International Journal of Surgery and Surgical Research
Online ISSN: 2664-9179, Print ISSN: 2664-9160
Received: 06-04-2019; Accepted: 08-05-2019; Published: 16-05-2019
www.surgeryjournals.net
Volume 1; Issue 1; 2020; Page No. 23-25

Intermammary pilonidal sinus: A case report

Digant Patel[1], Manoj Vasava[2], Jagrut Patel[3], Rutul Shah[4*], Jigar Patel[5], Vivek Yadav[6]
[1-6] Department of General Surgery, M.S. University, Vadodara, Gujarat, India

Abstract
Introduction: Pilonidal sinus is a blind-end tract lined with granulation tissue, which leads to a cystic cavity lined with epithelial tissue. The case report aims to present a case of pilonidal sinus presenting in an unusual location - the intermammary region, in a young female patient.
Case Presentation: A 16-year-old female presented with complaints of serous discharge mixed with pus intermittently from the intermammary region for 5 months. The patient was treated successfully with excision and primary closure.
Discussion: Although a pilonidal sinus is most commonly seen at the sacro-coccygeal region, it can occur occasionally at various other locations in the body. The presence of one such entity in the intermammary region of a female represents a rare occurrence with a very few cases reported worldwide. A proper surgical repair in terms of its excision and closure remains the mainstay in management.
Conclusion: An intermammary pilonidal sinus is an extremely rare condition seen in young, obese females with large, pendulous and heavy breasts.

Keywords: pilonidal sinus, intermammary, case report, young female, primary excision

1. Introduction
The name 'pilonidal' was coined by Hodge in 1880 from the Latin words *pilus*, which means hair, and *nidus*, which means nest [1, 2]. Pilonidal disease consists of a spectrum of entities ranging from asymptomatic hair containing cysts and sinuses to a large abscess. A Pilonidal sinus is a blind-end tract lined with granulation tissue, which leads to a cystic cavity lined with epithelial tissue. These are usually found in the sacrococcygeal region. However, they may also occasionally occur in the axilla, groin, interdigital web, umbilicus, nose, intermammary areas, suprapubic area, clitoris, prepuce, penis, occiput or on the feet [3, 4].
Intermammary pilonidal sinus disease is seen in fatty females with increased distribution of hairs [5]. It is particularly common in Arab females, and in females with heavy pendulous breasts.
After the onset of puberty, sex hormones affect the pilosebaceous glands, and, subsequently, the hair follicle becomes distended with keratin. As a result, a folliculitis is created, which produces edema and follicle occlusion. The infected follicle extends and ruptures into the subcutaneous tissue, forming a pilonidal abscess. This results in a sinus tract that leads to a deep subcutaneous cavity [1]. The sinus is caused by the friction of the skin leading to the embedding of the hair beneath the surface. The hair forms small cavities or pits, which go on to become sinuses. Bacteria and debris enter this sterile area, producing local inflammation and formation of pus-filled abscesses. In chronic condition, the sinus becomes an open cavity, constantly draining small amounts of fluid [6, 7].
The diagnosis of a pilonidal sinus can be made by identifying the epithelialized follicle opening, which can be palpated as an area of deep induration beneath the skin. Local part X-ray and an ultrasonogram can aid in identifying any other underlying lesions and rule out other pathologies if any. An X-ray sinogram aids in properly gauging the anatomy and dimensions of the underlying sinus tract. Treatment for symptomatic intermammary pilonidal sinus involves surgery to incise and drain the abscess. The surgery can be either wide excision and healing by secondary intention (longer healing time, low chance of recurrence), excision and primary closure by sutures (quicker healing, risk of recurrence), or plastic surgery technique using flaps (for recurring and/or extensive sinus). [8] The other procedures evolving are with topical natural polyphenols/laser epilation [9, 10].

2. Patient Information
A 16-year-old unmarried female presented to us in OPD with complaint of serous discharge mixed with pus intermittently from the intermammary region for 5 months.
There was associated complaint of pain at local site which was dull aching type and intermittent
The patient had no complaint of fever / history of trauma.
The patient had attained menarche at the age of 13 years, was non-alcoholic and a non-smoker and had no other remarkable past history.

2.1 Clinical Findings
Local examination revealed discharging sinus tracts with surrounding induration in the intermammary region.
Two sinus-tract openings were found. One, approximately 2cm below sternal notch in the midline, and the other, about 5cm below the first opening.
Examination of the surrounding region revealed large, pendulous and heavy breasts. The overlying as well as surrounding skin, the nipple areola complex and the axillary region were found to be normal.

