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Sebaceous Cyst-Induced Sinus at Natal Cleft Resemble as Recurrent Pilonidal Sinus: A Case Report

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ABSTRACT:
Sebaceous cyst (Epidermoid inclusion cyst) is a retention cyst caused due to blockage of the duct of sebaceous gland situated in the dermis and confined to the sub-cutaneous plane with no deeper tissue extensions. Whereas pilonidal sinus (PNS) is a chronic subcutaneous abscess in the natal cleft, which spontaneously drains through the openings. Case report: A 71-year-old female normo-sthenic, non-hirsute, non-diabetic and normotensive patient came to Shalya Tantra OPD with pus discharge from previously operated PNS scar at natal cleft since last 3 months in on/off manner associated with pain and itching. She had a surgical history of pilonidal sinus on 16/10/2022 and 18/12/2023. On examination single opening was present over the post-operative scar at natal cleft, but there was no presence of active discharge or fluid. USG of local part report revealed well defined hypoechoic collection. Up-on excision, the tract was found as sac with foul smelling sebaceous material. Complete excision of tract was performed. In histopathology report the diagnosis was confirmed as sebaceous cyst. Post operatively for intial 3 days antibiotics were given, then shifted to *Kanchanara Guggulu, Varunadi Kwath* orally and *Panchavalkal Malahara* for dressing. Patient got complete relief from pain, itching and pus discharge from natal cleft after surgical removal of sebaceous cyst and 20 days of daily dressing and oral conservative treatment. Follow-up was taken upto 7 months.

KEYWORDS: *Granthi*, Epidermoid inclusion cyst, Pilonidal sinus, Sebaceous cyst.

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INTRODUCTION:

Sebaceous cyst (Epidermoid inclusion cyst) is a retention cyst caused due to blockage of duct of sebaceous gland situated in dermis and confined to the sub-cutaneous plane with no deeper tissue extensions. [1] It contains yellowish white cheesy material with fat and epithelium. Common sites of sebaceous cyst are face, scalp and scrotum but can occur anywhere except palm and sole. Treatment includes complete excision of sac. Whereas pilonidal sinus (PNS) is a chronic subcutaneous abscess in the natal cleft, which spontaneously drains through the openings. The etiological factors are nature hairs; depth and narrowness of the natal cleft; friction movements; nature of the skin, obesity, moisture and sweating.[2] PNS is usually manifests in puberty and seldom occurs after the third or fourth decade of life with a fourfold higher incidence in males.[3] Here the unique case was found to be a sebaceous cyst induced sinus in natal cleft who had undergone two prior surgeries for PNS. As the symptoms recurred in the post operative scar of PNS it can easily confused or misdiagnosed as a case of recurrent pilonidal sinus.

CASE REPORT:

A 71-year-old homemaker female normo-sthenic, non-hirsute, non-diabetic and normotensive came to Shalya tantra OPD with complaints of pus discharge from post operative scar of PNS at natal cleft since last 3 months in on/off manner associated with pain and itching. She had surgical history of excision of tract of pilonidal sinus under local anesthesia on 16/10/2022 and 18/12/2023. There was no any history of allergy. Patient had no history of IHD, CKD and any other systemic co-morbidity. There was no any relevant family history.

Diagnostic criteria:

On local examination, inspection revealed patent single opening present on the post operative scar at natal cleft with no hair growth and natal cleft was relatively shallow in depth with no signs of maceration. Upon palpation temperature was slightly elevated, but there was no active discharge or fluid present. The depth of cavity was assessed by probing and was found to be approximately 2 to 2.5 cm. On per rectal examination, no communication was found between the cavity and the anal canal. (figure-1)

USG of Local part (sacral region) report revealed well defined hypoechoic collection of approximate size (2.2 cm * 2.8 cm) was noted in subcutaneous plane and reaching up-to overlying skin at local site. Surrounding skin and subcutaneous tissue appears echogenic and oedematous. Deeper communication was not ruled out. (Figure-2)

Patient was posted for surgical excision under local anesthesia as a recurrent case of pilonidal sinus. Necessary investigations were carried out including complete blood count, FBS, PPBS, lipid profile, renal profile, hepatic profile and serology (HIV, HBsAg, VDRL, HCV) and Chest Xray PA view, ECG, USG abdomen and pelvis as routine.

