



Ministry of Higher Education and Scientific Research
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Epidemiology of Alopecia Areata in Baqubah City

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By

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

(إِنَّمَا يَخْشَى اللَّهَ مِنْ عِبَادِهِ الْعُلَمَاءُ)

(صَدَقَ اللَّهُ الْعَظِيمُ)

[فاطر: ٢٨]

SUPERVISION CERTIFICATE

I certify that this thesis was prepared under my supervision at Department of Family and Community - College of Medicine/University of Diyala.

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Epidemiology of Alopecia Areata in Baqubah City

Abstract

Background: Alopecia areata (AA) is an autoimmune disorder characterized by patches of non-scarring alopecia affecting scalp and body hair that can be psychologically devastating. Alopecia areata is clinically heterogenous, and its natural history is unpredictable. There is no preventative therapy or cure.

Aims: To determine the prevalence and the causative agents of Alopecia Areata

Patients & Method: A cross-sectional study was done from 1st of Oct 2020 to 31st of March 2022 at Baqubah teaching Hospital /outpatient dermatology clinic. The data included (100) patients with different clinical variants of Alopecia Areata, (71) males and (29) females of different age groups.

Results: This study shows that high prevalence among males (71%) with age group (21-30) years old with single patchy alopecia areata with past history of recurrence and associated psychological history. This study shows that (100) cases of AA were diagnosed. The distribution of Alopecia areata according to gender was most common among male (71%). the common age group 21-30 years (25%). Single lesion of AA was the most common manifestation (68%). Recurrence history of AA Positive in (55%). Personal history of stress was associated with AA in (64 %). The most common site of alopecia areata was in head (55%).

Conclusion: We concluded that, alopecia areata was more common in male, age (21-30) years, most common single lesion, more in head, with psychological stress history.

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Key word: Alopecia areata, prevalence, Stress.

Introduction

Hair is considered one of the most defining aspects of human appearance. Throughout history, hair length, style, and color have been used to make statements about virility, sexuality, religion, military status and more. Alopecia, or hair loss, is a common and distressing problem and is often met with feelings of grief, and a lost sense of self [1].

Alopecia areata (AA) is an autoimmune disorder characterized by patches of non-scarring alopecia affecting scalp and body hair that can be psychologically devastating. Alopecia areata (AA) is a common form of non-scarring hair loss that occurs on any hair bearing skin [2]. It affects approximately 0.1% to 0.2% of the world population. Most patients are relatively of young age group [3].

It is a chronic, inflammatory and autoimmune disease, presenting with non-scarring hair loss. The disease may be limited to one or more discrete, well-circumscribed round or oval patches of hair loss on the scalp or body, or it may affect the entire scalp (alopecia totalis) or the entire body (alopecia universalis) [4].

Etiopathogenesis of Alopecia Areata:

The exact cause of AA is still unknown. The current body of evidence supports an autoimmune origin and strong genetic contribution, further modified by unknown environmental influences [5].

I. Genetic Factors:

Multiple genetic factors contribute to the development of AA. A positive family history is evident in approximately 10% to 25% of cases. Alopecia areata is considered to be a T cell–mediated autoimmune disease. It is important to understand that the hair follicle is fundamentally considered a site of immune privilege, where by a number of mechanisms tightly control immunologic access and prevent it from autoimmune attack under normal conditions. The development of AA is thought to result from a breakdown of this immune-privileged site [6].

II. Emotional Stress:

Many but not all patients describe stressful life events in relationship to the onset and progression of alopecia areata the anxiety and depression play a major role in the etiopathogenesis of AA, and stressful life events may act as a trigger in the onset and/or exacerbation of the disease. The triggering or aggravation of AA with acute or chronic psychoemotional stress increased insight into the importance of the brain-skin connection [7].

Clinical Features: AA commonly manifests as localized, well-demarcated patches of hair loss. Often, they are suddenly noticed, and they may progress circumferentially. It may present as single or multiple patches (Fig. 1). Small distinct patches may merge and form larger patches (Fig. 2). Scalp is the most common site (90%), but any part of the body may be affected [8].



Figure 1: Localized patch of alopecia areata.

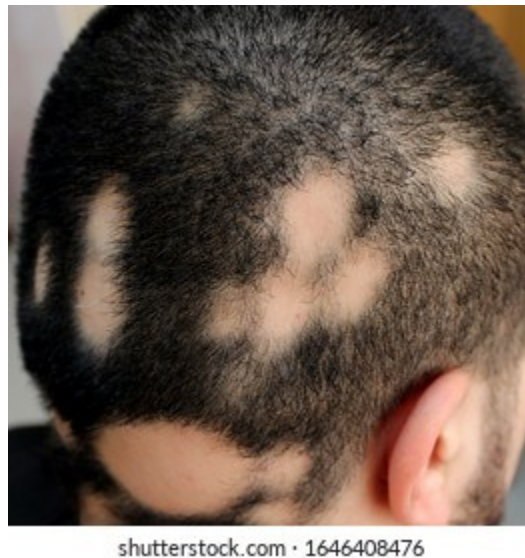


Figure 2: Small patches, merging and forming larger patch.

