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Original Article

Intermammary Pilonidal Sinus and Surgical Treatment: Our Clinical Experience

Zeynep Özkan,[1] Ahmet Bozdağ,[2] Hadice Akyol,[3]
Mehmet Bugra Bozan,[5] Metin Kement[4]

[1]Department of General Surgery, Health Science University, Elazığ Health Practice and Research Center, Elazığ, Turkey
[2]Department of General Surgery Fırat University Faculty of Medicine, Elazığ, Turkey
[3]Department of Pathology, Elazığ Fethi Sekin City Hospital, Elazığ, Turkey
[4]Department of General Surgery, Kahramanmaraş Sütçü İmam University Faculty of Medicine, Kahramanmaraş, Turkey
[5]Department of General Surgery, İstanbul Bahceşehir University Faculty of Medicine, İstanbul, Turkey

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Correspondence: Zeynep Özkan, Sağlık Bilimleri Üniversitesi, Elazığ Sağlık Uygulama ve Araştırma Merkezi, Genel Cerrahi Kliniği, Elazığ, Turkey
E-mail: drzeynepozkan@yahoo.com

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ABSTRACT

Objective: Pilonidal sinus disease is characterized by chronic inflammatory and granulomatous epithelial tract, usually in the sacrococcygeal area. It is rarely seen in other regions of the body. In this study, we aimed to report our patients with intermammary pilonidal sinus (IMPS) and to present the flap operation technique applied to these patients.

Methods: A total of nine patients who applied to the general surgery clinic between the years 2010 and 2019 for the treatment of IMPS were evaluated retrospectively. Demographic characteristics of patients, time of onset of the complaints, the length of the sinus tract, the treatment, and the presence of any recurrences were collected by reviewing the hospital records and calling the patients by phone. In the patients presenting with abscesses, drainage was performed and antibiotic treatment was given to the patients. A standard sinus excision was followed by the closure with a bilateral subcutaneous flap.

Results: A total of nine female patients were included in the study. All patients were females between ages 15 and 28 years with a mean age of 19.2±3.4 years. The presenting complaints of all patients were intermittent drainage in the intermammary area, the formation of openings, and sometimes pain. The mean length of the sinus was 4.1±0.7 cm. No complications and complaints were seen in the patients in the postoperative period.

Conclusion: IMPS is a disease of young women and is curable with surgery. The patients are successfully and safely treated with the flap method.

INTRODUCTION

Pilonidal sinus disease is characterized by chronic inflammatory and granulomatous epithelial tract. It usually occurs in the sacrococcygeal area.[1] Rarely, it is observed in the scalp, axillae, umbilicus, groin, genital areas, breasts, intermammary region, and interdigital areas especially hairdressers.[2] Intermammary pilonidal sinus (IMPS) is a very rare disease. IMPS case presentations have previously been reported in the literature, and surgical treatment was described in several studies. We consider that our clinical experiences are more related to IMPS for regional, ethnic, and traditional reasons. In this study, we aim to present the relatively high number of IMPS patients we surgically treated.

MATERIALS AND METHODS

All patients who were diagnosed with IMPS, consequently operated in our clinic between January 2010 and December 2019 and whose data were accessible through patient records and via phone, were included. The patients who could not be reached, who did not want to participate in the study, whose data were not accessible, and who were lost to follow up were not included in the study. The informed consent forms were collected from all patients.

The study was performed in accordance with the Helsinki Declaration principles. The demographic characteristics of the patients, the time of the onset of the complaints, the length of the sinus tract, the treatments administered, and the presence of any recurrences were collected from the hospital records and by calling the patients by phone. Drainage was performed and antibiotic treatment was given to the patients presenting with abscesses. Standard surgical intervention was applied to all patients under local anesthesia. After transferring the patients to the operating room, the surgical intervention was performed under sterile conditions. While the patients were lying in the supine position, the sinus tract in the intermammary area in the midline and the surrounding area were cleaned extensively with the povidone-iodine antiseptic solution. An injection of 1:200 000 epinephrine and 20 mL of 0.5% bupivacaine infiltrate was made into the area around the sinus bilaterally to cover an area of approximately 3 cm. An elliptic incision, including the sinus tract, was performed. The skin and subcutaneous tissues were transversed reaching the sternal fascia, and finally the tract of the pilonidal sinus was excised. To fill in the emerging cavity and to approach the tissues without strain, 2 cm subcutaneous flaps were created bilaterally. The flaps were sutured using a 2/0 vicryl off-midline closure. Considering it might prevent seroma collection, either a Penrose or a hemovac drain was placed into the surgical space in some cases.

