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## COMPARISON OF EARLY RECURRENCE IN PILONIDAL SINUS FOLLOWING EPSiT TECHNIQUE VERSUS OPEN EXCISION.

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### ABSTRACT

**BACKGROUND:** Pilonidal sinus, a frequently occurring and recurring disease, poses a complex predicament for both patients and healthcare practitioners. **OBJECTIVE:** To compare early recurrence in pilonidal sinus following EPSiT technique versus Open excision. **MATERIAL & METHODS:** This controlled trial study was conducted on 60 patients presenting with pilonidal sinus, patients undergoing EPSiT technique were placed in group "A" while patients undergoing open excision will be placed in group "B". Early recurrence was compared between both groups. **RESULTS:** Group A was 37.27±12.48 years. In Group B, the average age was 40.10±11.23 years. The occurrence of early recurrence in group A was considerably lower compared to group B (P = 0.004). **CONCLUSION:** EPSiT technique was more effective with significantly lower incidence of early recurrence as compared to open excision in pilonidal sinus (P = 0.004).

**KEY WORDS:** recurrence, EPSiT technique, Open excision, pilonidal sinus

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### INTRODUCTION

Pilonidal sinus, a frequently occurring and recurring disease, poses a complex predicament for both patients and healthcare practitioners. Pilonidal disease is defined by the development of a cyst or sinus tract in the sacrococcygeal region<sup>1</sup>. Typically, surgical intervention is necessary to relieve symptoms and prevent the condition from coming back. Throughout time, many surgical methods have been used to deal with this problem, and the Excision and Primary Sutured Excision of the Pilonidal Sinus (EPSiT) technique has emerged as a substitute for the conventional open excision<sup>2,3</sup>.

Pilonidal disease predominantly impacts individuals in their early adulthood. The condition is thought to occur when hair follicles penetrate the skin, leading to irritation and the development of sinus tracts. The condition symptoms range from mild discomfort to excruciating pain and because it occurs frequently surgical intervention is frequently necessary<sup>4,5</sup>. The standard procedure for open excision involves sealing the hole once the sinus tract and any surrounding tissue have been completely removed. However this procedure has been associated with lengthy recovery times a high

rate of complications and a high chance of recurrence<sup>6,7</sup>.

In recent years, the EPSiT technique has gained popularity as a less invasive option to open excision. With EPSiT a small incision is made to completely remove sinus tracts and pits and the wound is quickly closed<sup>8</sup>. Many factors such as patient characteristics surgical technique and postoperative care influence the recurrence of pilonidal sinus. The chance of an early recurrence can be influenced by the intricate architecture of the sacrococcygeal area variations in the rate at which wounds heal and disparities in the skill levels of surgeons<sup>9-11</sup>. To guide clinical decision making as they dive into the subtleties of these aspects, researchers need to have a solid grasp of the comparative outcomes between EPSiT and open excision<sup>12</sup>. Surgeons in the challenging and dynamic field of pilonidal sinus treatment are always searching for the most effective approaches to reduce the recurrence risk. Important details regarding the advantages and restrictions of each therapy are revealed by contrasting EPSiT with open excision in terms of early recurrence. Comparing EPSiT vs open excision in terms of early recurrence provides important information about the benefits and limitations of each technique. As these surgical techniques are investigated further improved outcomes and greater patient satisfaction in the treatment of pilonidal disease will undoubtedly arise from a thorough understanding of patient selection surgical technique and postoperative care.

#### **MATERIAL AND METHODS**

This controlled trail study was conducted after getting approval from our hospital's ethical committee from April 2023 to October 2023, all patients presenting to outpatient department of surgical "C" unit KTH Peshawar with pilonidal sinus and having age above 18 years was invited to become a part of this study. Recruitment of the patients for this study was done in OPD. All of the patients were admitted to surgical ward. Informed consent was taken. All patients undergoing EPSiT technique were placed in group "A" while patients undergoing open excision were placed in group "B". All the information was kept confidential.

Following admission, initial eligibility screening was performed, and all patients who met the inclusion criteria were enrolled in the research, while those who met the exclusion criteria were excluded. The diagnosis of pilonidal sinus was made solely based on

physical examination. Pilonidal sinus disease was identified in all individuals who presented with a discharging sinus in the natal cleft and epithelialized follicular opening in that location, as well as profound induration beneath the skin on probing in the sacro-coccygeal region. An investigator gathered preoperative data. A surgeon with experience in VAAFT, EPSiT, and open surgery was assigned to execute the procedures. All surgeries were carried out under general anesthesia. Antibiotic prophylaxis was performed with I/V ceftriaxone 1gm first at the time of anesthesia induction and then two doses six hours apart in the post-operative period, followed by oral Co-amoxiclav for 5 days BD post-operatively. Once anesthetized, patients in group "A" were placed in a prone position with their legs slightly apart. The procedure was divided into two stages: diagnostic and surgical. Using a manitol-glycine 1% solution, the anatomy of the tract and any subsidiary tracts present were determined. During the operational phase, the external aperture was excised, a Meinroftoscope was introduced, and all hairs and debris were removed using an endoscopic brush before direct ablation was performed using cautery. After anesthesia, the patient in group "B" was positioned in a jack-knife posture with hips strapped apart, an elliptical incision was made, and the sinus and its tract were excised with fine margins. The wound was left exposed. And daily dressing was done following a usual saline wash. Following epithelialization, frequent outpatient department follow-up was indicated on the second and fourth week, followed by the second, fourth, and sixth month post procedure. Data was analyzed using SPSS 23.0. Gender, Socioeconomic class and early recurrence were described as frequency and percentages. Age and weight were described as mean  $\pm$  standard deviation. Early recurrence was compared in the two groups using chi Square test at 5% level of significance. Comparison of early outcome was assessed for association with gender. Post stratification chi square test was applied in which P value  $\leq 0.05$  was considered as significant value.