Diagnosis of AA:

I-History:

History is critical in developing an initial diagnosis, including full history about the age of onset, duration, pattern of hair loss, and if alopecia is

due to increase in shedding or increase in thinning of hair. Patients are usually otherwise healthy, but family history of atopy, thyroid disease or vitiligo may be present [2].

II- Routine Investigations:

Routine tests are not indicated. If thyroid disease is suspected on clinical grounds thyroid functions should be assessed. If there is uncertainty regarding the diagnosis a scalp biopsy may be performed. If there is a suspicion for other differentials, tests such as fungal culture, lupus serology and syphilis serology should be undertaken [9].

III-Dermatologic Examination:

The diagnosis can usually readily be made by inspection. The presence of circumscribed hairless patches or large areas of alopecia with preserved follicular ostia is typical for AA. Nail pitting or trachyonychia are commonly seen. Beau's lines can be observed in severe AA [10].

IV- Special Tests:

- Hair pull test:

This test helps to evaluate diffuse scalp hair loss. The patient must not shampoo for at least 1 day before the pull test. Gentle traction is extracted on a group of hair (about 40-60) at the periphery of the lesion. If more than 10% (six hairs) are pulled away from the scalp, this constitutes a positive pull test and implies active hair shedding. If fewer than six hairs can be easily pulled out, this is considered normal physiologic shedding. The pull test helps to assess the severity and location of hair loss [9].

Differential Diagnosis:

Though AA is a form of non scarring alopecia. The first step, therefore is to distinguish between scarring and non scarring alopecias. Scarring alopecias have loss of follicular ostia, or atrophy. Clinical inflammation is frequently, but not always present. However, histologic inflammation may be present. Ultimately, histologic confirmation is the best method to confirm the presence of a fibrosing scarring process with loss of hair follicles. A few entities in scarring alopecias are lichen planopilaris,

central centrifugal cicatricial alopecia, pseudopelade of porcq, discoid lupus lesions and traction alopecia

Trichotillomania is a condition that probably causes some confusion and it is possible to coexists with alopecia areata in some cases. The incomplete nature of the hair loss in trichotillomania and the fact that the broken hairs are firmly anchored in the scalp means that they remain in the growing phase, anagen, unlike exclamation mark hairs which are distinguishing features [11].

Aims of the study

1. To determine the prevalence of Alopecia Areata
2. The causative agents of Alopecia Areata

Patients and Methods

A cross-sectional study was done from 1st of Oct 2021 to 31st of March 2022 at Baquabah Teaching Hospital/outpatient dermatological clinic diagnosed by dermatologist. The questionnaires included 100 patients with different clinical variants of Alopecia Areata, 71 males and 29 females of different

age groups. Special questionnaire form used including; Gender, Age, Clinical types, History, Psychological Hx and sites.

Inclusion criteria:

Patients enrolled in this study were:

- Patients suffering from alopecia areata who were either not treated before or stopped treatment for at least two months before the start of the study.
- Patients with different clinical varieties (Single patch, multiple patches and, alopecia totalis and alopecia universalis).

Exclusion criteria:

The following patients were excluded from the study:

1. Patient <1 years.
2. Pregnant and lactating female patients.

Statistical analysis:

The collected data was analyzed by using computer, excel and SPSS-24 (Statistical Packages for Social Sciences- version 24). All the variables were analyzed by number, proportion and percentage.

Results

This study shows that high prevalence among males 71% with age group more than 20 years old with single patchy alopecia areata with past history of recurrence with associated psychological history. One hundred patients were included with different clinical variants of Alopecia Areata, 71 males and 29 females of different age groups.

Tables 1 shows that higher prevalence among male (71%) while (29%) among female.

The highest age group was (21-30) years (25%) as shown in Table 2.

Table 3 shows that the most common clinical type was single lesion of alopecia areata (68%).

History of recurrence of Alopecia Areata was (55%) as shown in Table 4.

Table 5 shows that there was high association of alopecia areata with psychological stress (64%).

The most common site of lesions of Alopecia Areata was the head as shown in table 6.

Table 1: Frequency distribution of Alopecia areata according to gender.

Gender	No.	%
Male	71	71%
Female	29	29%
Total	100	100%

Table 2: Frequency distribution of Alopecia Areata according to age groups.

