

Original Research Article

An epidemiological study of 198 cases of primary cicatricial alopecia in Iran

Abstract

Background: Cicatricial alopecia or scarring alopecia, is a group of trichologic emergency disorders characterized by hair follicle destruction and permanent loss of hair. The aim of this cross-sectional study is to evaluate epidemiological and clinicopathological characteristics of cicatricial alopecia in Isfahan community.

Material and Method: 198 patients with proven diagnosis of cicatricial alopecia by biopsy from 2008 to 2015 included. Data were obtained through filled questionnaires by patients. Descriptive statistical methods were used for analyzing the results.

Result: 198 patients including 126 female (63.6%) and 72 male (36.4%) participated in this study. 69.6% of patients suffered from lichen planopilaris (LPP) (85 female and 53 male), 22.2% discoid lupus erythematosus (DLE) (31 female and 13 male), 6% Folliculitis decalvans (6 female and 6 male), 1% pseudopelade of brocq (2 female and no male) and 1% Follicular mucinosis (2 female and no male).

Conclusion: Cicatricial alopecia in women is more common than men and the most common type of cicatricial alopecia is LPP. Early diagnosis and treatment can reduce the burden of psychosocial problems.

Keyword: Cicatricial alopecia, Lichen planopilaris, Discoid lupus erythematosus, Folliculitis decalvans, pseudopelade of brocq, Follicular mucinosis

Introduction

Cicatricial alopecia, known as scarring alopecia too, is a group of trichologic emergency disorders characterized by hair follicle destruction and permanent loss of hair(1, 2). Pain,

burning, severe itching and rapid progression are symptoms of some patients whereas others have symptom free gradual hair loss that would be neglected for long time(3, 4). This worldwide disease can affect children and adults(5).

Destruction of hair follicle and/or its associated adventitial dermis with relative sparing of the interfollicular reticular dermis is defined as primary cicatricial alopecia e.g folliculitis decalvans and discoid lupus erythematosus (DLE). Whereas hair loss as a result of non-follicular process is called secondary cicatricial alopecia. Some examples are burns, radiation, inflammatory diseases (eg, tinea capitis, pemphigus vulgaris, sarcoidosis) and infections like favus(2, 6, 7).

The categories of primary cicatricial alopecia are lymphocytic group (eg, classic pseudopelade of Brocq, chronic cutaneous lupus erythematosus, central centrifugal cicatricial alopecia, lichen planopilaris), neutrophilic (eg, dissecting cellulitis, folliculitis decalvans) and mixed group (eg, folliculitis keloidalis)(8, 9). The hallmark for diagnosis is biopsy particularly of new lesions as reported previously(10). The aim of this study is to evaluate epidemiological and clinicopathological characteristics of cicatricial alopecia in Isfahan population.

Methods and Materials

This study was conducted on the records of 198 patients with cicatricial alopecia, referred to dermatology clinic of Isfahan Alzahra Hospital from 2008 to 2015. Consent form was filled by all patients and Isfahan University Ethic Committee approved the study. All the patients underwent lesion biopsy. The obtained data including type of lesions, gender, occupation (indoor or outdoor) and type of lesion based on pathological finding, age and patient's age of onset were analyzed by using SPSS version 20 software. The results are expressed in Mean \pm Standard deviation. For statistical analysis, the Chi-Square test was used. P-value < 0.05 was considered statistically significant.

Results

198 patients with diagnosis of cicatricial alopecia including 126 female (63.6%) and 72 male (36.4%) participated in this study. The range of age was 15 to 75 years old. Most of the cases were from 30-39 years old.

184 patients with lymphocytic lesions and 14 patients with neutrophilic exudation were detected. There are 118 female and 66 male with lymphocytic exudation and 8 female and 6 male with neutrophilic exudation but no relation between type of lesion and gender was detected (P-value > 0.05).

The mean age of onset and mean age of patients for lymphocytic type was 38.3 and 40.2 years old whereas for neutrophilic was 35 and 38 years old respectively but there were no significant association among mentioned data (P-value > 0.05).

The demographic characteristics of patients is summarized in table 1. Inflammatory neutrophilic exudation was seen in 14 (7.1%) patients. Other information is demonstrated in Table 1.

No relationship was found between type of lesions and patient's job as most of our patients had indoor jobs.

Table 1. Demographics of patients with cicatricial alopecia.

Diagnosis	Exudation type	Male	Female	Mean age ± St deviation	Age of onset	Range
LPP	Lymphocytic	53 (38.4%)	85 (61.6%)	38.9 ± 12.8	37.98 ± 13.01	15-75
DLE	Lymphocytic	13 (39.5%)	31 (70.5%)	43.86 ± 12.15	39.40 ± 12.78	30-73

Pseudoplade of brocq	Lymphocytic	0 (0%)	2 (100%)	43.00 ± 15.55	43.00 ± 15.55	32-54
Folliculitis decalvans	Neutrophilic	6 (50%)	6 (50%)	38.16 ± 11.97	34.66 ± 12.42	25-55
Follicular mucinosis	Neutrophilic	0 (0%)	2 (100%)	37.00 ± 0.00	37.00 ± 0.00	37

LPP = lichen planopilaris, DLE = discoid lupus erythematosus

Table 2. Type of different lesions based on different range of ages.

