

The Epidemiology of Pilonidal Disease in Georgia 2020-2022

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ABSTRACT

Background: Epidemiological data on pilonidal disease in Georgia are limited, with no available information on the severity of the condition, which plays a key role in treatment decision-making.

Objectives: Our research aimed to study the incidence of pilonidal sinus and its characteristics in Georgia from 2020 to 2022.

Methods: The incidence of pilonidal sinus (pilonidal cyst) with abscess (ICD code - L05.0) and without abscess (ICD code - L05.9) in the population of both genders across both outpatient and inpatient settings in Georgia from 2020 to 2022 was evaluated using data provided by the National Center for Disease Control and Public Health of Georgia, named after L. Sakvarelidze. Crude incidence rates, age-specific rates according to five-year age groups, and age-standardized rates (ASR) were calculated, along with 95% confidence intervals (95% CI). The null hypothesis was rejected at a p-value <0.05.

Results: A total of 4,263 cases of pilonidal cysts (both with and without abscess) were identified in the population of both genders in both outpatient and inpatient settings. The crude rate was 38.2 per 100,000 persons, and the ASR was 46.4 (95% CI: 44.9–47.8). For male patients, the crude rate was 40.8 per 100,000 persons, with an ASR of 75.5 (95% CI: 73.0–78.0), while for female patients, the crude rate was 6.4 per 100,000 persons, with an ASR of 15.6 (95% CI: 13.6–17.6). The male-to-female standardized rate ratio was 4.83 (95% CI: 4.62–5.09). Additionally, new cases of pilonidal disease were more frequently detected in hospitals (ASR = 34.1, 95% CI: 32.1–36.1) compared to outpatient settings (ASR = 12.3, 95% CI: 11.6–13.1), with a standardized rate ratio of 2.8 (95% CI: 2.6–3.0).

Conclusions: The incidence of pilonidal sinus in Georgia (crude rate = 38.2 per 100,000; ASR = 46.4 per 100,000) was significantly higher than the global average (26 per 100,000). Furthermore, hospital treatment was nearly three times more frequent than outpatient treatment, which calls for attention from healthcare professionals and policymakers due to potential social and economic implications.

Keywords: Age-standardized rate; crude rate; epidemiology; pilonidal disease.

BACKGROUND

Pilonidal sinus ranks fourth among the most common proctological diseases, following hemorrhoidal disease, paraproctitis, and anal fissures.¹ The condition affects approximately 0.7% of the population,² with an incidence rate of 26 per 100,000 globally and 2.63 per 1,000 in the pediatric population.^{3,4} It is twice as common in men as in women (ratio 2.2:1),⁵ usually affecting individuals between the ages of 15 and 30 years.^{6–8} In rare cases, the disease can develop before puberty or after age 60.^{9,10}

Several factors predispose individuals to pilonidal disease, including a hairy body, thick skin, excessive body mass (BMI > 25 kg/m²), a deep gluteal cleft, poor hygiene, a sedentary lifestyle, repeated pressure (with the term "Jeep seat disease" coined during World War II to describe increased prevalence among Jeep drivers), and a family history of the disease.^{8,11,12}

Young individuals with pilonidal disease often miss educational and work activities, resulting in significant social losses. Medical treatments for the condition are less reliable, making surgical interventions the standard for both acute abscesses and chronic cases.¹³

While most cases of pilonidal disease can be treated on an outpatient basis, in Georgia, extensive excision of the pilonidal sinus is often performed, leading to hospitalization and prolonged rehabilitation. Observations indicate that pilonidal disease is more common in Georgia compared to global rates.

However, no recent epidemiological data on this disease exist in Georgia, nor is there information on disease severity, which is important for determining treatment methods.¹⁴ Therefore, our research aimed to investigate the incidence and characteristics of pilonidal sinus in Georgia from 2020 to 2022.

METHODS

The incidence of pilonidal sinus (pilonidal cyst with abscess, ICD code - L05.0, and without abscess, ICD code - L05.9) in the population of both genders in outpatient and inpatient settings in Georgia from 2020 to 2022 was evaluated based on data from the National Center for Disease Control and Public Health of Georgia, named after L. Sakvarelidze.

Statistical analysis was performed using SPSS 23.0 (IBM, Illinois, USA). Crude incidence rates, age-specific rates by five-year age groups, and the age-standardized rate (ASR) were calculated, along with 95% confidence intervals (95% CI). The null hypothesis was rejected using a p-value of <0.05.

