Case Report

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Pilonidal sinus in palmar webspace of a male barber: a case report with review of literature

Kailas K. Jawade^{1,2}*, Pranav G. Jawade³

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*Correspondence:

Dr. Kailas K Jawade,

E-mail: vkjawade@rediffmail.com

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ABSTRACT

Pilonodal sinus in the palmar web-space of a barber is an acquired occupational disease. The mechanism involved in the pathogenesis is the insult caused to the subcutaneous tissue due to constant friction and penetration of hair. It can recur after doing surgical excision as exposure to hair remains even after treatment. Therefore, it needs to be managed systematically to prevent recurrence. We are presenting a report of 35 year male barber presented with a recurrent discharging sinus in palmar web space which on further evaluation turned out to be a pilonidal sinus. We managed the patient with wide surgical excision with primary closure and to prevent recurrence we used modified gloves, which were specially designed for the patient. There was no recurrence seen for 6 months and hence the patient got completely cured of the disease. We are also presenting brief review of literature related to aetio-pathogenesis, prevention and management of this condition.

Kevwords: Pilonidal sinus. Palmar webspace. Barber. Gloves

INTRODUCTION

Pilonidal sinus is an acquired condition more commonly found in students and jeep drivers, who tend to sit for prolonged hours. Sacrococcygeal region and the other hair bearing areas are predominantly found to be involved. However a pilonidal sinus in the webspace is a very rarely seen clinical entity. Usually barbers and sheep shearers are commonly seen victims. This can basically be considered as an occupational disease in barbers when it involves their palmar webspace. As reported, male barbers are predisposed to this condition. Inter digital pilonidal cysts occur when hair clippings penetrate the skin of the web space and initiate a foreign body reaction, most commonly between the ring and middle fingers. This eventually results in the formation of sinus tract,

which further accumulates hair and may get infected in future leading to an infected and draining pilonidal sinus.⁴ However they tend to remain symptom free for a long time unless infected, which can further lead to complications. Here we present a case of a 35 year old male who is barber by occupation. Along with this the management, pathophysiology, histopathology and special emphasis on preventive measures, which must be taken are discussed in this case report. A detailed literature review has also been mentioned.

CASE REPORT

35 year male barber presented to surgical out patient clinic with history of chronic discharging sinus in the palmar web space for the period of more than one year.

¹Department of Surgery, Seth G.S Medical College & KEM Hospital, Mumbai, Maharashtra, India

²Consultant Surgeon at Care Plus Hospital, New Panvel, Raigad, Maharashtra, India

³Grant Government Medical College & Sir J. J Group of Hospitals, Mumbai, Maharashtra, India

Initially he developed small swelling in the web space for which he was treated with antibiotics and antiinflammatory drugs by general practitioner. With this treatment swelling opened with blood stained purulent discharge. After a month long treatment swelling was subsided but it continued to drain small quantity of seropurulent fluid. He approached us for getting definitive cure.

On examination he had an indurated area in the third web space with small pin point opening (Figure 1). It was tender and on applying pressure there was a single drop of purulent discharge coming through the opening. On probe test sinus was one centimeter deep. His haemogram revealed raised white cell count. The rest of the laboratory parameters were in the normal range.

As he was suffering from infected sinus he was initially treated with oral antibiotics (Amoxicillin + Potassium Clavilunate 625 mg twice a day for seven days) with Serratiopeptidase to decrease local in duration. After this wide surgical excision and curettage within 2 mm margin surrounding the sinus cavity was done. We found little hair at the base of the sinus (Figure 2). As wound was clean primary closure was done. His post-operative course was uneventful. His wound was healed well.



Figure 1: Small sinus opening with surrounding area of induration.

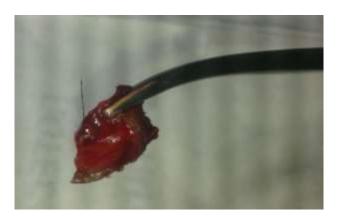


Figure 2: Excised pilonidal sinus tract with hairs at base.

As there was a possibility of recurrence he was advised to use tightly fitting surgical gloves which were cut on the area of palmar prominences and digital ends. This was useful to prevent exposure of digital web spaces to hair and also helped him to continue his work which involve various actions like combing hairs, doing head massage etc. With these gloves there was no recurrence seen for 6 months and hence the patient got completely cured of the disease.

