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Epidemiology of Alopecia Areata in Diyala Province

A Thesis

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بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ

((وَإِذَا مَرِضْتُ فَهُوَ يَشْفِينِ))

(صَدَقَ اللّٰهُ الْعَظِیْمُ)

((سورة الشعراء الاية: ٨٠))

SUPERVISION CERTIFICATE

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

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Epidemiology of Alopecia Areata in Diyala Province

Abstract

Background: Alopecia areata (AA) is an organ-specific T cell-mediated autoimmune disease that targets hair follicles. It usually presents as a sudden onset patchy hair loss that differs in severity. Clinical case series have been compiled in the United States, Europe, and Asia, while there is paucity of clinical data in Arabs and North-Africans.

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

Patient & Method : A cross-sectional study was done from 1st of Oct 2019 to 29th of Feb 2020 at Baquaba teaching Hospital from dermatology clinic. The data included 200 patients with different clinical variants of Alopecia Areata , 142 males and 58 females of different age groups.

Results: This study show that Two hundred cases of AA were seen. The distribution of Alopecia areata according to gender was most common among male (71%) . the common age group >20 years (76%) .Multiple patchy AA was the most common manifestation (68%). Recurrence history of AA Positive in (55%) and Negative in (45%).

Personal history of stress was associated with AA in 64 %. Personal history of depression was associated with AA in 25 %. The most common site of alopecia areata was in head (103).

Conclusion: Our study aimed to determine the prevalence and the causative agents of of AA in Iraqi patients. More severe cases of AA, long disease duration, and psychological history involvement were seen in our study.

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Key word: Alopecia areata, Depression, Anxiety, Stress.

Introduction

Alopecia areata (AA) is a common form of non-scarring hair loss that occurs on any hair bearing skin[1]. It affects approximately 0.1% to 0.2% of the world population. Most patients are relatively of young age group[2].

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)[3].

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[4].

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[5].

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[6]

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. 3). Small distinct patches may merge and form larger patches (Fig. 4). Scalp is the most common site (90%), but any part of the body may be affected [7].

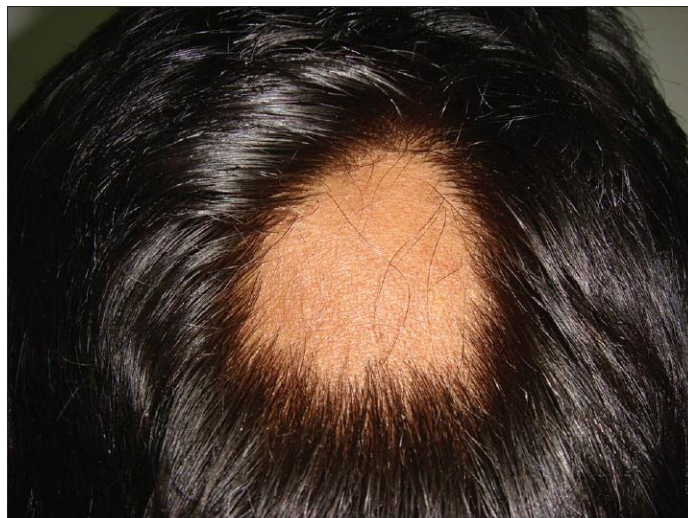


Fig.3: Localized patch of alopecia areata[7].



Fig. 4: Small patches, merging and forming larger patch[7].

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 [1].

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 [8].

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[8].

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 preiphery 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 [10].

Aims:

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

Patients and Method

A cross-sectional study was done from 1st of Oct 2019 to 29th of Feb 2020 at Baquaba teaching Hospital from outpatient dermatology clinic diagnosed by dermatologist. The data included 200 patients with different clinical variants of Alopecia Areata , 142 males and 58 females of different age groups.special questionnaire form used including (Gender, Age, Clinical types, History, Psychological Hx and sites).

Ethical Considerations:

Written informed consents were obtained from patients. The study was approved by the ethics committee on research involving human subjects of diyala faculty of medicine.

Type of the study:

Cross section study

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 (patchy and single alopecia, alopecia totalis and alopecia universalis).

