

Pilonidal sinus of the umbilicus: Presentation and management

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ABSTRACT

Pilonidal sinus disease is seen most commonly in the sacrococcygeal area. Umbilical pilonidal sinus is a rare form of the condition with few studies about its clinical course and management. The current review is to highlight the presentation and management of umbilical pilonidal sinus. Literature review revealed 25 papers which contained 385 patients complaining from umbilical pilonidal sinus. Chronic discharging sinus and pain were the two most common presenting symptoms. Both conservative and surgical management were effective methods of therapy.

Keywords: Chronic discharging sinus, Pilonidal sinus, Umbilicus

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INTRODUCTION

Pilonidal sinus (PNS) term came from pilus (hair) and nidus (a nest) which was first coined by Hodges in 19th century [1]. Patients with PNS complain of pain, purulent discharge, swelling and scaling of the surrounding skin [2]. Pilonidal sinus was originally regarded as a congenital disease, but lately increasing report of interdigital PNS in barbers suggests its acquired origin [2]. About 70 years ago, Patey and Scarff suggested the mechanism of PNS formation by hair movement from the surrounding skin and puncturing under frictional impact [3]. Pilonidal sinus is seen most commonly in the sacrococcygeal area. However, it may occur in other areas like anal canal, scalp, face, submental area, intermammary region, axilla, interdigital web and pre and post auricular areas [4–6, 8, 9]. Umbilical pilonidal sinus (UPS) is a rare form of the condition with few studies about its clinical course and management. However, it may be actually more common than previously thought [9].

There is no consensus regarding the management of UPS. Various techniques have been suggested as treatment for UPS. They include removing the hair and cotton-like dirt in an outpatient fashion [10], excising the umbilicus without reconstruction [11], sinus excision [12] with cosmetic umbilical reconstruction [13], and total omphalectomy as a primary treatment or for treating recurrent disease [9, 13]. The current review is to highlight the presentation and management of UPS supported by extensive literature review.

METHODOLOGY

PubMed data base, Google scholar engine, Cochrane library and web of science have been searched for the key words pilonidal sinus of umbilicus, umbilical pilonidal sinus, pilonidal sinus of atypical area, pilonidal sinus of unusual area). The search was done on first of December, 2016. Which showed 151 items. From which, 120 papers were excluded by title as from the title they were irrelevant. From the remaining 31 papers, six articles were excluded because they were not fulfilled the inclusion criteria. The inclusion criteria were any article which mentioned presentation and management provided that the PNS occurred in umbilicus. The remaining 25 articles discussed and presented separately for some variables especially when there is interesting and strange finding and collectively (meta-analysis) for others.

RESULT

The resulting 25 articles contained 385 patients complaining from PNS of umbilicus. From these, 329 cases (85.5%) were male, 56 cases (14.5%) were female, with mean age of 36.5 years ranging from 17–56 years. Discharging sinus was the most common presenting symptoms occurring in 225 patients (58.4%) in two of them were bloody, pain was occurred in 165 patients (42.9%), swelling was reported in 59 patients (15.3%). The duration of presentation was highly variable ranging from one day till four years. Conservative treatment for 209 cases (54.3%) has been done, excision, umbilectomy with the primary repair was performed under general anesthesia in 176 cases (45.7%). Regarding distribution

of patients according to country of origin; 156 patients (40.5%) were from Iran, 134 patients (34.8%) were from Iraq, 57 (14.8%) were from Turkey and 6 patients (1.5%) were from India. Table 1 gives various large case series published in literature [14–19].

DISCUSSION

Eryilmaz et al. suggested predisposing factors for UPS such as hairiness, young age, male sex and poor personal hygiene [18]. The current review confirmed some of these risk factors for developing UPS. According to the result of this review, UPS mostly occurs in male patients (85.5%). The average age of presentation is 36.5 years [9]. Usually, PNS occur in hair dressers and drivers as the latter have history of prolonged sitting and the former work manually with and frequently expose to hairs [9]. Umbilical pilonidal sinus does not have specific job prediction. It is reported to occur in student, drivers, hair dressers, tailors. This in spite of the fact that several authors did not report the job of their patients which again may indicate that the job does not have impact on the aetiology and development of the disease [13, 20, 21].