DISCUSSION

Palmar webspace pilonidal sinus in a barber is basically an occupational disease. It commonly develops due to penetration of the tiny hair in the webspace. Pilonidal sinus is most commonly seen in sacrococcygeal region and very seldom one could find it in other hair bearing areas, where an anatomical cleft helps the hair to get dislodged.⁵ Occupational pilonidal sinus on the other hand is a rare clinical entity and tends to occur in non hair bearing areas and do not contain that particular individual's hair. This particularly is seen in barbers and is scarcely noted in male sheep shearer of which, only two cases have been reported with most recent in 1966 and the latest in 2011. Dog groomers or milker of cows can also get affected sporadically.^{2,6,7}

Incidence

Over 50 cases of palmar webspace pilonidal sinus have been notified till todays date. Males are more prone to develop this condition than female hairdressers. Owing to their proper cleansing techniques and habits, of the interdigital spaces, female show lesser incidence than males. In the year 1883, Herbert- Mayo were the first to publish the first case of a pilonidal disease. Further Allington and Templeton were the first to describe the condition of interdigital pilonidal sinus in 1942. In the year 1946 and 1948, Pattey and Scarf, emerged as pioneers in describing this clinical entity and further concluded that the disorder was an acquired condition caused by the penetration of hair clippings.

Etiology and Pathogenesis

The inter digital spaces are mostly susceptible to penetration by hair because the epidermis is very thin in this area and is prone to get irritated by moisturizing agents and shampoos and other chemical products that are frequently used by the barbers. Similarly the tile like formation of the cuticula can act as a barbed hook. These clasped hairs are sharp as needle and are also moist, electrostatic, and adhesive and preferably accumulate in the web spaces. The several etiologies include shampooing, force of a comb on finger webs, suction caused by negative pressure of the sinus cavity created by finger movement, propelling force of barber's finger movements in full adduction along with recurrent and chronic infections have been described in the literature.

Several theories have been proposed to explain the pathogenesis of the barbers' disease. Pattey and Scarf's theory suggested that pilonidal sinus occurs in two phases where in the organism getting dislodged in the tissue is the main culprit and leads to sinus formation. Similarly the hair fragments get clinched into the sinus cavity and create a negative pressure, which leads to its further suction inside the sinus cavity. The hair actually complicates the condition by producing a foreign body granuloma.¹²

In another interesting theory as proposed by Patel, the main event leading to this condition is the constant friction between the fingers wherein several tiny hair fragments of the customer get accumulated. The sharp and pointed hair actually crumble the skin beneath, which leads to sinus formation and further gets infected and thus initiates a foreign body reaction leading to a granuloma formation.⁴

Most of the times palmar webspace pilonidal sinus presents as a chronically discharging sinus. Apart from the classical granulation tissue, sinus tracts can at times be lined by the squamous epithelial tissue as well and in some cases even both the layers can be seen in layers. Inside the lesion, along with the squamous epithelial or granulation tissue lining, foreign body reaction can also be seen and also can be noted the fibrotic cicatrical tissue at times. ¹³

Course of the disease and treatment

Mostly the sinuses are asymptomatic and patients don't notice the condition until a chronic purulent discharging sinus formation takes place. Treatment can be initiated with antibiotics in order to control the infection and condition usually tends to stay benign. But however, sometimes in uncontrolled cases surgical excision and skin closure becomes mandatory. Removal of the dislodged hair and other conservative methods might not suffice the treatment alone and hence surgical excision followed by thorough curettage and skin closure is usually adopted treatment. Primary wound closure is widely accepted but however leaving the wound open and allowing it's healing by secondary intention can be required at times. Recently, flaps have been used by the surgeons. However a recurrence is noted on a large scale despite of adopting surgical treatment as patients commence their occupation of hair dressing after getting treated of their disease. 4,16 However wide surgical excision and curettage along with a long course of antibiotics like ampicillin and amoxicillin is considered to be the treatment of choice. Abscess formation, cellulitis, lymphangitis and osteomyelitis are quite a few possible complications associated with palmar webspace pilonidal sinus in barbers. 16-18

In our case no recurrence was noted and patient was discharged with specially designed gloves, which would allow him to continue his profession and ensure his safety from the disease to recur. Hand movements of the barber predominantly comprise of 'hair cutting', 'combing' and 'massaging'. Finger tips along with thenar and hypothenar eminence of the palms are usually used for the purpose of massage by the barbers. The usual sizes in which gloves come are 6, 6.5 and 7. We specially designed gloves for this patient, which were tight fitting in nature. Finger tips of the gloves were cut and so was the thenar and hypothenar eminence so that the gloves wouldn't affect the massaging movements at the respective regions of the palms and thereby allowing him to carry forward his occupation with ease.



Figure 3: Preparation of indigenous gloves.

(A) Tight fitting gloves.

(B) Thenar and hypothenar prominences along with finger tips marked as shown.

(C) Marked area cut & removed.

(D) Surgical gloves after wearing by patient.

CONCLUSION

Pilonidal sinus in webspace of a barber is very much a preventable condition. Use of such gloves and proper cleansing and drying techniques along with use of protective barrier creams, adhesive band aid strips or fingerless gloves which maintain pulp sensitivity must be encouraged in barbers to prevent the development of this disease. Surgical excision with special emphasis on curettage and an antibiotic course should be considered as the mainstays of treatment.

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