

Epidemiological profile of alopecia areata — own experience

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ABSTRACT

Introduction: Alopecia areata (AA) is a complex autoimmune condition that causes non-scarring hair loss. Incidence is estimated at 0.1–0.2% of the general population. The aim of this study is a retrospective analysis of the population of patients with alopecia areata in the years 2015–2019.

Material and methods: This is a retrospective cross-sectional study conducted through the analysis of clinical documentation data between 2015 and 2019. The study involved all the patients diagnosed with ICD10 L63 code for primary diagnosis of alopecia areata hospitalized in the Department of Dermatology, Paediatric Dermatology and the Oncology Medical University of Lodz.

Results: In the years 2015–2019 223 hospitalizations due to AA were reported. The number of female patients significantly dominated in both adult and paediatric populations: 73 girls, 38 boys, 86 women, 26 men. The results show that most of the patients lived in a city, the mean age was 7.5 (95CL = 6.5–8.6) years among children and 40 (95CL = 36.8–42.9) among adults. The most common medical diagnosis of alopecia areata based on ICD10 is Unspecified Alopecia areata — 131 cases, then other forms of AA — 34 cases, alopecia universalis 13 cases, ophiasis 4 cases.

Conclusions: Current results indicate that the predisposition for AA mainly concerns women after the fourth decade of life. The prevalence of hospitalization on the female side also works in the population of children with the average age spanning across 6–10 years of age. An increase in hospitalization due to AA after 2015 was observed. Most diagnoses relate to the non-specific form of alopecia areata.

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Key words: alopecia areata, children, adult, epidemiology

INTRODUCTION

Alopecia areata (AA) is a common, inflammatory, non-scarring type of hair loss. Significant variations in the clinical presentation of AA have been observed, ranging from small, well-circumscribed patches of hair loss to a complete absence of body and scalp hair. Patients affected by AA encompass all age groups, sexes and ethnicities and may experience frustration with the unpredictable nature of their disease for which there is currently no definitive treatment [1]. The onset may be at any age and there is no known race or sex preponderance. Studies on the prevalence of Alopecia Areata are limited, the most referenced study is the 1971–1974 First National Health and Nutrition Survey (NHANES-1) with a period prevalence estimated between 0.1% and 0.2% [2]. Another population study is based on data from the Rochester Epidemiology Project, assessing 530 newly diagnosed patients with AA from 1990–2009. The estimated incidence was 20.9 per 100,000 persons-years with a cumulative lifetime incidence of 2.1% [3]. Hospital-based studies across the world have estimated the incidence

of AA to be between 0.57% and 3.8% [4]. AA is considered a disease of all age groups; however, 82.6–88% of AA sufferers experience their first onset of AA by age 40 and 40.2% of patients by the age of 20. The mean age of onset has [4] children account for up to 30% of patients [5].

According to the distribution of AA by sex, there is no significant difference in the incidence of AA between males and females in two population studies [3, 6]. However, hospital-based studies from across the world have cited a female predominance, ranging from a ratio of 1.2:1 to 2.6:1 [4] AA has three main variants which are patchy AA (localized hairless area), alopecia totalis (entire scalp affected) and alopecia universalis affecting all body surface area. Other AA subtypes include ophiasis (band-like alopecia in the occipital and temporal scalp), sisaipho (central hair loss sparing the marginal hairline) and diffuse form [7].

Despite AA being commonly seen in daily practice among Polish patients, hospital-based studies that refer to the prevalence and clinical characteristics of patients diagnosed with AA are limited. The study aimed to describe the