2.2 Investigations
Basic routine blood investigations including the total WBC count, Hemoglobin, serum creatinine and bilirubin were

done and found to be normal.
X-ray chest was found to be normal.
Ultrasonography of the local region showed inflamed subcutaneous tissue with no evidence of any underlying collection and no intrathoracic communication.
An x-ray sinogram was done, which revealed intercommunicating sinus tracts (Fig. 1, 2) in subcutaneous plane over sternal region, anterior chest wall in midline.

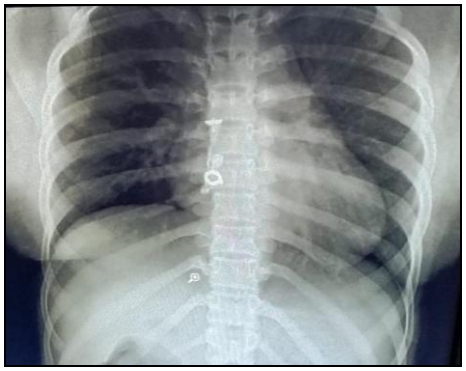

Fig 1: X-ray sinogram – anterior view

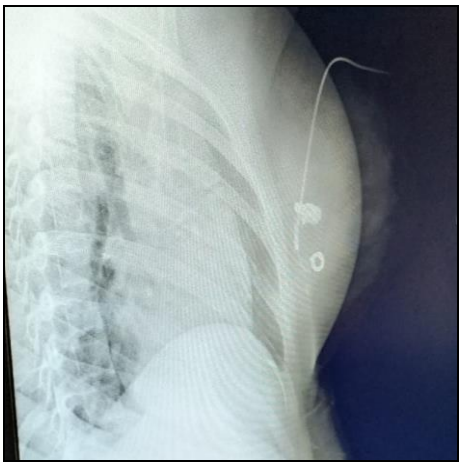

Fig 2: X-ray sinogram – lateral view

2.4 Therapeutic Intervention
Excision with primary closure was done under general anaesthesia.
Careful dissection of the area was done after cutting of skin and subcutaneous tissue. Methylene blue dye mixed with hydrogen peroxide was inserted via an infant feeding tube to identify the tract. Complete excision of the sinus tract en bloc was done. Heamostasis was achieved using electrocautery. Subcutaneous layer was closed using vicryl (2-0) in interrupted manner. Skin closure was done using Polyamide black (3-0) in vertical mattress manner and sterile dressing applied.
The excised tissue was sent for histopathological examination.

2.5 Follow–up and Outcome
The patient was discharged on second post-operative day after doing the first dressing. Follow up dressing was then done on every third day, and suture removal done on the 14th day. Patient was advised to wear appropriate innerwear.
The patient was given oral antibiotics for 7 days post discharge along with analgesics.
No wound discharge/dehiscence/seroma formation or any other immediate post-operative complications were noted.
The histopathology showed sinus tracts with chronic inflammatory tissue, confirming the diagnosis.
After suture removal, the patient was kept on monthly follow up for six months (Fig. 3). No other complications or recurrence was noted.

Fig 3: result at 6th month of follow up

3. Discussion
Although a pilonidal sinus is most commonly seen at the sacro-coccygeal region, it can occur occasionally at various other locations in the body. The presence of one such entity in the intermammary region of a female represents a very rare occurrence.
Shareef SH, Hawrami TA *et al* in their case series of 12 patients from the Kurdistan region of Iraq [11] report that up until 2017 only six cases of intermammary pilonidal sinus had been reported in the world [3, 5, 12, 13, 14, 15].
Patients presenting with complaints of discharge from an opening on the skin surface require thorough clinical examination along with other imaging modalities or interventional procedures to find the underlying cause and any other systemic disease. Confirmation of diagnosis can be achieved by dye study to gauge the extent of underlying tracts.
In case of intermammary pilonidal sinus, the presenting age of the female along with the breast architecture can aid in supporting the diagnosis of pilonidal sinus. Pilonidal sinus is a disease of young patients with age around 15–30 years [13, 16]. Regarding age of affection, intermammary pilonidal sinus is consistent with other types of pilonidal sinus. Sunkara *et al*. like Salih and associates reported the intermammary sinus occurring in 16 years old female [13, 15].
It was reported that hairiness is among the most important risk factor for developing pilonidal sinus. However, this risk factor was not mentioned in case of the intermammary variety in the literature [2, 5, 12, 13, 14, 15]. Shareef SH, Hawrami TA *et al*. in their study confirmed that being hairy is not necessary to develop intermammary pilonidal sinus as all cases did not have hairs at the area of the disease. Hence, for the intermammary region particularly, the term ‘pilonidal’ is perhaps a misnomer as it doesn’t involve the presence of hairs per se.
Another well-known risk factor for being affected by pilonidal sinus is obesity [17]. This is consistent with the findings of this study, where the BMI of the patient was 33.3
Thus, the presenting age as well as built of our patient apart from the investigations contributed in leading us to our diagnosis.
For the management of pilonidal sinus, surgical excision remains the mainstay. Some studies including that of Salih, Kakamad *et al* [15] have mentioned the use of a drain to be kept for a few days after surgery. Other surgical options for closure include healing by secondary intention, or as is seen

