a rapid recovery with low recurrence rate continues. Excision of the infected sinuses, ablation

of the tracts, simple excision, and flap reconstruction have been described for treatment [3].

In this study, we aimed to evaluate the results of the patients treated with Karydakis surgery, in line with the literature.

MATERIAL AND METHOD

Results of 112 patients operated on by a single surgeon between January 2012 and January 2019 were retrospectively evaluated. In this study, only Karydakis flap application, which is performed with technically off-midline closure, was preferred. The patients were operated on in prone position. Spinal anesthesia method was used. Flap direction was changed as right or left according to the pit location. All patients were administered antibiotic prophylaxis. Hair in the surgical site was shaved in the preoperative period. The site was cleaned using an antiseptic solution. Traction was applied to the gluteal region using an adhesive band and the natal cleft region was exposed. All sinuses and their tracts were removed en bloc. The flap was prepared so as to involve the sacrococcygeal fascia. The flap was fixed with the midline shifting to the right or left side. Negative-pressure drain was inserted in all patients. The drain was removed when the drainage dropped below 20 cc.

After receiving approval from the local ethics committee, patient information was obtained by retrospective screening of special patient files and hospital information system.

Patients' age, gender, complaints, and postoperative complications were screened in detail. Patients were particularly evaluated in terms of wound site infection, suture dehiscence and recurrence.

The data were recorded in the Microsoft Excel software. Standard deviation, mean, and min-max values were calculated.

RESULTS

Data of 460 patients operated on between January 2012 and January 2019 due to PSD were reached. It was found that 180 of those patients underwent Karydakis flap (KF) surgery. A total of 112 patients operated on by a single surgeon was included in the study.

Of all patients, 20 (17.9%) were female and 92 (82.1%) were male. The mean age was found to be 21 (19–23) years in the female and 28.8 (19–64) years in the male patients. The mean BMI was calculated as 29.6 (24–33) kg/m². The patients were followed up for a mean of 28 (8–68) months. Of the patients, 84 (75%) had primary and 28 (25%) recurrent disease. The mean duration of the disease before surgery was 12 months. When the complaints were examined, pain was found in 48.2%, discharge in 46.4%, bleeding in 17.8%, and swelling in 10.7% of the patients. All demographic data are summarized in Tab. I. Postoperative length of stay was 2.1 (1–7) days. The mean follow-up duration of hemovac drain was 5 (3–10) days. The following postoperative complications were found: wound dehiscence in 12 (10.7%), bleeding in 8 (7.1%), recurrence in 8 (7.1%), and infection in 4 (3.6%) patients. Two of the patients who developed recurrence were re-operated, while crystallized phenol was applied in other 4 patients. The mean number of midline pits was 3 (1–8). Secondary pits were seen in 18 (16%) patients.

Tab. I. Demographic data of the patients.

CHARACTERISTICS		N (%)
Gender	Male	92 (82.1)
	Female	20 (17.9)
Age	Male	28.8 (19–64)
	Female	21 (19–23)
BMI		29.6 (24–33) kg/m ²
Preoperative disease duration		12 (6–38) months
Symptoms	Pain	48.2
	Discharge	46.4
	Bleeding	17.8
	Swelling	10.7
Patients	Primary	84 (75)
	Recurrence	28 (25)
Number of midline pits		1–8
Rate of secondary pits		18 (16)

DISCUSSION

Patients with PSD are usually obese and sedentary persons with a hairy body structure. Some patients have a family history. The recurrence rate is much higher in patients with a family history [4]. The diagnosis is easily established with physical examination. The presence of sinus outlets, discharge and itching are important in the diagnosis. Pit outlets move deep along the tract lines. In addition, especially hidradenitis suppurativa and infectious skin diseases of the perianal fistula region should be kept in mind in the differential diagnosis [5]. Most of our cases were obese and male patients. No familial predisposition was found. The diagnosis was established with physical examination. However, imaging methods were used in the cases mixed with perianal fistulas.

There is confusion in the treatment. However, the treatment methods can be divided into two groups: non-operative and operative approaches. Several issues have been underscored in the non-operative treatment methods, including body care (frequent bathing, regional cleaning of the hair), change of lifestyle and weight loss. There are studies reporting that removal of the hair (that plays a role in the etiology) from that region prevents development of the disease or decreases recurrences [6–8]. We ask our patients to remove regional hair up to 6 months before and after the operation. We recommend them to make lifestyle changes. We refer our obese patients to a dietitian. We found that noncompliance with postoperative recommendations led to recurrence. Wound site complications were more common in the patients who did not maintain appropriate body hygiene.

Surgery remains the most important treatment option. It is important especially in abscess drainage in acute pilonidal disease. Abscess drainage alone has a recurrence rate of 15% to 40% [9]. Debris, inflammation and granulation tissue within the abscess are thought to be effective in this recurrence. Therefore, unroofing and curettage are a good option in the treatment of abscesses. In a study comparing laying open cases with or without curettage,

the recovery rate was 96% vs 79% [10]. Recurrence was seen in 4.5% and complications in 1.4% of the patients undergoing curettage with laying open. The standard treatment of chronic pilonidal sinus is surgical excision [3]. The surgical site can be closed with primary or flap techniques as well as it can be left to secondary healing. Among the primary closure techniques, midline and off-midline can be performed. In every case, the off-midline techniques showed a lower recurrence rate [11]. In our study, we preferred the Karydakis operation which is a flap technique with a low recurrence rate. We prefer this method, especially for complicated and recurrent cases. We believe that this method is an easy surgical option, with better esthetical results.

All sinuses are excised with a rhomboid or Limberg flap application, and the natal cleft is removed with the prepared lipocutaneous tissue. The recurrence rate is very low with this method (0% to 6%) [3, 12, 13]. The most important complication of this technique is wound site problems. In the Karydakis flap application, after excision of all sinuses, off-midline closure is performed with the prepared fasciocutaneous flap [7, 11]. The recurrence rate is under 2%, and the complication rate is about 8%. Smoking and obesity increase wound site infections [14].

Our 16 patients developed complications. Two of those patients developed recurrence. Complications other than recurrence prolonged treatment duration, although it did not become chronic. The use of negative-pressure drain decreased wound site complications. Drains kept for 2–6 days prevented fluid accumulation in the wound site. However, they did not prevent the infection [15, 16]. We used negative-pressure drains in all our patients. We think that drain application decreases wound site complications. The fluid accumulating under the flap gets infected with time. This fluid leaks from the incision line which affects the daily life of the patients.

CONCLUSION

In conclusion, Karydakis flap surgery is a method with low rates of recurrence and complication, which can be preferred for its cosmetic results.

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