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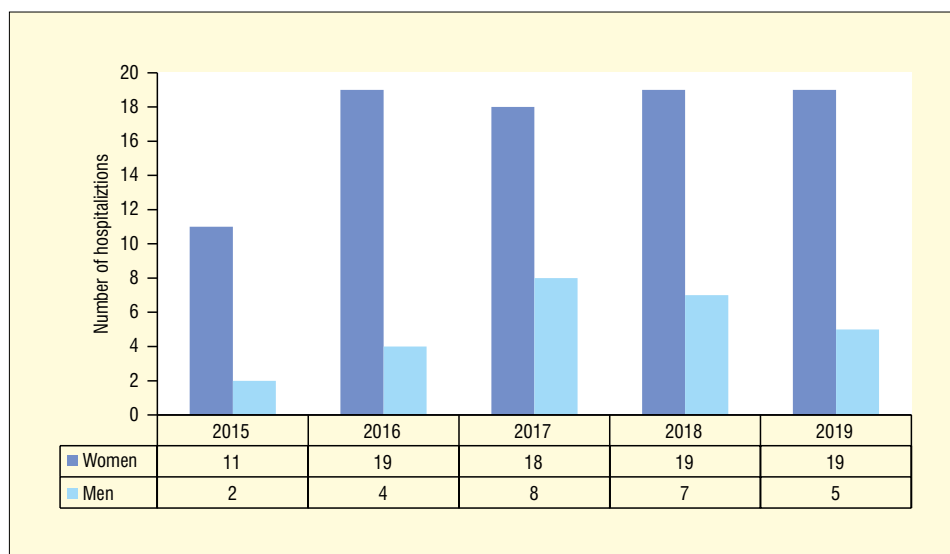


Figure 1. Hospitalizations of adults 2015–2019s

epidemiological characteristic feature of patients diagnosed with AA hospitalized in the Department of Dermatology, Paediatric Dermatology and Oncology Medical University of Lodz, Poland from 2015 to 2019.

MATERIAL AND METHODS

The model of this study was a retrospective cross-sectional study. It included all patients diagnosed with AA between January 2015–December 2019 in the Department of Dermatology, Paediatric Dermatology and Oncology Medical University of Lodz, Poland.

Data reviewing the electronic medical records were collected. The profile variables collected upon admission were age, gender, patient demographics, type of AA, disease duration, the onset of disease, and duration of hospitalization.

The selected data were compiled with printed, digitized spreadsheets using Microsoft Excel 2007. Statistical analysis used a simple frequency. Descriptive statistics were presented as frequencies and percentages for categorical variables (age, gender, demographist, type of AA). Mean ± standard deviation was used for numerical variables (age of diagnosis, disease duration, duration of hospitalization). Significance was set at 5% and the p-value < 0.05 was considered as statistically significant.

RESULTS

In the services for the care of patients with AA, there was a record of 233 with the disease. Out of 223 patients, 112 were adults and 121 childrens.

Results in the adult population

The total amount of adult patients hospitalized in the clinic with alopecia areata between 2015–2019 was 112: 86 fe-

Table 1. Material and methods

Place of study	Department of Dermatology, Paediatric and Oncologic Dermatology of the hospital. dr. W.Bieganskiiego, Lodz
Period of study	January 2015–December 2019
Study population	Patients of clinically proven alopecia areata hospitalized in our clinic
Inclusion criteria	Clinically diagnosed AA
Exclusion criteria	Patients with other skin lesion that lead to patchy hair loss . Patients with trichotillomania

males (76.8%), 26 males (23.2%), a sex ratio of 3.3:1. Figure 1 presents the annual distribution. The average duration of AA for women was 73-weeks (95CL = 47–100), minimum 2 weeks, maximum 432 weeks, no data on 11 patients, and for men 36 weeks (95CL = 18–54), minimum 3 weeks, maximum 132 weeks, no data on 10 patients. The mean age of onset has been reported as between 34.1–51.8 for females and 29.0–42.6 for males. The overall percentage distribution of types of AA based on ICD-10 was 5% alopecia totalis, 7% alopecia universalis, 2% ophiasis, 14% other alopecia areata, 71% Alopecia areata unspecified. Table 1 collected the annual distribution of types divided by gender. The duration of hospitalization changed over the years. Between 2015–2018 duration levels remained stable at 6–7 days for women and 3–7 days for men. After 2018 the average duration of hospitalization in the clinic lasts for 2 days for women and 1 day for men (Fig. 2). There were no significant differences between the proportion of village/city ratio residents through the years 2015–2019, p-value = 0.89. The village/city ratio 2015–2019 remains on the level 27.7/72.3%.

