

# Evaluation of Post-operative Use of Depilating Creams on Incidence of Recurrence after Surgical Treatment of Chronic Pilonidal Sinus

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**Objectives:** We aimed to evaluate the depilating cream's usage on the recurrence after the surgical treatment of pilonidal sinus.

**Methodology:** This is a prospective randomized study of all patients admitted to Fayoum university hospital for surgical procedures treatment of chronic pilonidal sinus disease from May 2015 to March 2017.

**Results:** The follow-up period for PSD in our study was 12 months, during which we encountered 3 cases of recurrence, all of them in the group (B). In our study, we found that the percentage of males with pilonidal sinuses was more than females, and, also females suffered from lower rates of complications and no recurrence. Our study included patients with different occupations; PSD was found to be more common in particular jobs such as jeep drivers, workers who sit for more than six hours per day, and students.

**Conclusion:** The usage of the depilatory cream after surgical treatment of PSD may be promising; leaving hair without epilation was reported to have a higher rate of complication and recurrence than hair epilation.

**Key words:** Pilonidal sinus disease, depilatory creams, hair epilation.

## Introduction

Pilonidal sinus disease (PSD) is an acquired chronic disorder located in the natal cleft, a common source of morbidity and loss of work productivity in healthy young adults.<sup>1</sup> It limits the patient's lifestyle and results in loss of productive power.<sup>2</sup> PSD more commonly affects young males with a ratio of 4 to 1.<sup>3</sup> Truck drivers, students, and other occupancies associated with prolonged sitting are more prone to have PSD.<sup>4</sup>

Various non-surgical and surgical methods were described for treatment, e.g., simple incision and drainage, lying open, marsupialization, excision with primary closure, or rhomboid excision and flap coverage.<sup>5-7</sup> Despite these methods, the disease often leads to postoperative complications and recurrence.<sup>8</sup> Male patients, increased body mass index, smoking, family tendency, bad body hygiene, size and branching of the sinus, and the surgical procedures performed have been confirmed in numerous studies as primary risk factors for postoperative complications and recurrence.<sup>1,7,9,16</sup> Management plans shouldn't be directed only at surgical eradication of the PNS and preventing recurrence. Removing the hair in the natal cleft can avoid inflammation and recurrence of the disease. Many epilation methods had been used for hair removals such as laser, depilatory creams, and razors.<sup>10</sup>

In this comparative study, we adjusted the same surgical procedure in all patients; half were selected randomly to use epilating creams postoperatively, with the second half left for comparison. We aimed

to analyze whether depilatory cream postoperatively will affect postoperative complications and recurrence in PSD during the follow-up period.

## Patients and methods

This is a prospective randomized study of all patients admitted to Fayoum university hospital for surgical treatment of chronic PSD from May 2015 to Mars 2017, informed consent was obtained from all patients, and the local ethics committee approved the study. Our study included 66 patients; they were divided randomly into two groups, group (A) and group (B), in which epilation cream was used for 12 months postoperatively in group (A), and no epilation was used in the other one group (B).

Patients who presented with acute abscess, recurrent case, or significant induration and scaring at the flap area were excluded.

## Operative technique

All operations were done under spinal anesthesia, and a rhomboid-shaped incision was planned to excise the sinus or sinuses. This was guided by methylene blue injection. The pilonidal sinuses were encircled by rhomboid incision" caudal and cranial ends" with all secondary orifices. Left-sided rhomboid transposition fasciocutaneous flap incorporating the gluteal fascia was fully mobilized on its inferior edge and transported medially to fill the rhomboid defect. The defect in the gluteal region was closed primary.

## Postoperative instructions& follow up:

Hair epilation (By creams) in the group (A)

started just after complete healing of the wound and removal of all stitches on a surface area that included the whole natal cleft and the flap area (about 15 cm distance), repeated hair epilation was carried out every two weeks for 12 months. Patients were reviewed one week after surgery for dressing, then after two weeks to remove a half number of stitches, then after three weeks to remove the other half, followed up every month till 12 months. The follow-up data were analyzed with particular reference to infection, dehiscence, and recurrence. Recurrence is defined as any persistent purulent bloody stained discharge from the previously or newly operated area during the follow-up period.

Statistical analysis was carried out using statistical program for social science (SPSS) version 20.0 quantitative; data were expressed as means  $\pm$  standard deviation. Qualitative data were expressed as frequency and percentage. A t-test of significance was used for independent samples when comparing two means. In addition, the Chi-square (X<sup>2</sup>) test of significance was used to compare proportions between two qualitative parameters.

## Results

The study included 66 patients, 54 patients (81.8%) were males, 29 of them in the group (B), 25 patients

in group (A), 12 patients (18.2%) were females, 8 in the group (A), and 4 in the group (B) as shown in **(Table 1)**.

**(Table 2)** shows that the age of patients in group (A) ranged between 15 and 37, with mean age (25.82), age of patients in group (B) ranged between 19 and 35 with mean age (24.64).

BMI of patients in group (A) ranged between 23.49 to 31.66 with a mean (28.18%), while BMI in the group (B) ranged between 22.91 and 42.35 with a mean of 30.63 **(Table 3)**.