Age(years)	No.	(%)
>1year	5	%
1-10	10	10%
11-20	15	15%
21-30	25	25%
31-40	20	20%
41-50	15	15%
51-60	8	8%
>60years	2	2%
Total	100	100%

Table 3: Frequency distribution of Alopecia Areata according to clinical types.

Clinical types	No.	(%)
Single	68	68%
Multiple	15	15%
Alopecia totalis	11	11%
Alopecia universalis	6	6%
Total	100	100%

Table 4: Frequency distribution of recurrent history of Alopecia Areata

Recurrent Hx	No.	(%)
Positive	55	55%
Negative	45	45%
Total	100	100%

Table 5: Frequency Distribution with associated psychological history

Psychological Hx	No.	(%)
Stress	64	64%
Depression	25	25%
No	11	11%
Total	100	100%

Table 6: Frequency distribution according to the sites of lesions of Alopecia Areata

Sites of Alopecia Areata	No.	(%)
Head	55	55%
Beard	35	35%
Eyebrow	8	8%
Eyelash	2	2%
Total	100	100%

5. Discussion

This study shows that high prevalence among males 71% with age group more than 20 years old with single patchy alopecia areata with past history of recurrence with associated psychological history. One hundred patients were included with different clinical variants of Alopecia Areata , 71 males and 29 females of different age groups.

Alopecia areata (AA) is a common, clinically heterogenous, immune-mediated, non-scarring hair loss disorder. The disease may be limited to one or more discrete, well-circumscribed round or oval patches of hair loss on the scalp or body, or it may affect the entire scalp (alopecia totalis) or the entire body (alopecia universalis) [3]. Moreover, the course of the disease is unpredictable, with spontaneous regrowth of hair occurring in 80% of patients within the first year, and sudden relapse at any given time [12].

In this study the patients included were 71 males (71%) and 29 females (29%) and the study showed higher disease prevalence in male than female patients and this difference was statistically significant. This was in agreement with [12], who performed a study on 43 AA patients; of whom 31 were men and 12 were women. On the other hand was disagree with [7]. Suggested that AA is more common in females than males. other study showed that there is no difference between male and female in distribution of alopecia areata [13]. The age result shows that alopecia areata more common in group age more than 20 years, agree with research [16], and was disagree with research [17].

The findings from this study are in agreement with an earlier study conducted in 1991 where high rates of stress (39%) and depression (39%) were reported in a cohort of 31 individuals with AA in the United States [6]. Similar high trends of stress and depression were also observed in a study conducted in Iran, with a high percentage of participants suffering from stress (47%) and depression (56%) respectively [15]. The study about clinical type shows that single patchy type is most common presentation and that was agree with research [13]. The result of psychological history shows that stress has strong relationship with alopecia areata that agree with the study in Brazil indicated that hair loss was a common complaint among 157 women with AA and it was associated with a high prevalence of stress (56%) [19].

Individuals with minimal hair loss are able to cover the loss with remaining hair and are less likely to experience depression and stress [18]. The study shows that head is most common site and that agree with research by [14-19].

Conclusions and Recommendations

Conclusions

We concluded that, alopecia areata was more common in male, age (21-30) years, single lesion, more in head, with history of psychological stress.

Recommendations

1. Advance investigations should be done not only depending on history and physical examination of patients.
2. Larger size sample should be done in different areas of Iraq and on larger number of patients.
3. Further studies over a longer period should be done to get an accurate estimate on the prevalence of alopecia areata.

References

1. Mirmirani **P**: Managing hair loss in midlife women. *Maturitas*; 2013; 74(2):119-122.
2. Bakry OA, Basha MA and El -Shafiee MK. Thyroid disorders associated with alopecia areata in Egyptian patients. *Indian J Dermatol*; **2014** ;59(1): 49-52.
3. Gilhar A, Keren A, Shemer A et al.): Autoimmune disease induction in a healthy human organ: a humanized mouse model of alopecia areata. *J Invest Dermatol* **2012**; 10:1038-1045.
4. Villasante-Fricke AC and Miteva M Epidemiology and burden of alopecia areata: a systematic review. *ClinCosmetInvestigDermatol*; 2015; 8:397-403.
5. Prie BE, Voiculescu VM, Ionescu-Bozdog et al.: *J Med Life*; 2015; 8:43–46.
6. Spano F and Donovan **JC**): Alopecia areata: Part 1: pathogenesis, diagnosis, and prognosis *Can Fam Physician*; **2015**;61(9):751-755.
7. Colon EA, Popkin Mk, Callies AL et al.:Life time prevalence of psychiatric disorder in patients with alopecia areata. *Compr psychiatry*.1991; 32(3):245-251.
8. Tan E, Tay K, Goh L et al.:The pattern of alopecia areata in Singapore a study of 219 Asians. *Int J Dermatol*; 2002; 41:748-753.
9. Arzu A, Yunus S and Ahmet G: Serum cytokine levels and anxiety and depression rates in patients with alopecia areata. *EAJM*; 2002;43: 99-102.
10. Rodriguez TA, Fernandes KE, Dresser KL et al. National alopecia areata registry. Concordance rate of alopecia areata in identical twins supports bothgenetic and environmental factors. *J Am Acad Dermatol*; 2006 62(3):525-527.

