Abstract

Aim: Pilonidal sinus disease is a surgical disease that usually occurs in young men with sinus tracts in the natal cleft. There are also risk factors such as obesity, family history, and hairy body structure and body hygiene. The stage of the disease is also an effective factor in treatment planning. In our study, we performed a retrospective analysis according to the staging system of the patients we operated for pilonidal sinus.

Materials and Methods: A total of 159 patients who were operated with the diagnosis of pilonidal sinus between July 2016 and August 2017 were included in the study. The patients were evaluated according to the staging system in terms of age, gender, length of stay, body mass index (BMI), history of abscess drainage, duration of complaints, family history and morbidity.

Results: The patients were between 18-43 years old. The mean age was 23.0. 130 (81.8%) of the cases were male and 29 (18.2%) were female. Number of patients with stage I was 35, number of patients with stage IIA was 49, number of patients with stage IIB was 18, number of patients with stage III was 44, number of patients with stage IV was 3 and number of patients with stage R was 10. Statistically significant correlation was found between disease stage and BMI, duration of complaints, family history and duration of hospitalization (p<0.05). Statistically significant correlation wasn't found between disease stage and age and morbidity (p>0.05).

Conclusions: BMI, duration of complaints and family history affect the stage of pilonidal sinus disease. Also the increasing stage of the disease is prolonged hospital stay.

Introduction

Pilonidal sinus is a common surgical disease, referring to a midline sinus in the natal cleft. It is related with risk of infection, abscess formation and a high recurrence rate [1]. Although it is asymptomatic in some cases, it may be a chronic, complicated, multiple sinus tract and leading to severe impairment of patient quality of life [2]. The name of the disease comes from the Latin, meaning nest of hair. This condition is also known as jeep disease because it is frequently observed among jeep drivers during World War II [3]. Various noninvasive and surgical methods have been developed for treatment. However, many postoperative complications and recurrences are observed. Male gender, obesity, smoking, family tendency, poor body hygiene, sinus size, and the surgical procedures performed have been confirmed as primary risk factors for postoperative complications and recurrence [4]. In this study, we aimed to evaluate the factors affecting the pilonidal sinus disease with a staging system retrospectively.

Materials and Methods

A total of 159 subjects who were operated with the diagnosis of pilonidal sinus between July 2016 and August 2017 were included in the study. The study was performed according to patient anamnesis. The study is a retrospective study. We got permission from hospital management for study. All subjects were operated by two general surgeons. All subjects were operated with spinal anesthesia. Subjects with no additional disease were included in the study. Subjects were evaluated with staging system which developed by Guner et al. [2] in 6 stages as stage I, stage IIA, stage IIB, stage III, stage IV and stage R.

Stage I: Single pit in intergluteal sulcus
Stage IIA: 2–3 pits in intergluteal sulcus
Stage IIB: >3 pits in intergluteal sulcus
Stage III: Intergluteal sulcus pit/pits plus lateral extension in one direction
Stage IV: Intergluteal sulcus pit/pits plus lateral extension in both directions
Stage R: Recurrent pilonidal sinus disease following any type of treatment
The cases were evaluated according to staging system in terms of age, gender, length of stay, BMI, history of abscess drainage, stage, duration of complaints, family history and morbidity.

Data obtained from the study were recorded in SPSS 22.0 (Armonk, NY: IBM Corp.) program. Categorical measurements were recorded as number and percentage and continuous measurements were recorded as mean and standard deviation. Compatibility of continuous variables to normal distribution was examined by Shapiro Wilk test. Spearman tests were performed for correlation between pilonidal sinus disease stage and age, BMI, duration of complaints, morbidity, family history and duration of hospitalization. P <0.05 was statistically significant.

Results

The mean age was 23,0 (18-43). 130 (81.8%) of the cases were male and 29 (18.2%) were female. 70 (44%) of the patients had a family history. 111 (69.8%) patients were hospitalized for 1 day and 48 (30.2%) patients were hospitalized for 2 days. There was no patient hospitalized longer. In 26 (16.4%) patients, morbidity were observed such as seroma, hematoma, partial wound dehiscence and skin necrosis. BMI of the patients were between 18,0-33,6. The mean BMI was 24,3. Number of patients with stage I was 35, number of patients with stage IIA was 49, number of patients with stage IIB was 18, number of patients with stage III was 44, number of patients with stage IV was 3 and number of patients with stage R was 10. The number of patients with a history of abscess drainage before surgery was between 0.25 and 48 months. The mean duration of the complaints was 12 months (Table 1).

The disease stage and age, BMI, duration of complaints, morbidity, family history and length of stay were compared in patients operated for pilonidal sinus. There was no statistically significant relationship between the stage of disease and age (p> 0.05). There was a statistically significant relationship between the disease stage and family history (p <0.05). There was a statistically significant relationship between the disease stage and length of stay (p <0.05) (Table 2). When disease stage and BMI compared; BMI was <25 in 22(%62,8) and BMI was 25< in 13 (%37,2) stage I patients . BMI was <25 in 32(%65,3) and BMI was 25< in 17 (%34,7) stage IIA patients. BMI was <25 in 7 (%38,9) and BMI was 25< in 11 (%61,1) stage IIB patients. BMI was <25 in 19(%43,2) and BMI was 25< in 25 (%61,8) stage III patients. BMI was 25< in 3(%6100) stage IV patients. BMI was <25 in 3(%630) and BMI was 25< in 7 (%70) stage R patients. There was a statistically significant relationship between disease stage and BMI (Table 3, Figure 1).

Discussion

Pilonidal sinus disease is a common surgical disease that usually occurs in young population. The reason for this is that the sex hormone secretion is more at young ages and increase in the activity of pilosebaceous glands [1]. In the study of Kaymakcioglu et al., 70% of patients were in the 20–30 age range [5]. The mean age was 23,0 in our study.
The staging system can be used to generate a stage-specific treatment system and to determine the prognosis of the disease. According to study of Güner et al., pit picking in stage 1 and 2A patients, Bascom Cleft Lift technique (BCL) in stage 2B and 3 patients, modified BCL in stage 4 patients, limberg flap in stage 4 patients and BCL or modified BCL technique in stage R patients should be used [2].

When the risk factors for pilonidal sinus are evaluated; A study by Harlak et al., found that sitting time was a risk factor for pilonidal sinus. In the same study, the family history is not a risk factor for pilonidal sinus [3]. In the study of Sondenaa et al., family history was observed in %38 of patients [6]. In the study of Doll et al., the family history increases the risk of pilonidal sinus development and increases the risk of recurrence [7]. Our study shows that the family history is effective on the pilonidal sinus stage. As the disease stage progresses; length of stay and cost of disease increases, the patients length of return to work prolongs [2]. In our study, the relationship between hospitalization time and stage was shown.

There are studies in literature about the effects of obesity in pilonidal sinus and on treatment of pilonidal sinus. Cubukcu et al., showed that obesity increases the risk of recurrence of pilonidal sinus disease [8]. In a study of Balik et al., with 125 patients and 125 control groups, subcutaneous fat tissue of the patient group was shown to be thicker [9]. The depth of the intergluteal sulcus may vary according to obesity or body characteristics of the person. The depth of the intergluteal sulcus can affect the amount of loose hair collected in it [3]. In our study, obesity affects the stage of pilonidal sinus.

As a result; pilonidal sinus staging systems are used in the planning of pilonidal sinus treatment. BMI, duration of complaints and family history are effective on the stage of pilonidal sinus disease. Also the increasing stage of the disease is prolonged hospital stay. We should use the staging system for the management of the disease. We think the staging system is useful.

References

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