Subsequently, the subcutaneous tissues were sutured with 3/0 vicryl. Finally, the skin was closed by suturing with 3/0 prolene intracutaneously. The patients were instructed and discharged from the hospital on the day of the operation. Based on the evaluation of the drainage material, the drains were removed on the first or second postoperative day. First-generation cephalosporins were used for prophylaxis, and analgesics were administered to the patients. Ten days later, all patients were checked in the polyclinic and were asked to come back to the polyclinic in case of any complaints. In our study, recurrence was described as re-discharged fluid or reforming sinus pit in any time after full cutaneous wound healing.

RESULTS

A total of nine patients were included in the study. All patients were females aged 15–28 years with a mean age of 19.2±3.4 years. The presenting complaints of all patients were intermittent drainage material in the intermammary area, cavity formation, and pain. The mean length of the sinus was 4.1±0.7 cm. The mean duration from the onset of the complaints till the presentation to the general surgery clinic was 6.2±1.5 (3–12) months. The average surgery duration was 35 min. There were no complications during the surgery and early postoperative period. One of the patients had an abscess, which was drained at a previous attempt. The patient characteristics are presented in Table 1. Patient images of preoperative and the final period of operation are presented in Figures 1 and 2.

The mean postoperative follow-up length of patients was 2.4±3 years. No satisfaction surveys were conducted, but all patients said that they had no complaints. All study patients had previously presented to either a family physician or a dermatology clinic, and they received either orally administered antibiotics or used antibiotic ointments. No complications were seen in the patients in the postoperative period.

DISCUSSION

The disease was first described by Saggar in 1967.[3] A case presentation from our country was made by Demiralay et al., describing the surgical intervention performed for the treatment.[2] All of our patients were females similar to the reports in the literature. The mean age of the patients (19.2 and 20.4 years) was minimally younger than other case series in the study by Shareef et al.[4] On the contrary, patients of sacrococcygeal pilonidal sinus were reported to occur at a female-to-male ratio of 1:17 in our country with a mean age of 27.9 years in females.[1]

Several factors associated with the development of IMPS were reported in the literature. The majority of the patients are females, suggesting that it is an acquired disorder. In addition, the faster growth rate of the breasts in females during puberty may also provide the grounds for

Table 1. Demographic and disease characteristics of patients

Patient's number	Age	Sinüs tract length (cm)	Disease period (month)	Abcess	Sinus pit's number
1	15	4	6	–	3
2	16	3.5	3	–	2
3	18	3.5	4	–	3
4	18	4.5	8	+	4
5	19	4	6	–	2
6	17	5	5	–	3
7	23	4	8	–	4
8	28	3	6	–	2
9	19	5	8	–	3

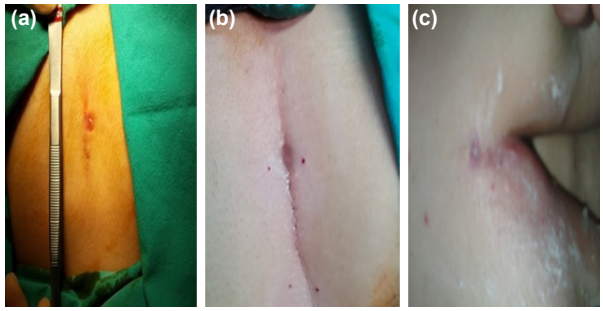

Figure 1. (a, b) Images of the sinus tract in two patients before the operation and **(c)** an IMPS case with an abscess.

Figure 2. Incision site and the drain after the operation.

the disease to develop. Similarly, the earlier age of occurrence of IMPS compared with the sacrococcygeal pilonidal sinus suggests that the development of the disease may be associated with the earlier development of the breast tissues in puberty. Several studies report that the increased activity of the hormones affecting the hair follicles during puberty may play a role in the etiology of the sacrococcygeal pilonidal sinus.[1]

A deep intermammary groove and relatively long hair length in some women and the use of tight bras causing a complete closure of the area are considered to be the risk factors. Although all patients were young females, their breast tissues were large, causing them to prefer tighter bras as the medical history informed. Among the study patients, higher density of hair in the intermammary area.[5,6] In this research, measurements such as breast sizes, hair lengths and intensities, and level of hirsutism were not made for the patients; however, it was observed that the patients had bigger breast sizes and intense hair compared with the women in the same age group in the community. The fact that there are no objective data on this topic can be regarded as an insufficient part of our study.

The time of presentation to surgery clinics was in a range from 3 to 12 months after the onset of the symptoms. Almost all patients had received systemic or local antibiotics previously. The patients were referred to our clinic as the complaints persisted, and there was an increase in the number of sinus openings.