	LPP (%)	DLE (%)	Pseudoplade of brocq (%)	Folliculitis decalvans (%)	Follicular mucinosis (%)	Total (%)
	lymphocytic	lymphocytic	lymphocytic	neutrophilic	neutrophilic	
10-19	7 (3.5%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	7 (3.5%)
20-29	25 (12.6%)	1 (0.5%)	0 (0%)	4 (2.02%)	0 (0%)	30 (15.1%)
30-39	50 (25.2%)	20 (10.1%)	1 (0.5%)	2 (1.01%)	2 (1.01%)	75 (37.8%)
40-49	21 (10.6%)	9 (4.5%)	0 (0%)	4 (2.02%)	0 (0%)	34 (17.1%)
50-59	24 (12.1%)	8 (4.04%)	1 (0.5%)	2 (1.01%)	0 (0%)	35 (17.6%)
60-69	9 (4.5%)	2 (1.01%)	0 (0%)	0 (0%)	0 (0%)	11 (5.5%)
70-79	2 (1.01%)	4 (2.02%)	0 (0%)	0 (0%)	0 (0%)	6 (3.03)

total	138 (69.6%)	44 (22.2%)	2 (1.01%)	12 (6.06%)	2 (1.01%)	198 (100%)
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LPP = lichen planopilaris, DLE = discoid lupus erythematosus

Discussion

Cicatricial alopecia causes destruction of follicular ostia and may lead to permanent hair loss(11). As mentioned above, these diverse disorders can occur primarily such as lupus erythematosus or secondarily due to burn, radiation and infections(8, 12). There is not enough information about these lesions worldwide, while early diagnosis and treatment can control this situation appropriately. In this study we evaluated 198 patients, including 126 female (63.6%) and 72 male (36.4%). Similar to the previous studies (2, 8). Females were affected more than males in our cohort (female to male ratio 1.75). This might explained by the fact that women more likely to seek medical help for skin lesions. But in the study performed in Tabriz, 52% patients were males that maybe due to higher number of neutrophilic cicatricial alopecia that mostly affects male(4). The range of the patients age was 15-75 years but similar to other studies, cicatricial alopecia was found mostly among middle-age patients(13, 14). The most affected patients were 30-39 years old while, the study of Beheshtiroy et al. presented 40-49 years as the most prevalent range of age and this presentation was not significant in both studies(15).

The biopsies were taken in order to identify 1) inflammatory exudation type and 2) lesion type. Lymphocytic cicatricial hair loss occurred approximately 13 times more than neutrophilic one but this higher rate was not significant (P-value > 0.05). This ratio is noticeably greater in comparison with previous studies that may have happened due to racial differences or method of our data collection (16, 17). Predominance of middle-aged females who were resenting from lymphocytic types of cicatricial alopecia was similar to previous studies, but results of this study about neutrophilic lesions did not match previous ones which

had presented these lesions more common among middle-aged males(18). Also, it may have happened due to low number of our neutrophilic affected patients.

Higher rate of patients with lymphocytic lesions is in concordance with other reports(18). Lymphocytic types of the lesions diagnosed through biopsy were LPP, DLE and Pseudoplade of brocq. The most common type of lymphocytic lesions was LPP (69.7% of all patients). This higher percentage of LPP is in correspondence with Amatto et al. study while Babaei Nejad et al. reported DLE lesions as the most common ones. DLE lesions have been found in 22.3% of our patients and mostly had affected middle-age females. (4, 18, 19).

LPP age of onset was lower than DLE whereas the results of Tan et al. study were contrary to ours. The age of onset for DLE and LPP in this presentation is 39.40 and 37.98 year-old whereas Tan et al reported 35.6 and 47.7 respectively(8).

Neutrophilic exudation lesions included Folliculitis decalvans and Follicular mucinosis. Among neutrophilic lesions, Folliculitis decalvans had affected 6.06% of patients. However, the percentage of affected patients is much less than other studies but as the most common neutrophilic lesion, this study is in accordance with previous ones(20).

Other studies mentioned the higher prevalence of neutrophilic lesions among middle-aged males but in our study we have not diagnosed any male patient with Follicular mucinosis and 50% of patients with Folliculitis decalvans (6 patients out of 12) included males(21, 22). As mentioned above, this may be as the reason of low number of patients with neutrophilic exudation.

Similar to the study of Beheshtiroy et al. our patients jobs did not have significant association with the disease while in a study of MM Al-Hilo et al. this relation was significant. Although most of our patients had indoor jobs but in the study of Iraq most of the patients had outdoor jobs. Also this significance may be the result of sun exposure (14, 15).

Conclusion

Cicatricial alopecia is more common in women. The most common type is LPP. Histologically the rate of lymphocytic cicatricial alopecia is higher than neutrophilic type. Early diagnosis and treatment is very important in these patients.

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