In group (A), 12 patients (36.4%) had simple non-branched sinus, 21 patients (63.3%) had branched sinus. In group (B) also 12 patients (36.4%) had simple non-branched sinus, 21 patients (63.3%) had branched sinus as listed in **(Table 4)**.

**(Table 5)** shows that recurrence within 12 months occurred in 3 patients in group (B), no recurrence occurred in the group (A).

**(Table 6)** includes different jobs of Our patients, 21 patients were students (31.8%), 27 patients were workers (40.9%), six patients were drivers (9.1%), 3 were tailor, 3 were security members, 3 were housewives, and 3 were teachers.

**Table 1: Sex distribution**

Sex		Group A	Group B	Total
Male	N	25	29	54
	%	75.75%	88%	81.8%
Female	N	8	4	12
	%	24.24%	12%	18.2%
Total	N	33	33	66
	%	100.0%	100.0%	100.0%
Chi-square	X <sup>2</sup>		4.889	
	P-value		0.027*	

**Table 2: Age distribution**

Age	Group A	Group B
Range	15 – 37	19 – 35
Mean $\pm$ SD	25.82 $\pm$ 7.83	24.64 $\pm$ 5.14

**Table 3: BMI distribution**

BMI	Group A	Group B
Range	23.49- 31.66	22.91-42.35
Mean $\pm$ SD	28.18% $\pm$ 2.91	30.63 $\pm$ 7.31

**Table 4: Sinus description**

Description of sinus		Group A	Group B	Total
Simple	N	12	12	24
	%	36.4%	36.4%	36.4%
Branched	N	21	21	42
	%	63.6%	63.6%	63.6%
Total	N	33	33	66
	%	100.0%	100.0%	100.0%
Chi-square	X <sup>2</sup>		0.0	
	P-value		1.0	

**Table 5: Incidence of recurrence**

Follow up		Group A	Group B	Total
Recurrence	N	0	3	3
	%	0%	9.1%	4.5%
No recurrence	N	33	30	63
	%	100.0%	90.9%	95.5%
Total	N	33	33	66
	%	100.0%	100.0%	100.0%
Chi-square	X <sup>2</sup>		0.0	
	P-value		1.0	

**Table 6: Job distribution**

Job		Group A	Group B	Total
Student	N	9	12	21
	%	27.3%	36.4%	31.8%
Worker	N	12	15	27
	%	36.4%	45.5%	40.9%
Teacher	N	0	3	3
	%	.0%	9.1%	4.5%
Tailor	N	3	0	3
	%	9.1%	.0%	4.5%
Driver	N	6	0	6
	%	18.2%	.0%	9.1%
Security	N	0	3	3
	%	.0%	9.1%	4.5%
Housewife	N	3	0	3
	%	9.1%	.0%	4.5%
Total	N	33	33	66
	%	100.0%	100.0%	100.0%
Chi-square	X <sup>2</sup>		6.254	
	P-value		0.395	

## Discussion

None of the patients who underwent epilation by creams or group(A) showed recurrence of pilonidal sinus, but in the group (B), recurrence occurred in three patients. These results are in agreement with that reported by (EA Badawy and M.N Rianawai),<sup>11</sup> while in this study, the laser was used instead of creams postoperatively with no recurrence after six months follow up; however, another study showed that hair removal by razors increased the rate of long term recurrence after surgery for pilonidal sinus.<sup>12</sup> The present study included 66 patients, and we found that the percentage of males with pilonidal sinuses was more than females, which is in agreement with almost all previous studies. Fifty-four patients (81.8%) were males, and 12 patients (18.2%) were females. In another study by Mentès and his colleagues, among 493 patients, 490 (99.4%) were males, and 3 (0.6%) were females.<sup>13</sup> Their results reflected that the disease is nearly exclusive to males and the percentages of males are higher than reported in the present work. This difference may be attributed to different socio-cultural factors and the small sample size of the present study compared to their study. In this study, no hematoma occurred due to the presence of a suction drain. Krand et al. believed that performing hemostasis by electro-cautery and reducing dead sections in the surgical area minimizes hematoma development to a minimum and eliminates the need for drainage.<sup>14</sup>

In our study, wound dehiscence developed in 6 patients (18.2%), one in the group (A) and 5 in the group (B). these results are more than reported by 15 Wound dehiscence occurred in 12 patients (6%) of total 200 patients. Therefore, wound dehiscence could be another risk factor for recurrence.<sup>15</sup> We start using epilation cream after complete healing, so the lower incidence of recurrence in group A compared to group B may relate to the lower incidence of wound complication, especially wound dehiscence in group A.

PSD is more common in particular jobs,<sup>4</sup> such as jeep drivers, workers who sit for more than six hours per day, and students. Our study included patients with different occupations; however, jobs at risk such as workers and students were more in the group (B), and drivers were found to be more (A).

## Conclusion

Using depilatory creams for patients with pilonidal sinus after surgery may be promising. On the other hand, leaving hair without epilation in patients with chronic Pilonidal sinus postoperative was reported to have a higher rate of complications and recurrence than hair epilation. Therefore, it would have been preferable if our study dealt with hair as one risk factor and its relation to other risk factors that were

included in our studies, such as gender, occupation and surgical technique between groups (A) & (B). However, our study was randomized and included other risk factors related to hair.

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