The sinus tract generally extended from the level of the third intercostal space on the sternum in the midline to the lower end of the fifth intercostal space. The mean length of the sinus tracts was 4.1 cm. A seropurulent discharge came from these openings either spontaneously or upon squeezing. The patients complained especially of this drainage, the intermittent pain, and the foul odor. Pilonidal sinus affects social life adversely especially in the younger populations, and it causes a serious loss of labor productivity. Therefore, it must be treated appropriately.

Although several surgical intervention methods have been previously described for the treatment of the disease, we aimed to describe our surgical technique because of the special anatomical structure of the area.[2,5,7,8] After the resection of the sinus tract until reaching the sternal fascia by an elliptical incision performed on the intact skin margin, the length of the remaining open incision becomes approximately 4 cm on the transverse plane. Therefore, a primary closure causes a strain in the tissues, leading one to predict that potential issues may arise in association with wound healing. For this reason, similar to the flap method applied by Karydakis in the sacrococcygeal region, we closed the subcutaneous tissue in two layers, liberating it at a 2-cm distance laterally. Then, we placed hemovac or Penrose drains to prevent the development of any potential spaces.

A histopathological examination almost always shows that there are free hair follicles, epithelial debris, and granulation tissue in the sinus. The internal sinus wall was usually lined with granulation tissue and sometimes with squamous epithelium. The epithelial cells are more common in the opening and in the tract of the sinus. Sinus tracts are made of granulation tissue with a surrounding infiltrate composed of neutrophils, lymphocytes, and plasma cells. Macrophages are occasionally observed. Foreign body giant cells are often observed in pathological examinations. There are no sweat glands, sebaceous glands, hair follicles, or piloerector muscle fibers on the sinus wall.[2,6,8,9]

No complications were observed in the patients in the postoperative period. The patients reported that they were satisfied with the treatment without any complaints in association with the scar tissue on the incision site. Therefore, we believe that this surgical method is successful.

CONCLUSION

Intermammary pilonidal sinus is a disease of young women and curable with surgery. The patients are successfully and safely treated with the flap method.

Ethics Committee Approval

This study approved by the Firat University Faculty of Medicine Non-Interventional Research Ethics Committee (Date: 02.04.2020, Decision No: 388143).

Informed Consent

Retrospective study.

Peer-review

Internally peer-reviewed.

Authorship Contributions

Concept: Z.B.; Design: Z.B., M.K.; Supervision: M.K.; Materials: Z.B., M.B.B., H.A.; Analysis: A.B.; Literature search: Z.B., A.B.; Writing: Z.B., A.B.; Critical revision: M.K.

Conflict of Interest

None declared.

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İntermammarian Pilonidal Sinüs ve Cerrahi Tedavisi: Klinik Deneyimlerimiz

Amaç: Pilonidal sinüs hastalığı, genellikle sakrokoksigeal bölgede kronik enflamatuvar ve granülomatöz epitel traktı oluşumu ile karakterizedir. Nadiren vücudun diğer bölgelerinde görülür. Bu çalışmada intermammarian pilonidal sinüs (IMPS) olan hastalarımızı ve bu hastalara uyguladığımız flep operasyonu tekniğini sunmayı amaçladık.

Gereç ve Yöntem: Genel cerrahi kliniğine 2010–2019 yılları arasında IMPS tedavisi için başvuran toplam dokuz hasta geriye dönük olarak değerlendirildi. Hastaların demgrafik özellikleri, şikayetlerin başlama zamanı, sinüs yolunun uzunluğu, tedavisi ve varsa nüks olup olmadığı hastane kayıtları incelenip telefonla aranarak toplandı. Apse ile başvuran hastalara drenaj yapıldı ve hastalara antibiyotik tedavisi verildi. Cerrahiye alınan hastalara standart sinüs eksizyonu ve ardından bilateral subkutan flep ile kapatma uygulandı.

Bulgular: Çalışmada toplam dokuz kadın hasta vardı. Tüm hastalar 15–28 yaşları arasında, yaş ortalaması 19.2±3.4 yıl olan kadındı. Tüm hastaların başvuru şikayeti intermammarian alanda aralıklı akıntı, sinüs ağzı oluşumu ve bazen ağrı idi. Sinüsün ortalama uzunluğu 4.1±0.7 cm idi. Hastalarda ameliyat sonrası dönemde herhangi bir komplikasyon ve şikayet görülmedi.

Sonuç: İntermammarian pilonidal sinüs, genç kadınların hastalığıdır ve ameliyatla tedavi edilebilir. Flep yöntemi ile hastalar başarılı ve güvenli bir şekilde tedavi edilmektedir.

Anahtar Sözcükler: Cerrahi; flep; intermammarian bölge; pilonidal sinüs.