in cases of sacrococcygeal pilonidal sinus, closure with help of flaps - with the Limberg flap being used with quite favourable results. [18] Similar results can be achieved in intermammary cases by mobilization of both breasts.

In this case, surgical excision with primary closure was done without the use of drain. There were no intra-operative or immediate post-operative complications. There was no incidence of any seroma/hematoma formation noted. Suture removal was done on the 14th post-operative day. No recurrence was noted in the six months of follow up.

4. Conclusion

An intermammary pilonidal sinus is an extremely rare condition seen in young, obese females with large, pendulous and heavy breasts.

Consent: Consent has been taken from the patient and her parents.

Conflict of Interests: There is no conflict to be declared

Funding: No source to be stated

Author's Contribution

All authors contributed equally in treatment, management and follow –up of the patient and in compilation of the case report.

5. References

1. Chintapatla S, Safarani N, Kumar S. Sacrococcygeal pilonidal sinus: Historical review, pathological insight and surgical options. Tech Coloproctol. 2003; 7:3-8.
2. Lion-Cachet J. Inter-mammary pilonidal sinus. S Afr J Surg. 1971; 9:141-2.
3. Murshid KR. Pilonidal sinus: Primary closure with low recurrence. Emirates Med J. 1996; 14:96-100.
4. Al-Jaberi TM. Excision and simple primary closure of chronic pilonidal sinus. Euro J Surg. 2001; 167:133-5.
5. Richardson HC. Intermammary pilonidal sinus. Br J Clin Pract. 1994; 48:221-2.
6. Hull TL, Wu J. Pilonidal disease. Surg Clin North Am. 2002; 82:1169-85.
7. Surrell JA. Pilonidal disease. Surg Clin North Am. 1994; 74:1309-15.
8. Ertan T, Koc M, Gocmen E. Does technique alter quality of life after pilonidal sinus surgery? Am J Surg Sep. 2005; 190:388-92.
9. Aksoy HM, Aksoy B, Egemen D. Effectiveness of topical use of natural polyphenols for the treatment of sacrococcygeal Pilonidal sinus disease: A retrospective study including 192 patients. Eur J Dermatol. 2010; 20:476-81.
10. Abbas O, Sidani M, Rubeiz N, Ghosn S, Kibbi AG. Letter: 755-nm Alexandrite laser epilation as an adjuvant and primary treatment for Pilonidal sinus disease. Dermatol Surg. 2010; 36:430-2.
11. Shareef SH, Hawrami TA, Salih AM, *et al*. Intermammary pilonidal sinus: The first case series. International Journal of Surgery Case Reports. 2017; 41:265-268. DOI: 10.1016/j.ijscr.2017.10.021.
12. Demiralay E, Höbek A, Altaca G. Inter-mammary pilonidal sinus; an extremely rare location: case report. BTDMJB. 2009; 5(2):78-79. [Google Scholar]
13. Sunkara A, Wagh D, Harode S. Intermammary pilonidal sinus. Int. J Trichol. 2010; 2(July (2):116-118.
14. Yavalkar P, Shelke R. Intermammary pilonidal sinus: a case report. Indian J Med. Case Rep, 2014, 3(2).
15. Salih AM, Kakamad FH, Abdulqadr MH. Intermammary pilonidal sinus: a rare presentation. Int. J Case Rep. Images (IJCRI). 2016; 7(1):48-50.
16. Salih A, Kakamad F, Essa R, Aziz MS, Salih RQ, Mohammed SH, *et al*. Pilonidal sinus of atypical areas: presentation and management. PSJ. 2017; 3(1):8-14.
17. Sengul I, Sengul D, Mocan G. Axillary pilonidal sinus: Fig. 1: histological appearance of pilonidal sinus (H&E stain), a case report. N. Am. J Med. Sci. 2009; 1(November (6):316-318.
18. Aithal SK, Rajan CS, Reddy N. Limberg flap for sacrococcygeal pilonidal sinus a safe and sound procedure. Indian J Surg. 2013; 75(4):298-301. doi:10.1007/s12262-012-0489-5