RESULTS

A total of 4,263 cases of pilonidal cysts (both with and without abscess) were detected in both outpatient and inpatient settings.

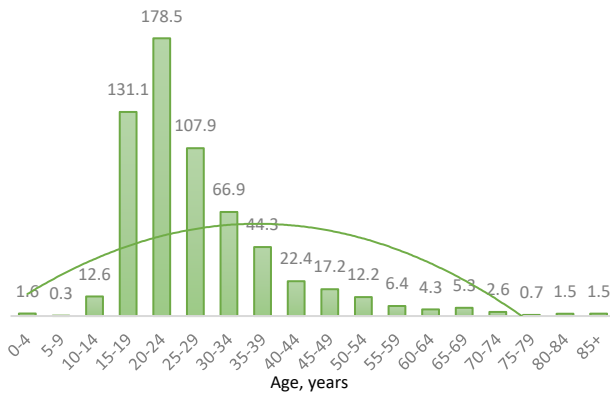
Epidemiological indicators of incidence were as follows:

- Crude rate: 38.2 per 100,000 persons
- Age-standardized rate (ASR): 46.4, 95% CI (44.9–47.8).



Figure 1 presents the age-specific frequencies of new cases in both genders, with the peak rate occurring in the 20–24 age group (178.2 per 100,000 persons).

FIGURE 1. Age-specific frequency of pilonidal cysts with and without abscess (ICD codes: L05.0 and L05.9, respectively) in both gender patients

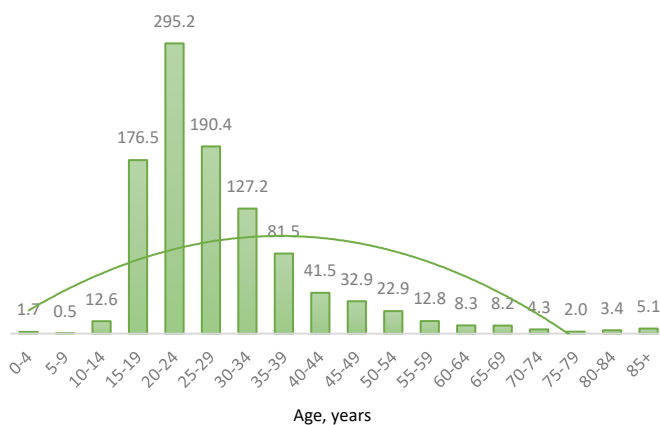


Pilonidal cyst with (ICD code: L05.0) and without abscess (ICD code: L05.9) was detected in 3649 cases in the male population in outpatient and inpatient settings. Epidemiological indicators of incidence were as follows:

- Crude rate - 40.8 per 100,000 persons;
- Age-standardized rate (ASR): 75.5, 95% CI (73.0-78.0).

Figure 2 presents the age-specific frequencies of new cases of pilonidal cyst with and without abscess (ICD codes L05.0 and L05.9) in male patients, detected in both outpatient and inpatient settings, categorized by five-year age groups.

FIGURE 2. Age-specific frequency of pilonidal cysts with and without abscess (ICD codes: L05.0 and L05.9, respectively) in male patients



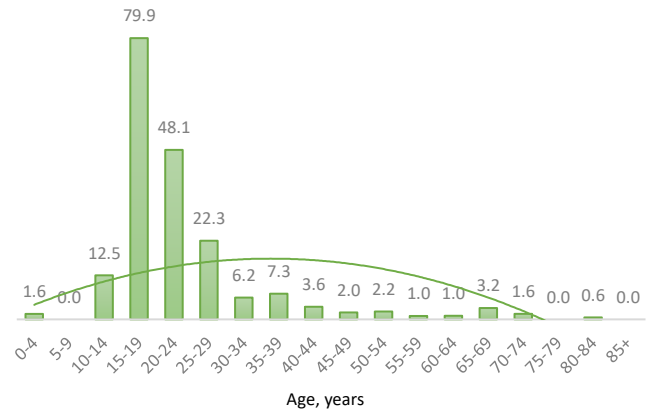
Pilonidal cyst with (ICD code - L05.0) and without abscess (ICD code - L05.9) was detected in 614 cases in the female population in outpatient and inpatient settings. Epidemiological indicators of incidence were as follows:

- Crude rate - 6.4 per 100,000 persons;
- Age-standardized rate (ASR): 15.6, 95% CI (14.3-16.9).