#### **RESULTS**

Sixty patients with pilonidal sinus disease divided equally in two groups. Regarding distribution of age, in Group A 19 (63.3%) patients were between 18-40 years, eleven (36.7%) patients were between 41-60 years.

Mean age was  $37.27 \pm 12.48$  years and in Group B 16 (53.3%) patients were between 18-40 years, fourteen (46.7%) patients were between 41-60 years. Mean age was  $40.10 \pm 11.23$  years. Gender distribution showed that in Group A 22 (73.7%) were male and 8 (26.7%) female patients while in Group B 20 (66.7%) were male and 10 (33.3%) were female patients. Mean weight was  $40.10 \pm 11.23$  kg in group A while  $80.50 \pm 5.50$  kg in group B. Socio economic status showed that in Group A 14 (46.7%) patients were from lower class, twelve (40%) patients were from middle class and 4 (13.3%) patients were from the upper class.

Where as in Group B 12 (40%) patients were from lower class, thirteen (43.3%) patients were from middle class and 5 (16.7%) patients were from the upper class.

In Group A 4 (13.3%) patients had early recurrence while 26 (86.7%) patients didn't have early recurrence. Where as in Group B 14 (48.3%) patients had early recurrence while 15 (57.1%) patients didn't have early recurrence. The incidence of early reoccurrence in group A was significantly lower than group B ( $P = 0.004$ ). The incidence of recurrence was significantly higher in males ( $P = 0.007$ ).

**Table 1: Comparison of early recurrence between both groups.**

		Early recurrence		Total	P value
		Yes	No		
Groups	Group A (EPSiT technique)	4	26	30	0.004
		13.3%	86.7%	100.0%	
	Group B (Open excision)	14	15	29	
		48.3%	51.7%	100.0%	
Total		18	41	59	
		30.5%	69.5%	100.0%	

**Table 2: Comparison of early recurrence between both groups w.r.t gender**

Gender			Early recurrence		Total	P value
			Yes	No		
Male	Groups	Group A (EPSiT technique)	3	19	22	0.007
			13.6%	86.4%	100.0%	
		Group B (Open excision)	10	9	19	
			52.6%	47.4%	100.0%	
	Total		13	28	41	
		31.7%	68.3%	100.0%		
Female	Groups	Group A (EPSiT technique)	1	7	8	0.19
			12.5%	87.5%	100.0%	
		Group B (Open excision)	4	6	10	
			40.0%	60.0%	100.0%	
	Total		5	13	18	
		27.8%	72.2%	100.0%		

## DISCUSSION

Sacroccygeal Pilonidal Sinus (SPS) is a medical condition defined by an inflammatory lesion in the area between the buttocks, specifically involving the skin and underlying subcutaneous tissue. The disease was initially described by Mayo in 1833, followed by Anderson in 1847. The most recent description of SPS was provided by Hodges in 1887.<sup>13</sup>

Our analysis demonstrates that the average age in Group A was  $37.27 \pm 12.48$  years. In Group B, the average age was  $40.10 \pm 11.23$  years. In Group A, 22 patients (73.7%) were male and 8 patients (26.7%) were female. In Group B, 20 patients (66.7%) were male and 10 patients (33.3%) were female. Within Group A, 4 individuals (13.3%) experienced early

recurrence, but in Group B, 14 patients (48.3%) had early recurrence. The occurrence of early recurrence in group A was considerably lower compared to group B ( $P = 0.004$ ).

In a study conducted by Muazzam MA et al<sup>14</sup> the average age of the patients was  $28 \pm 2.6$  years. Every patient successfully concluded the follow-up. The 94 patients were evenly divided between EPSiT and EPC. The patients have concluded the follow-up. The 94 patients were evenly divided between EPSiT and EPC. The average length of surgery for EPSiT was 34.5 minutes, with a range of 30-39 minutes. For EPC, the average surgery duration was 40.5 minutes, with a range of 35-46 minutes. The median hospital stay for EPSiT was 8.5 hours,

with a range of 4-14 hours. For EPC, the median hospital stay was 21.5 hours, with a range of 15-28 hours. The rate of wound healing in EPSiT was 93.6%, while in EPC it was 81%. The incidence of wound complications was lower for EPSiT 3 (6.3%) and 8 (17%) compared to EPC, while the difference was not statistically significant (p-value 0.108). There was a single instance of wound dehiscence documented in the EPC. The incidence of recurrence in EPSiT was 3 cases (6.3%) and in EPC it was 9 cases (19.1%).

In a separate investigation conducted by Enriquez-Navascues JM et al<sup>15</sup>, various methods were compared, including conservative open management and primary closure. The study concluded that enbloc or radical excision with off-midline wound closure provides certain advantages, but also carries a greater risk of recurrence (75% vs 25%) when compared to open healing.

Another study conducted by Smid D et al<sup>16</sup> found that the postoperative results of patients with EPC were consistent with the existing literature. The literature reported a wound complication rate of 20% and a recurrence rate of 19-25%, while the study found rates of 17% and 19.1% respectively.

In a separate study conducted by Chia CL et al<sup>17</sup>, it was found that the outcomes after surgery were similar to those reported in a prior study, with a 94.8% rate of complete healing and a 5% rate of recurrence.

### CONCLUSION

In the light of the above discussion and our results, we conclude that EPSiT technique was more effective with significantly lower incidence of early recurrence as compared to open excision in pilonidal sinus (P = 0.004).

**ETHICS APPROVAL:** The ERC gave ethical review approval.

**CONSENT TO PARTICIPATE:** written and verbal consent was taken from subjects and next of kin.

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