Exclusion criteria:

The following patients were excluded from the study:

1. Patient <4 years and >50 years.
2. Pregnant and lactating female patients.

Statistical method:

Computer data base used to analysis the data, frequency and percentiles.

Results

The present study included 200 patients with different clinical variants of Alopecia Areata , 142 males and 58 females of different age groups.

Table 1: Frequency distribution of Alopecia areata according to gender

Gender	No.	%
Male	142	71%
Female	58	29%
Total	200	100%

Table 2: Distibution of Alopecia Areata according to age:

Age	No.	(%)
<20 years	48	24%
>20years	152	76%
Total	200	100%

Table 3: Distribution of Alopecia Areata according to clinical type:

Clinical type	No.	(%)
Patchy	136	68%
single	30	15%
Alopecia totalis	22	11%
Alopecia universalis	12	6%
Total	200	100%

Table 4: Recurrence history of Alopecia Areata:

Reccurence	No.	(%)
Positive	110	55%
Negative	90	45%
Total	200	100%

Table 5: Associated psychological Hx:

Psychological hx	No.	(%)
Stress	128	64%
Depression	50	25%
No	22	11%
Total	200	100%

Table6: site lesion of Alopecia Areata

site lesion of Alopecia Areata	No.
Head	103
Beard	85
Eyebrow	53
Eyelash	42
Total	283

Discussion

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 [9].

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 [11].

The aim of the present study was to determine the prevalence and causative agents of AA in Iraqi patients.

The current study included 200 patients with different clinical variants of AA, 142 males and 58 females of different age groups.

In the present study the patients included were 142 males (71%) and 58 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 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 - 20].]

Conclusion

We concluded that, alopecia areata was more common in male, age>20years, patchy lesion ,psychological history and more in head.

Recommendations

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

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وبائيات داء الثعلبية في محافظة ديالى

أطروحة
مقدم لكلية الطب / جامعة ديالى
كما استيفاء جزئي للمتطلبات

درجة بكالوريوس في الطب والجراحة العامة

بواسطة

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يشرف عليها
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الخلاصة

الخلفية: داء الثعلبة هو أحد أمراض المناعة الذاتية بواسطة الخلايا المناعية تستهدف بويصلات الشعر عادة ما يسبق ظهور تساقط الشعر المفاجئ الذي يختلف في شدته. وقد تم تجميع الحالات السريرية في الولايات المتحدة وأوروبا وآسيا ، في حين أن هناك ندرة في البيانات السريرية في العرب وشمال إفريقيا

الأهداف: تحديد مدى انتشار داء الثعلبة والعوامل المسببة له.

المريض والطريقة: تم إجراء دراسة مقطعية من ١ أكتوبر ٢٠١٩ إلى ٢٩ فبراير ٢٠٢٠ في مستشفى بعقوبة التعليمي من عيادة الأمراض الجلدية. تضمنت البيانات ٢٠٠ مريض يعانون من متغيرات سريرية مختلفة من داء الثعلبة و ١٤٢ من الذكور و ٥٨ من الإناث من مختلف الفئات العمرية.

النتائج: أظهرت هذه الدراسة أنه تمت مشاهدة مائتي حالة. كان توزيع داء الثعلبة حسب الجنس أكثر شيوعاً بين الذكور (٧١٪). الفئة العمرية الشائعة < ٢٠ عامًا (٧٦٪). وكانت البقعة المتعددة هي الشكل الأكثر شيوعاً (٦٨٪). تاريخ تكرار إيجابي في (٥٥٪) وسالب في (٤٥٪) ارتبط التاريخ الشخصي للإجهاد بمرض داء الثعلبة في ٦٤٪. ارتبط التاريخ الشخصي للاكتئاب في (٢٥٪). الموقع الأكثر شيوعاً للحاصة البقعية كان في الرأس (١٠٣)

الخلاصة: هدفت دراستنا إلى تحديد مدى انتشار ومسببات داء الثعلبة في المرضى العراقيين. شوهدت الحالات الأكثر حدة منه، ومدة المرض الطويلة ، ومشاركة التاريخ النفسي في دراستنا.