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Karydakis Flap for Sacrococcygeal Pilonidal Sinus Disease: Long-term Outcomes. A Retrospective Analysis

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ÖZET

Sakrokoksigeal pilonidal sinüs hastalığı için Karydakis flebi: Uzun dönem sonuçları. Retrospektif bir analiz

Amaç: Sakrokoksigeal pilonidal sinüs hastalığı (SPSH) için Karydakis prosedürü ile tedavi edilen hastaların uzun dönem sonuçları gözden geçirildi.

Yöntem: Ocak 2007 ve Aralık 2009 tarihleri arasında SPSH için ameliyat edilmiş hastaların tıbbi kayıtları incelendi. Bunlar arasında Karydakis prosedürü uygulanmış olanlar telefonla arandı ve cerrahi alan enfeksiyonu ve nüks oranını değerlendirmek için hazırlanan bir ankete cevap vermeleri istendi.

Bulgular: Çalışmaya toplam 221 hasta dahil edildi. Bunlardan 128'ine telefon yoluyla ulaşıldı ve ankete yanıt alındı. Yaş ortalaması ve erkek-kadın oranı sırasıyla, 24.6 (16-62) ve 6.9 (281/41) idi. Hastanede kalış süresi ortalama 1.4 (1-5) gün idi. Cerrahi alan enfeksiyonu ve nüks oranı ise sırasıyla %8 ve %4.7 idi.

Sonuç: Karydakis prosedürü SPSH tedavisinde yüz güldürücü sonuçlar vermektedir. Bu nedenle, karmaşık olgular hariç tutulduğunda, bu teknik ilk basamak tedavi seçeneği olarak tercih edilebilir.

Anahtar kelimeler: Pilonidal sinüs, Karydakis flebi, cerrahi alan enfeksiyonu, nüks

ABSTRACT

Karydakis flap for sacrococcygeal pilonidal sinus disease: Long-term outcomes. A retrospective analysis

Objective: Long-term outcomes of patients who were treated by Karydakis procedure for sacrococcygeal pilonidal sinus disease were reviewed.

Material and Methods: Medical recordings of the patients who have been treated for sacrococcygeal pilonidal sinus disease between January 2007 and December 2009 were reviewed. Among those, the patients who had Karydakis procedure were called and were asked to answer a questionnaire that was prepared for assessing the rate of surgical site infection and recurrence.

Results: Totally 221 patients were recruited to the study. Of these 221, 128 patients were reached, and answered the medical questions. The mean age and male-to-female ratio was 24.6 (16-62) and 6.9 (281/41), respectively. The mean length of hospital stay was 1.4 (1-5) days. The rate of surgical site infection and recurrence was 8% and 4.7%, respectively.

Conclusions: Karydakis procedure seems to offer comparable outcomes for the treatment of sacrococcygeal sinus disease. Therefore, the technique may be preferred as a first-line treatment procedure with the exception of complicated cases.

Key words: Pilonidal sinus, Karydakis flap, surgical site infection, recurrence

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INTRODUCTION

Sacrococcygeal pilonidal sinus disease (SPSD) is simply a foreign body reaction against hair within the soft tissue of natal cleft (1). However, it is almost always complicated by infectious process which result in hygienic problems and subsequent psychosocial effects due to chronic bloody or purulent discharge from the sinuses or acute health problems with abscess formation (2).

Karydakis' hypothesis, which is currently the most popular theory worldwide, claims that one of or a combination of three factors is necessary for the pathogenesis of SPSD: 1. the invader (loose hair); 2. physical forces; 3. skin vulnerability. Depilation and hygienic cautions may be a partial or perhaps a definite solution for the first factor (3). The second factor, physical forces, is the constant factor and cannot be eliminated. Therefore, surgeons focused on the third factor that could be manipulated by flattening the natal cleft which

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serves as a natural pit in which loose hair, debris, and body secretions accumulate, and have developed various surgical procedures on the basis of this fact.

Karydakis procedure, also known as "Karydakis flap", is basically a gluteal advancement flap according to its original description (4). However, it significantly differs from the other flap procedures such as rhomboid flap, Z-plasty, gluteal rotation flap, because it is not a fasciocutaneous flap but an adipocutaneous flap; it is, therefore, technically easier, less bloody, and less time-consuming; it obviously has a better cosmetic outcome as it leaves a single, lateral, longitudinal scar; and it requires significantly shorter hospital stay. Moreover, Karydakis procedure provides adequate closure of excisional defects of any size unless there are bilateral sinuses that are situated exceptionally marginal. In addition, the natal cleft may satisfactorily be flattened by Karydakis procedure.