11. Islam N, Leung PS, Huntley AC, et al. The autoimmune basis of alopecia areata: a comprehensive review *Autoimmun Rev*;14(2):81–89.
12. M. Lundin, S. Chawa, A. Sachdev et al., “Gender differences in alopecia areata,” *Journal of Drugs in Dermatology*, 2015; vol. 13, no. 1, pp. 409–413.
13. M. Miteva and A. Villasante, “Epidemiology and burden of alopecia areata: a systematic review,” *Clinical, Cosmetic and Investigational Dermatology*, 2015; vol. 8, pp. 397–403.
14. Guzmán-Sánchez DA, Villanueva-Quintero GD, Alfaro Alfaro N, McMichael A. A clinical study of alopecia areata in Mexico. *Int J Dermatol*. 2007;46(12):1308–1310
15. Baghestani S, Zare S, Seddige SH et al. (): Severity of depression and anxiety in patients with alopecia areata in Bander Abbas. *Iran Dermatol Report*, 2015; 7(3):6063.
16. Schmitt JV, Riberto CF, Souza FH et al: Hair loss perception and symptoms of depression in female outpatients attending dermatology clinic. *An Bras Dermatol*. 2012; 87(3):412-417.
17. Huang KP, Mullangi S, Guo Y et al.: Autoimmune, atopic and mental health comorbid conditions associated with alopecia areata in the US. *Jama Dermatol*, 2013;148(7):789-794.
18. Nanda A, Al-Fouzan S, Al-Hasawi F: Alopecia areata in children: a clinical profile. *Pediatr Dermatol*; 2002; 19(6):482-485.
19. Hunt MH, (2005): The psychological impact of alopecia. *Clinical Research ed*, 331:951-935.



وزارة التعليم العالي و البحث العلمي
جامعة ديالى / كلية الطب
فرع الطب الباطني



وبائية داء الثعلبية في مدينة بعقوبة

بحث تخرج
مقدم لكلية الطب / جامعة ديالى
لاستيفاء جزئي لمتطلبات

درجة البكالوريوس في الطب والجراحة العامة

بواسطة

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٢٠٢١-٢٠٢٢

الخلاصة

الخلفية: داء الثعلبة هو أحد أمراض المناعة الذاتية بواسطة الخلايا المناعية تستهدف بويصلات الشعر في الرأس والجسم وهذا يتسبب في امراض نفسية. داء الثعلبة غير متجانس سريريا ولم تعرف اسبابه لحد الان. ولا يوجد علاج وفائي او شفاء نهائي له.

الأهداف: تحديد مدى انتشار داء الثعلبة والعوامل المسببة له.
المريض والطريقة: تم إجراء دراسة مقطعية من ١ أكتوبر ٢٠٢١ إلى ٣١ مارس ٢٠٢٢ في مستشفى بعقوبة التعليمي / استشارية الأمراض الجلدية. تضمنت البيانات ١٠٠ مريض يعانون من متغيرات سريرية مختلفة من داء الثعلبة و ٧١ من الذكور و ٢٩ من الإناث من الفئات العمرية (١-٦٠) عاما.

النتائج: أظهرت هذه الدراسة أنه تمت مشاهدة مائة حالة. كان توزيع داء الثعلبة حسب الجنس أكثر شيوعاً بين الذكور (٧١٪). الفئة العمرية الشائعة عاملاً (٢١-٣٠) عاما (٢٥٪). وكانت البقعة الواحدة هي الشكل الأكثر شيوعاً (٦٨٪). تاريخ تكرار إيجابي في (٥٥٪) وسالب في (٤٥٪). ارتبط التاريخ الشخصي للإجهاد بمرض داء الثعلبة في (٦٤٪). الموقع الأكثر شيوعاً لداء الثعلبة كان في الرأس (٥٥٪).

استنتجت الدراسة: ان داء الثعلبة اكثر شيوعا بين الذكور بعمر (٢١-٣٠) عاما، وان البقعة المنفردة هي الاكثر، وفي منطقة الرأس مع وجود تاريخ اجهاد نفسي.