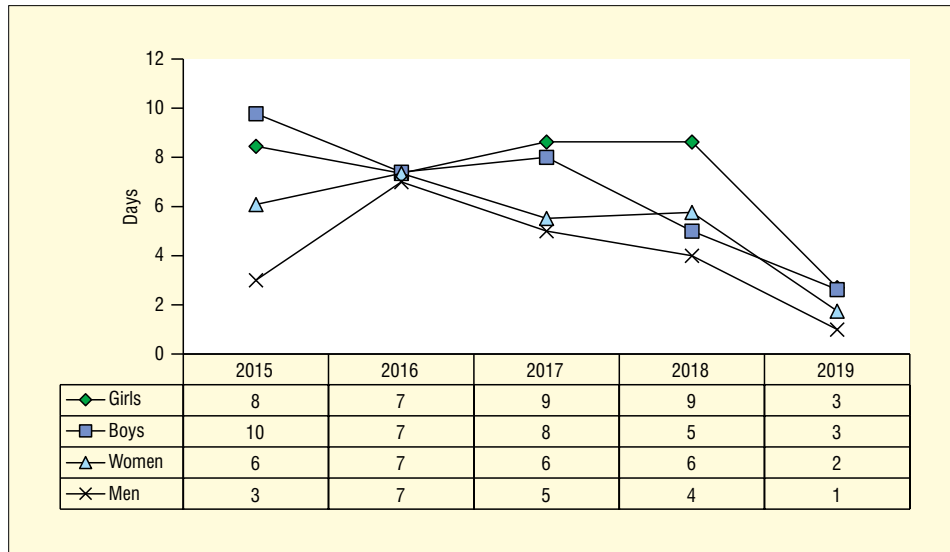


Figure 2. Average duration of hospitalization among all patients

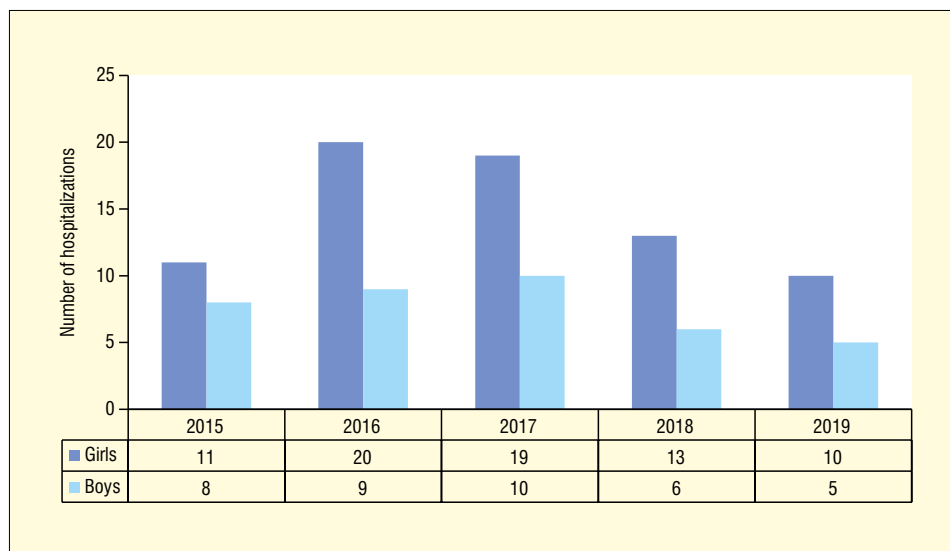


Figure 3. Hospitalizations of children 2015–2019s

Results in children population

A total of 111 children were hospitalized in the clinic with AA between 2015–2019, out of which 73 were girls (65.8%) and 38 were boys (34.2%), a gender ratio of girls/boys 1.9:1. Figure 3 presents the annual distribution. 27 children (24.32%) between 0–6 years old, 39 children (35.13%) between 6–10 years old and 45 children (40.54%) between 10–18 years old. The mean age of onset of AA for boys was 10 y.o (95CL = 7.7–12.2) and for girls was 8.2 yo (95CL = 1.9–14.5). The average duration of alopecia areata for girls was 35 weeks (95CL = 24–47), minimum 1 week, maximum 168 weeks, no data - 32 patients and for boys, the average was 23 weeks (95CL = 6–40), minimum

1 week, maximum 108 weeks, no data — 14 patients presented on Figure 2. Similar to the adult population, the vast majority of diagnoses among the children population was Alopecia areata unspecified. There were no significant differences between the proportion of village/city ratio residents through the years 2015–2019, p-value = 0.61. The village/city ratio 2015–2019 remains at the level 33.7%/66.3%.