In this retrospective clinical study, the long-term outcome of the patients who were treated by Karydakis procedure for sacrococcygeal pilonidal sinus disease were reviewed by means of surgical site infection (SSI) and recurrence.

MATERIAL AND METHODS

Medical recordings of the patients who were operated for SPSD between January 2007 and December 2009 were reviewed. The patients who had Karydakis procedure were selected and were recruited to the study. The patients who were treated by conservative treatment or surgical procedures other than Karydakis procedure and those who could not be reached or who have refused to answer the questions were excluded from the study.

The patients were called and were asked to answer the following questions:

1. Have you had a wound infection that had necessitated long-term wound care or a session of antibiotherapy after stitch removal?

2. Have you had a diagnosis of recurrent SPSD done by a clinician after primary treatment?

3. Has there been or is there a chronic purulent discharge from the wound after primary treatment?

The first question was considered to be the indicator of a SSI, whereas the second and the third questions were considered to be the indicator of recurrent disease.

Surgical technique was identical to original description of Karydakis procedure. A laterally placed eliptic gluteal incision involving the sinuses was used. The utilization of dyes for identification of entire cystic cavity to carry out a complete excision was up to the surgeon. Pilonidal cyst was completely excised with an adequate surrounding tissue. An advancement flap involving adipocutaneos tissue was prepared for the closure of the defect. Only the cases with diffuse oozing in the surgical field were drained by a closed suction system.

From medical data of the patients who were included to the study, the following parameters were recorded: age, gender, primary or recurrent disease at admission, and the length of hospital stay.

RESULTS

Totally 986 patients were treated for SPSD between January 2007 and December 2009. Of these 986, 221 had Karydakis procedure. Among these 221 patients, 128 could be reached and answered the questionnaire. The mean age of patients was 24.6 (16-62). Male/female ratio was 5.1 (107/21). Twelve patients (9.3%) had recurrent SPSD at admission. The mean length of hospital stay was 1.4 (1-5) days. The number of patients with SSI and recurrence was 11 (8%) and 6 (4.7%), respectively.

Statistical analysis was made by Windows 2007 Excel. The results were given as descriptive statistics (mean values).

DISCUSSION

The rate of SSI (8%) and recurrence (4.7%) in the present study were found to be similar to those of previous studies based on Karydakis procedure (5-7). These rates seem to be similar with or less than those of primary repair technique; however, they are higher than those of studies focused on fasciocutaneous flaps, mainly rhomboid flap (8-17).

The most important drawback of Karydakis procedure is that the dead space emerging after excision cannot be adequately obliterated, particularly in patients with a thin gluteal subcutaneous tissue. Suction drains are generally used to prevent complications of a potential dead space. The presence of a dead space may be associated with an increase in SSI rate; however, it does not necessarily be a predisposing factor for recurrence

unless the lesion is inadequately excised.

Regarding to numerous studies that reported fascinating outcomes with sophisticated fasciocutaneous flaps such as rhomboid flap, Z-plasty, and gluteal rotation flap, one may ask that why do proponents of conservative treatment or less extensive surgical procedures not fear recurrence as much as the others do? This is about considering the prevention of recurrence as either the only goal of treatment or one of the major goals of the treatment. The preference of extensive surgical procedures as a first-line treatment for any reason even in cases with primary SPSD contradicts with the current surgical concept in the era of minimally invasive surgery. It is thought-provoking that cosmetic outcome seems to be somewhat ignored by the proponents of flap procedures for a benign disease like SPSD while it has become a major concern even in the surgical treatment of malignant diseases. Not surprisingly, it was reported that 20% of patients who had rhomboid flap reconstruction were not pleased with cosmetic appearance of the surgical field (14).

The present study has some certain weaknesses. Regarding to the fact that most of the recurrences occur within the first post-operative year, the patients who completed at least the first postoperative year and at most the three postoperative years were selected. Therefore, long-term results could not be assessed. In addition, half of the patients who had Karydakis procedure could not be reached which may have led to selection bias.

Karydakis procedure seems to offer comparable outcomes for the treatment of sacrococcygeal sinus disease. Therefore, the technique may be preferred as a first-line treatment procedure with the exception of complicated cases.

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