Figure 3 presents the age-specific frequencies of new pilonidal cysts with and without abscesses in female patients,

detected in outpatient and inpatient settings, and categorized by five-year age groups.

FIGURE 3. Age-specific frequency of pilonidal cysts with and without abscess (ICD codes: L05.0 and L05.9, respectively) in female patients



The crude incidence rate of the pilonidal cyst with abscess (ICD code: L05.0) across both genders was 18.5 per 100,000 persons, and the ASR was 22.5, 95% CI (21.5-23.5). For males, the crude rate was 19.3 per 100,000 persons, and the ASR was 35.8, 95% CI (34.1-37.5). For females, the crude rate was 3.5 per 100,000 persons, and the ASR was 8.4, 95% CI (7.5-9.3).

The crude incidence rate of pilonidal cysts without abscess (ICD code: L05.9) across both genders was 19.7 per 100,000 persons, and the ASR was 23.9, 95% CI (22.9-24.9). For males, the crude rate was 21.4 per 100,000 persons, and the ASR was 39.7, 95% CI (37.9-41.5). For females, the crude rate was 2.9 per 100,000 persons, and the ASR was 7.2, 95% CI (6.4-8.0). The male/female standardized rate ratio was 4.83, with a 95% CI (4.62-5.09).

It is important to note that new cases of pilonidal disease treated in hospitals were significantly higher (ASR=34.1, 95% CI (32.1-36.1)) than those treated in outpatient settings (ASR=12.3, 95% CI (11.6-13.1)), with a standardized rate ratio of 2.8, 95% CI (2.6-3.0).

DISCUSSION

This study is the first to examine the epidemiological rates of pilonidal sinus and its age- and gender-specific characteristics in Georgia. The crude incidence rate of the pilonidal sinus was 38.2 per 100,000 persons, and the age-standardized rate (ASR) was 46.4, 95% CI (44.9–47.8). These figures are significantly higher than the global rate of 26 per 100,000 persons.^{3,4}

For male patients, the crude rate was 40.8 per 100,000 males, with an ASR of 75.5, 95% CI (73.0–78.0). Figure 2 shows that the peak incidence occurred in the 20–24 age group, with an age-specific rate of 295.2 per 100,000 males. This peak rate is 1.66 times higher than the rate observed in the same age group in the study by Notaro et al.⁵

For female patients, the crude rate was 6.4 per 100,000 females, with an ASR of 15.6, 95% CI (14.3–16.9). Figure 3

shows that the peak incidence occurred in the 15–19 age group, with an age-specific rate of 79.9 per 100,000 females. This peak rate is similar to that reported by Notaro et al.⁵

When comparing the results by gender, new cases of pilonidal disease with the specified ICD codes were found to be 4.8 times more frequent in males than in females ($p < 0.001$). This male-to-female ratio is significantly higher than the global ratio 2.2:1.^{1,5}

The global trend of a higher incidence of pilonidal sinus in males is also reflected in our data from Georgia. Peak incidence rates for both genders align with global observations. Ardeli et al.¹⁵ reported that the highest number of cases occurred in the 20–24 age group, a finding consistent with our study. Interestingly, the female age group 10–14 years had more cases than the respective male age group, which may be explained by the earlier onset of adolescence in females. This observation supports the conclusion by Ardeli et al. that adolescence plays a significant role in the development of pilonidal sinus disease. In our study, the peak incidence in females occurred in the 15–19 age group, further confirming this conclusion.

It is worth noting that the incidence rates of pilonidal cysts with and without abscesses did not differ significantly during the study period. While the incidence of pilonidal cysts without abscesses was slightly higher in the male group (though not significantly), it was slightly lower in the female population (with this difference also being non-significant).

CONCLUSIONS

Based on the results of this study, we can conclude that the incidence rate of pilonidal sinus in Georgia (crude rate: 38.2 per 100,000; ASR: 46.4 per 100,000) is significantly higher than the global rate (26 per 100,000). Furthermore, the male-to-female ratio was 4.8:1, which is notably higher than the global ratio of 2.2:1. Additionally, hospital-based treatment was performed nearly three times more frequently than outpatient treatment, highlighting a concern for healthcare providers and policymakers due to the potential social and economic implications. We recommend that epidemiological data about the severity of the disease and the treatment methods employed be further analyzed.

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