DISCUSSION

Diagnosis and management of alopecia areata are still challenging for dermatologists, both in diagnosis and treatment. Moreover, the epidemiological study of AA is limited. A variety of aetiological factors like the genetic constitu-

tion, atopic state, nonspecific autoimmune reaction and emotional stress cause the diagnosis of alopecia areata to be a great challenge. As for the patients' gender, in the present sample women and girls were affected more frequently than men and boys; females constituted over 70% of all patients. Despite no significant difference in the incidence of AA between genders in the population study [6], the present results evidencing female predominance are comparable to other hospital-based studies across the world [8–12]. The disproportion between genders may be caused by a higher willingness to participate in studies and courses of treatment among women and girls, as it can be argued that there is more concern for the appearance and achievement of the popular beauty standards among the female population.

The disease onset is usually seen below 40 years of age, which was 70.67% of the patients, and 48.12% of AA sufferers experience their first onset by the age of 20. The mean age of onset is reported to be 28.3 years. This is consistent with another study where the age of onset was reported to be between 25.2–36.3 years [4]. Age of onset for females compared to males has been reported variously as lower (34.1 vs. 51.8 years) the same, and the higher (51.8–42.6 years) (Tab. 2). Most of the children population in the present study belonged to the age group between 7–18 years old (70%). This range is comparable with other studies done in India, China and Singapore [9, 11, 12].

The average age of onset of the disease in this study was between 6.3–11.7 years old. This interval was similar to the average age of onset observed in the study from India (10.18 years old), Kuwait (6.7 years old) and Singapore (11.2 years old) [9, 11, 12]. Although there were more patients with Unspecified alopecia areata (73.5% of all diagnoses), the other comprehensive diagnoses such as alopecia totalis, universalis and ophiasis constituted only 13.4% of all diagnoses. It is relatively consistent with the Clinical characteristic of alopecia areata in Saudi Arabia where the summary percentage of diagnoses such as alopecia totalis, universalis and ophiasis was 13.43%. However, the present study observed a significantly smaller proportion of the ophiasis form (1.85% vs. 5.6%) and a larger proportion of the alopecia universalis form (7.6% vs. 1.8%). Male patients under 18 years old were not diagnosed with the alopecia universalis or ophiasis form, which is not comparable with the other study [4].

CONCLUSIONS

Considering the patients' gender in this sample, women and girls were affected more frequently than men and boys. The most heavily affected age bracket was an active adult population with an average age of 43.3 y.o. Although there were more patients with Unspecified alopecia areata 73.5% than other forms, the other comprehensive dia-

Table 2. Age of onset distribution

Age of onset [years]	Number of patients (%)
1–2	4 (2.1%)
2–4	11 (5.8%)
4–6	12 (6.3%)
6–8	18 (9.5%)
8–10	21 (11.1%)
10–12	14 (7.4%)
12–14	7 (3.7%)
14–16	14 (7.4%)
16–18	13 (6.9%)
18–20	6 (3.2%)
21–30	16 (8.5%)
31–40	14 (7.4%)
41–50	16 (8.5%)
51–60	9 (4.8%)
61–70	8 (4.2%)
71–80	3 (1.6%)
81–90	3 (1.6%)
Total	189
*no data	44

gnoses such as Other alopecia areata and Alopecia universalis include a combined 20.6%. Considering that the average duration of Alopecia areata for women is nearly half longer than it is for men, the authors deduce earlier onset of symptoms for the female population comprehensive to males, but in most cases, they are unable to demarcate the exact date of onset. This leads to the need for more accurate data collection on the onset of symptoms. An increase in hospitalization due to alopecia areata is observed, while the duration of hospitalization decreases significantly in 2019. After analysing data from medical records, this relevance resulted from the change in the treatment program in the clinic after 2018.

Future prospective studies would be necessary to clarify risk factors, comorbid conditions, and the severity of AA.

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Conflict of interest

The authors declare that they have no conflict of interest.

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