

Patients Undergoing Surgery for Pilonidal Sinus in the Department of Surgery in a Tertiary Care Centre: A Descriptive Cross-sectional Study

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ABSTRACT

Introduction: Pilonidal sinus refers to a condition that results when hair penetrates the natal cleft skin, leading to granuloma formation and induces secondary infection and abscess formation. This study aims to find the prevalence of patients undergoing surgery for pilonidal sinus out of total surgeries performed in the Department of Surgery at a tertiary care centre.

Methods: This descriptive cross-sectional study was conducted among patients with pilonidal sinus at a tertiary care hospital from 16 July 2021 to 14 June 2022 after obtaining ethical approval from the institutional review committee and was conducted retrospectively from 01 March 2022 to 30 June 2022 using medical records. All patients who underwent surgery in the Department of Surgery during the specified period were included in the study, with entries containing missing data being excluded. A convenience sampling method was used. The point estimate was calculated at a 95% confidence interval.

Results: Among 1812 patients undergoing surgery, 30 (1.66%) (1.07-2.24, 95% Confidence Interval) patients had undergone surgery for pilonidal sinus. Among them, 26 (86.67%) were male patients, while 4 (13.33%) were female patients.

Conclusions: The prevalence of patients undergoing surgery for pilonidal sinus is found to be similar to other studies in similar settings.

Keywords: *pilonidal sinus; prevalence; surgery.*

INTRODUCTION

Pilonidal sinus is a suppurative condition that results from the suction of hair from surrounding soft tissue and skin, ultimately leading to a foreign body reaction and foreign body granuloma. It affects approximately 0.7% of the population, with an incidence of around 25 cases per 100,000 individuals.^{1,2} When hair penetrates the natal cleft's skin, a reaction to a foreign object results in the formation of a cyst and sinus, which can then induce secondary infections and abscess formation. Risk factors such as stiff hair, obesity, a sedentary lifestyle, and

constipation contribute to pilonidal sinus.³

Pilonidal disease is diagnosed clinically based on a patient's history, physical examination (including anorectal examination), and assessment of risk factors and symptoms. During a physical examination, midline pits in the superior gluteal cleft may be linked to lateral tracking sinuses or cephalads.⁴

The study aims to find the prevalence of patients undergoing surgery for pilonidal sinus out of total surgeries performed in the Department of Surgery at a tertiary care centre.

METHODS

This descriptive cross-sectional study was conducted at the Department of General Surgery, Bir Hospital, National Academy of Health Sciences, Mahaboudha, Kathmandu, Nepal. The study commenced after receiving ethical

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approval from the Institutional Review Committee of the National Academy of Health Sciences (Reference number: 867/2080/81). Data collection spanned approximately one year, from 16 July 2021 to 14 June 2022, and was conducted retrospectively from 01 March 2022 to 30 June 2022 using medical records. Convenience sampling was done. All patients who underwent surgery in the Department of General Surgery during the specified period were included in the study, with entries containing missing data being excluded. The minimum sample size was calculated using the following formula;

$$n = Z^2 \times p \times q / e^2$$

$$= 1.96^2 \times 0.5 \times 0.5 / 0.06^2$$

$$= 600.25$$

$$= 600$$

Where,

n = minimum required sample size

p = prevalence taken as 50% for maximum sample size calculation

q = 1-p

e= margin of error, 6%

z = 1.96 at 95% of Confidence Interval (CI).

The minimum sample size was calculated to be 600. However, we took a sample size of 1812 after tripling the minimum sample size.

All the patients with pilonidal sinus underwent Limberg's flap repair surgically. Data entry was done and analysed in SPSS. Point estimates at 95% CI, along with frequency and proportion for binary data, were calculated.

RESULTS

Among 1812 patients undergoing surgery, 30 (1.66%) (1.07-2.24, 95% CI) patients had undergone surgery for pilonidal sinus. Among the patients undergoing pilonidal surgery, 26 (86.67%) were male patients, while 4 (13.33%) were female patients (Table 1).

Table 1. Gender wise distribution of patients with pilonidal sinus (n= 30).

Sex	n (%)
Male	26 (86.67)
Female	4 (13.33)

Among the patients, 13 (43.33%) were in the age group 21-25 years (Table 2).

Table 2. Age-wise distribution of patients with pilonidal sinus (n= 30).

Age (years)	n (%)
Below 20	6 (20)
21-25	13 (43.33)
26-30	7 (23.33)
Above 30	4 (13.33)

Among the 30 cases, 20 (66.67%) presented as acute abscess, followed by chronic abscess 7 (23.33%), and 3 (10%) were asymptomatic pits (Table 3).