METHODOLOGY:

Pre-operative:

Prior to surgery, complete information was given to patient and informed written consent was taken. Injection Tetanus Toxoid 0.5 ml intramuscular (I/M) was not given (already given 3 months prior) and Inj. Xylocaine 0.1 ml intradermally (I/D) for sensitivity was done. Part preparation was done.

Operative:

After necessary blood investigations, patient was taken to minor operation theatre with

normal vitals and under aseptic precautions. Prone postion was given. Painting was done with povidone 10% solution followed by spirit. Draping was done with sterile cut sheet. Local anaesthesia, xylocaine with adrenaline solution (1:2,00,000 in concentration), approximately 5ml was given around the area. An elliptical incision is made with 15 number blade, 0.5mm lateral to the midline around post-operative scar, and then dissected layer by layer skin and sub-cutaneous tissue to connect with the chronic discharging sinus cavity. A probe was inserted to identify the tract of sinus. Up-on excision, the tract was found to be a sac of 2.6cm deep with foul smelling sebaceous material. A thorough examination and inspection of the area revealed that there was no presence of hair, no evidence of debris and there was no any connection with deeper planes. The findings were pointed towards a sebaceous cyst as the likely diagnosis. Complete excision of sac was performed. Later scooping was done with scoop to remove unhealthy tissues along with a thorough cleansing of the operated area. Complete haemostasis was achieved and sac was sent for histopathology to confirm the diagnosis. As per the histopathology report the diagnosis was confirmed as sebaceous cyst (Figure-3, 4, 5, 6). After excision the wound was packed with dry gauze and dynaplast.

Post-operative:

Patient was shifted to recovery room with normal vitals. Tab cefixime 200mg twice days for 3 days, Tab Zerodol SP twice daily for 3 days, Cap Pantocid DSR once daily for 3 days, Tab Becozyme-c-forte once daily for 10 days were given. Dressing was done with *Panchavalkal Malahara* after washing with *Panchavalkal Kwath*. As oral medication *Kanchanara Guggulu* (each 500 mg) two tablets thrice a day with luke-warm water after meal, *Varunadi kwath* 15ml with 45 ml luke-warm water twice a day before food were given for 20 days. Patient was discharged after 5 days and dressing was continued in outpatient basis for 20 days. (Figure 7, 8)

TIMELINE, FOLLOW-UP AND OUTCOME:

Timeline of the case is given in figure no.11. Patient got complete relief from pain, itching , pus discharge and complete wound healing was done within 20 days of treatment (Figure-9). Follow up was taken up to 7 months (Figure 10). There was no any recurrence and complications were found in follow up period up-to 7 months.

