

Patients and Methods

Time Frame

From February 1, 2017, to July 1, 2018.

Design and Patients

Cross-sectional study. The study population included the HS patients attended at the HS clinic of Hospital Universitario Virgen de las Nieves of Granada, Spain. The HS clinic tends to patients with mild to severe HS.

Inclusion Criterion

Patients with HS who gave informed consent to participate in the study.

Exclusion Criterion

Negative to participate in the study.

This study has been approved by the Ethics Committee of the Hospital Universitario Virgen de las Nieves and is in accordance with the Helsinki Declaration.

Variables of Interest

Clinical, sociodemographic and biometric variables were recorded by means of clinical interview, physical examination and cutaneous ultrasonography at the first visit of each patient to the HS clinic.

The main variables of interest were:

Age of onset of HS was determined by clinical interview.

Adolescence was defined according to the definition of the International Association of the Adolescence Health and the American Academy of Pediatrics: adolescence extends between 10 and 21 years. It is subdivided into three stages: early adolescence, from 10 to 14 years, middle adolescence, from 15 to 17 years, and late adolescence, from 18 to 21 years [13, 14].

Structural damage was assessed using the Hurley staging: stage I (abscess formation, single or multiple, without sinus tracts or scarring), stage II (recurrent abscesses with tract formation and scarring, single or multiple, widely separated lesions) and stage III (diffuse or near-diffuse involvement, or multiple interconnected tracts and abscesses across the entire area) [15].

Inflammatory activity was assessed by means of the International Hidradenitis Suppurativa Severity Score System (US-IHS4); the formula to calculate the IHS4 is: number of inflammatory nodules multiplied by 1 + number of abscesses multiplied by 2 + number of draining fistulae multiplied by 4. Results range from 0 to infinite. Scores under 4 indicate a mild inflammatory load, while scores from 4 to 10 show a moderate inflammatory load and those over 10 a severe inflammatory load [16]. In the present study all the scores are referred to the counting of lesions identified by cutaneous ultrasonography.

Subjective symptoms and self-assessment of disease activity were evaluated using a numerical rating scale (NRS) [15]. The patient pointed out the intensity of a symptom using a numerical scale graded from 0 (absence of symptoms) to 10 (the highest intensity of symptoms). Pain, itch, suppuration, malodor and self-assessment disease severity in the last 7 days were evaluated with the NRS.

Study Size

Study size was calculated to determine the proportion of patients with and without adolescent-onset HS with an alpha error of 5% and a power of 20%, considering a reference population of 327,000 inhabitants, an estimated prevalence of HS in the general population of 0.10% and an onset of HS during adolescence in 12% of patients; the estimated sample size was 109 patients [6, 12].

Bias

The main outcome of the study, age of onset of HS, was determined by clinical interview, so it can be affected by a recall bias. Assessing the age of onset through medical records would have been preferable. However, the absence of medical electronic records prior to the year 2010 in our center prevented us from using this method. The recall bias can originate in both ways, overestimating or underestimating the age of onset. In addition, the average delay in diagnosis of HS is estimated to be 7 years, so medical records would have underestimated the results [17].

Statistical Analysis

Descriptive statistics were used to evaluate the characteristics of the sample. The Kolmogorov-Smirnov test was used to check the normality of the variables. Continuous data are expressed as means (standard deviation) or medians (25th–75th percentile). The absolute and relative frequency distributions were estimated for qualitative variables. Adolescent-onset HS was defined to happen under 22 years. Student's *t* test or the Wilcoxon-Mann-Whitney test was used for continuous data when appropriate. The χ^2 test or Fisher's exact test, when necessary, was applied for nominal data. Nominal logistic regression was used to perform age-adjusted analyses. Significance was set for all tests at two tails, with $p < 0.05$. Statistical analyses were performed using JMP version 9.0.1 (SAS Institute, NC, USA).