The most common presenting symptom of UPS is chronic discharging sinus (58.4%), rarely associated with bleeding; this is the same scenario of PNS occurring in other areas [22]. According to literature, there is no standard treatment for UPS [23–30]. Some authors remove the tuft of hair only, while others offer hair removal, curetting of the cavity, and silver nitrate application for granulomas for non-operative treatment [23]. According to this review, more than half UPS cases are managed conservatively (54.3%). For cases that are resistant to conservative management, surgical excision would be the definitive treatment with reconstruction of the umbilicus [31–33]. However, the only randomized, prospective, controlled, double blind study conducted by Kaplan et al. supports surgical management for UPS [34].

The strange finding of this review is the residency of the patients. Almost all cases of UPS were reported to occur in Middle East countries. About 90% of UPS occurred in Iran (40.5%), Iraq (34.8%) and Turkey (14.8%) [14–19]. High incidence of UPS in these three countries may be explained by the cultural and traditional factors. People in these areas believe that umbilicus is a delicate structure

Table 1: Various large case series published in literature

Authors	Year of publication	No. of cases	No. of males	Surgical/ conservative management
Kareem et al.	2013	134	121 (90.2%)	76.19%/23.81
Sarmast M et al.	2011	51	35 (68.6%)	90%/10
Fazeli, MS et al.	2008	45	39 (86.5%)	All underwent surgery
Coşkun, A et al.	2011	31	27 (87%)	-
Eryilmaz R et al.	2005	26	24 (92.3%)	96%/8%
Shirangi et al.	2014	60	55 (91.7%)	All underwent surgery

and it is dangerous to be manipulated too much! This leads to accumulation of hairs and dirty material with subsequent chronic infection and inflammation and hair penetration. However, more studies with higher statistical power are necessary to confirm and explain this finding. Kareem et al. reported the largest case series of UPS which contained data about 134 patients from Iraq with age range from 17–36 years. The number of male patients was 121 and female patients was 13. Surgical intervention was only indicated in two patients [14]. The second largest case series was reported in Iran by Shirangi et al. It included 60 patients with male to female ratio 55:5. Umbilectomy and reconstruction strategy was used in 30 patients while only excision was performed in others [19]. Sporadically, cases of UPS reported in countries other than Middle East [35–38]. Haj et al. published the report of 12 patients complaining from UPS from Israel. The paper contained eight males and four females ranging from 18–30 years old [38]. All of them were treated with excision under general anesthesia. Ponten et al. reported three cases of UPS from Nederland, two males and one female, with age 25, 52, 27 years respectively. Two cases were managed with excision of umbilicus and primary closure while the other treated conservatively [36].

CONCLUSION

In conclusion, Umbilical pilonidal sinus are more common in male and in Middle East countries especially in Iran, Iraq and Turkey. Chronic discharging sinus and pain are the two main presenting symptoms. The disease might respond to conservative management. When resistant to conservative therapy, surgical excision and reconstruction is the alternative effective management.

Author Contributions

Abdulwahid M. Salih – Substantial contributions to conception and design, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Fahmi H. Kakamad – Substantial contributions to conception and design, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Rawand A. Essa – Substantial contributions to conception and design, Drafting the article, Final approval of the version to be published

Shvan H. Mohammed – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Rawezh Q. Salih – Acquisition of data, Revising it critically for important intellectual content, Final approval of the version to be published

Snur Othman – Substantial contributions to conception and design, Drafting the article, Final approval of the version to be published

Zuhair D. Hammood – Substantial contributions to conception and design, Drafting the article, Final approval of the version to be published

Yadgar A. Saeed – Substantial contributions to conception and design, Drafting the article, Final approval of the version to be published

Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

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