Figure 1: Pre-operative photo

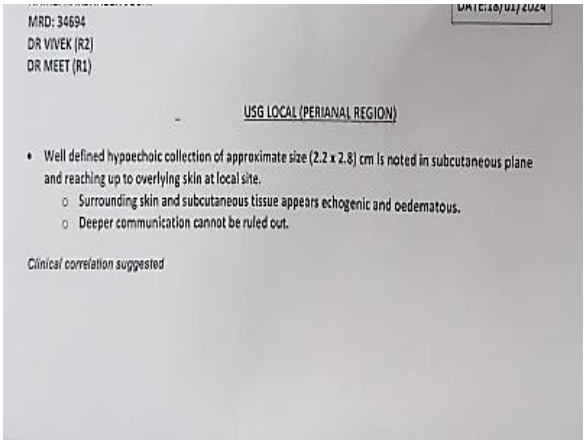


Figure 2: USG Local part

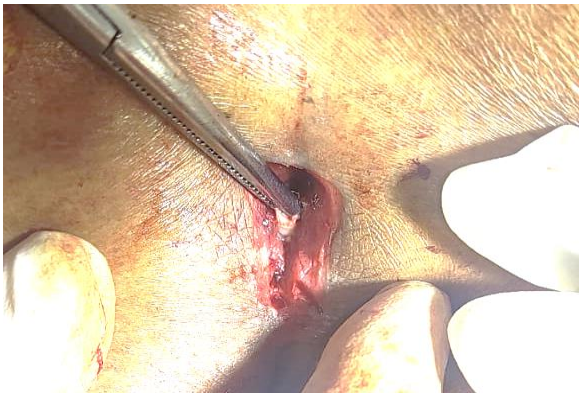
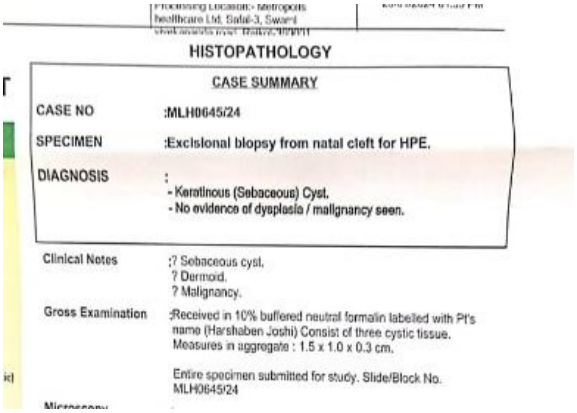


Figure 3: Durion OT photo,A sac of cyst is captured with Artery Forceps.

Figure 4:Complete removal of sac of cyst

Figure 5: Post operative photo



HISTOPATHOLOGY

CASE SUMMARY

CASE NO	:MLH0645/24
SPECIMEN	:Excisional biopsy from natal cleft for HPE.
DIAGNOSIS	: - Keratinous (Sebaceous) Cyst. - No evidence of dysplasia / malignancy seen.
Clinical Notes	:? Sebaceous cyst, ? Dermoid. ? Malignancy.
Gross Examination	:Received in 10% buffered neutral formalin labelled with Pt's name (Harshaben Joshi) Consist of three cystic tissue. Measures in aggregate : 1.5 x 1.0 x 0.3 cm. Entire specimen submitted for study. Slide/Block No. MLH0645/24

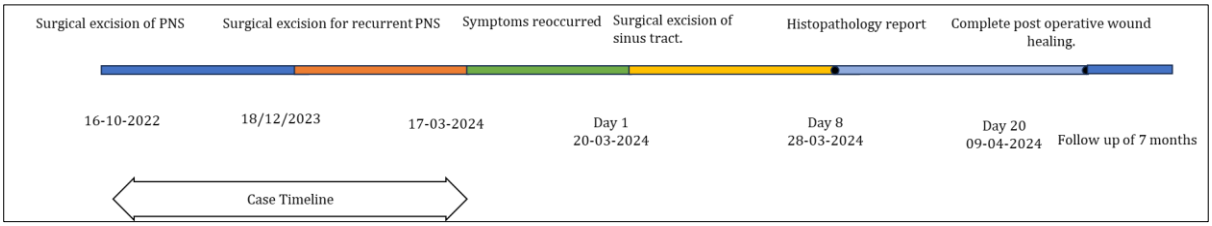
Figure 6: Histopathological report

Figure 7: Post operative day 10

Figure 8: Post operative day 15

Figure 9: Post operative day 20

Figure-10: Follow up after 7 months



Figre-11: Case timeline chart

DISCUSSION:

Sebaceous cyst are lined with true stratified squamous epithelium, derived from hair follicle infundibula or traumatic inclusion, commonly called as epidermoid cyst. Primary epidermal cyst form directly from infundibulum of hair follicle. Secondary epidermoid cyst can arise after the implantation of the follicular epithelium in the dermis due to trauma. [4] An infected cyst tends to be large with increased erythema, and it is more noticeable to patient. Punctum is present over the summit in 70% of cases because here duct opens directly into the skin which gets blocked. In 30% cases,duct opens into the hair follicle and so punctum is not seen.[5] Due to the inflammatory response, the cyst will often become painful results in rupture and extrusion of cyst contents into subcutaneous tissue. The source of infection is skin flora organisms, such as staphylococcus aureus and epidermidis. Definitive treatment includes complete surgical excision of sac along with contents. Incomplete removal can lead to complications such as infection, pain and recurrence.[6]

Here the patient had history of pilonidal excision. Records of first operation was not available. After one year patient had a recurrant PNS at the same site with pain and active pus discharge with primary opening along with secondary opening cranially in the midline 10mm apart, requiring further surgical intervention under local anaesthesia. During this procedure, debris and unhealthy tissue were removed. There was no findings suggestive of sebaceous cyst. Exactly after 3 months patient revisited with symptoms. USG local part reveals it as hypoechoic collection in subcutaneous plane. Patient surgical excision was planned as a recurrent case of pilonidal sinus. As the tract was found to be a sac, suspects the possible formation of a secondary epidermoid cyst, potentially caused by accidental implantation of

follicular epithelial cells into dermal layer during the post-operative wound healing phase. Histopathology report confirmed the diagnosis as sebaceous cyst.

In Ayurveda, it can be co-relate with *Medoj Granthi* in which prime vitiation caused by *Kapha* and *Medha.*[7][8] Patient was post operatively managed with *Kanchara Guggulu* which helps in balance of *Vata* and *Kapha*, reduces *Meda Dhatu* and having *Shothahara* (Anti-inflammatory) property.[9] *Varunadi Kwath* reduces *Kapha* and *Meda Dhatu.*[10] It also controls chronic inflammation.[11] *Panchavalkal* are the bark of *Vata* (*Ficus benghalensis* Linn), *Udumbhara* (*Ficus glomerata* Roxb), *Ashwatha* (*Ficus religiosa* Linn), *Parish* (*Thespesia populnea* Soland) and *Plaksha* (*Ficus lacor* Lin) having *Kapha-Vatahara* property and *Seeta* in *Virya.*[12] *Pachavalkal Malahara* and *Panchavalkal Kwath* were used for daily dressing has been proven to have anti-infective action against various micro-organisms through various studies. The Phyto-chemical constituents of *Panchavalkal* possess anti-microbial, anti-inflammatory, analgesic and wound healing activity.[13] Post operative wound was healed completely within 20 days.

This particular case suggests a possibility of implantation of follicular epithelial cells during wound healing and highlighting the importance of wound healing phase. As none of the typical etiological factors were present, and the patient was not within susceptible age group of PNS, we must consider other potential diagnoses such as furuncle in skin, an anal fistula, specific granulomas (e.g., syphilitic or tuberculous), osteomyelitis with draining sinuses in skin, actinomycosis in sacral region, and epidermoid inclusion cyst.[14]

CONCLUSION:

In summary, the case highlights the importance of considering multiple diagnosis including secondary epidermoid cyst especially when typical etiological factors are absent, recurrent case and the patient is outside the suspectible age range for providing appropriate treatment and achieving favourable result.

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Limitation of study:
This is only one case study, means it describes a single patient's experience, limiting the generalizability of findings.

Strength of study:
The article suggests a possibility of implantation of follicular epithelial cells during wound healing and highlighting the importance of wound healing phase.

Consent of patient:
The informed written consent has been taken from patient during enrolment for treatment and publication of the data without disclose the identity of patient.

Conflict of interest: The author declares that there is no conflict of interest.

Guarantor*:* The corresponding author is the guarantor of this article and its contents.

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