Table 3. Presenting Features of patients with Pilonidal Sinus (n= 30)

Features	n (%)
Asymptomatic pit	3 (10)
Acute abscess	20 (66.67)
Chronic abscess	7 (23.33)

DISCUSSION

In this study, among the patients undergoing surgery, 1.66% patients had undergone surgery for pilonidal sinus. Among the patients undergoing surgery for Pilonidal sinus, the proportion of male patients (86.67%) was found to be higher than females (13.33%), which is similar to the findings in another study showing a higher prevalence in males (84.3%).⁵ In a previous study, 55% were male patients, and the mean age was 14.20 ± 1.31 (9-17) years, whereas in this study majority of the cases (43.33%) were in the 21-25 years age group.⁶

The findings of this study demonstrated a total of 10 % patients who were asymptomatic at presentation, which was found to be higher than another study done in a similar study setting.⁷ This study reported, 66.67% patients presented with acute abscess and 23.33% patients with chronic presentation. In contrast to these findings, another study showed that 90% patients had with chronic presentation, while only 10% patients presented with an acute abscess.⁸

The treatment options for different clinical presentations vary. Asymptomatic cases, acute abscess and chronic abscess may be treated based on the individual patient factors with surgical interventions along with lifestyle changes and modifiable risk factors.⁹ However, in this study,

all the patients were treated surgically by Limberg's flap repair surgery.

This study was conducted in a single centre and a hospital setting; thus, the results can't be generalised to a wider population. Also, the sample population only included the patients undergoing surgery; therefore, the asymptomatic patients in the outpatient department couldn't be included in this study. Additionally, after Limberg's flap surgery, due to loss to follow-up, the recurrence rate could not be assessed.

CONCLUSIONS

The prevalence of the pilonidal sinus among patients undergoing surgery demonstrated in this study is found to be similar to other studies in similar settings. This study highlighted the need for continued awareness among clinicians and the increased need for developing strategies to aid in early diagnosis and its management.

Conflict of Interest: None

REFERENCES

1. Patey DH, Scarff RW. Pathology of postanal pilonidal sinus; its bearing on treatment. *Lancet*. 1946 Oct 5;2(6423):484-6. [[PubMed](#) | [Full Text](#) | [DOI](#)]
2. de Parades V, Bouchard D, Janier M, Berger A. Pilonidal sinus disease. *J Visc Surg*. 2013 Sep;150(4):237-47. [[PubMed](#) | [Full Text](#) | [DOI](#)]
3. Alrashid FF, Idris SA, Qureshi AG. Current trends in the management of pilonidal sinus disease and its outcome in a periphery hospital. *AIMS Medical Science*. 2021 Mar 9;8(1)70-9. [[Full Text](#) | [DOI](#)]
4. Johnson EK, Vogel JD, Cowan ML, Feingold DL, Steele SR; Clinical Practice Guidelines Committee of the American Society of Colon and Rectal Surgeons. The American Society of Colon and Rectal Surgeons' Clinical Practice Guidelines for the Management of Pilonidal Disease. *Dis Colon Rectum*. 2019 Feb;62(2):146-57. [[PubMed](#) | [Full Text](#) | [DOI](#)]
5. Faurschou IK, Ankersen JL, Pedersen N, Sorensen MJ, Friis ML, Pedersen AG, et al. Gender-specific outcomes in pilonidal sinus disease: Female outcomes after cleft lift surgery in a large prospective Danish cohort. *Colorectal Dis*. 2025 Feb;27(2):e70003. [[PubMed](#) | [Full Text](#) | [DOI](#)]
6. Gezer HO, Ezer SS, Ince E, Temiz A. Treatment of young patients with pilonidal sinus disease with the original (unmodified) Limberg flap standardized for the first time. *Pediatr Int*. 2020 Oct;62(10):1171-6. [[PubMed](#) | [Full Text](#) | [DOI](#)]
7. Doll D, Friederichs J, Boulesteix AL, Dusel W, Fend F, Petersen S. Surgery for asymptomatic pilonidal sinus disease. *Int J Colorectal Dis*. 2008 Sep;23(9):839-44. [[PubMed](#) | [Full Text](#) | [DOI](#)]
8. Albabtain IT, Alkhalidi A, Aldosari L, Alsaadon L. Pilonidal sinus disease recurrence at a tertiary care center in Riyadh. *Annals Of Saudi Medicine*. 2021 Jun 3;41(3):179-85. [[Full Text](#) | [DOI](#)]
9. Nixon AT, Garza RF. Pilonidal Cyst and Sinus. In: *StatPearls* [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan [cited 2025 Jul 1]. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK557770/> [[PubMed](#) | [Full Text](#)]

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