

Co-Morbidities Associated with Diffuse Hair Loss in Women

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ABSTRACT

This was an observational study carried out on 200 consecutive women in the age group of 15-45 years, who attended the skin OPD of a tertiary level urban hospital with the complaints of loss of hair from the scalp. The aim was to find out the prevalence of various etiological conditions associated with various types of non-scarring diffuse hair loss among Indian women. After a thorough history and physical examination, relevant test including CBC, TSH, T3 T4 were undertaken. Chronic telogen effluvium (71 / 200, 35.5%), female pattern hair loss (70 / 200, 35%) and Telogen effluvium (46 / 200, 23%) were the most common non scarring diffuse hair loss, found in adult women of reproductive age group. Apart from anemia which is very common (75 out of 200 cases, 35.5 %) across all types of diffuse hair loss cases, fever (7/46, 15.21% of TE cases), postpartum hemorrhage (5/46, 10.86%) and emotional stress (4/46, 8.69%) were the common triggers for Telogen effluvium; hirsutism (6/70, 8.57%), obesity (6/70, 8.57%), polycystic ovarian disease (4/70, 5.71%), hypothyroidism (4/70, 5.71%) and diabetes (4/70, 5.71%) were the common associated conditions in Female pattern hair loss; and hypothyroidisms (11/71, 15.49%) and polycystic ovarian disease (6/71, 8.45%) were common in Chronic telogen effluvium.

Anemia (75 out of 200 cases, 35.5 %) and abnormal thyroid functions (23 out of 200 cases, 11.5 %) were the two most common co-morbidities found across all types of Diffuse hair loss in women. Apart from anemia a large number of patients of Diffuse hair loss (90 / 200, 45.5%) had an associated condition, which necessitate a thorough examination and relevant investigations in all cases of diffuse hair loss so that the associated conditions can be detected and appropriate treatment be instituted.

Key word: Diffuse hair loss, Female pattern hair loss, Telogen effluvium, Chronic Telogen effluvium.

INTRODUCTION

Women presenting with diffuse hair loss is a very common and challenging problem.^[1]

There are only a few studies conducted in India to explore the etiological factors associated with diffuse hair loss. This study has been conducted with the aim to find out the prevalence of various etiological conditions associated with various types of non-scarring diffuse hair loss among Indian women.

MATERIALS AND METHODS

This was an observational study carried out on 200 consecutive women in the age group of 15-45 years, who attended the skin OPD of a tertiary-level urban hospital with the complaints of loss of hair from the scalp. Patients with congenital alopecia, cicatricial alopecia and patchy hair loss were excluded from the study. All patients underwent general examination including, pulse, BP, pallor etc, and a

systemic examination. All patients underwent laboratory screening including CBC, urine for routine and microscopic examination, and thyroid function test. Biopsy was undertaken only in rare cases when the clinical diagnosis was in doubt and the patient consented for it. The patients were classified into various types of non-scarring diffuse hair loss based on their distinguishing features. [1]

RESULTS

Out of the total 200 patients, 70 (35%), 46 (23%), 71 (35.5%), 1 (.05%), 1 (0.05%) and 11 (5.5%) were diagnosed as female pattern hair loss (FPHL), telogen effluvium (TE), chronic telogen effluvium (CTE), diffuse alopecia areata (AA), anagen effluvium (AE) and CTE/FPHL, respectively (Table 1). In the later 11 cases, no definitive diagnosis, as to whether they were CTE or FPHL, was possible. FPHL, TE and CTE together accounted for 93.5% (187/200) of total cases. The conditions / triggering factors associated with various types of diffuse hair loss are depicted in Table 2.

A number of triggering factors were identified for patients of TE (Table 2). Common among them were fever (7/46, 15.21% of TE cases), postpartum hemorrhage (5/46, 10.86%) and emotional stress (4/46, 8.69%). Hypothyroidism was detected in 5/46 (10.86%) cases. In 14 out

of 46 (30.43%) cases of TE, no triggering factor or associated condition was noted. A large number of associated conditions were noted in FPHL cases. Common among them were hirsutism (6/70, 8.57%), obesity (6/70, 8.57%), polycystic ovarian disease (4/70, 5.71%), hypothyroidism (4/70, 5.71%) and diabetes (4/70, 5.71%). Androgens were not estimated in this study, but 30% (21/70) of cases of FPHL had features suggestive of hyperandrogenism, such as hirsutism, polycystic ovarian syndrome, obesity, acne and irregular periods. Hypothyroidisms (11/71, 15.49%) and polycystic ovarian disease (6/71, 8.45%) were the two common co-morbidities recorded in Chronic telogen effluvium. In the group CTE / FPHL which had 11 patients only 1 patient was found to be having associated diabetes. Anemia (Hb <12 g) and abnormal thyroid functions were noted in a significant number of cases of diffuse hair loss. Anemia was found in 75 cases (37.5 %) and abnormal thyroid functions in 22 out of 200 cases (11.5%).

Table 1: Types of non scarring diffuse alopecia recorded in the study.

Types of hair loss	Number of patients	Percentage
FPHL	70	35%
TE	46	23%
CTE	71	35.5%
AA (diffuse)	1	0.5%
Anagen effluvium	1	0.5%
CTE / FPHL	11	5.5%
Total	200	100%

Table 2: Diseases / triggering factors (with numbers of patients) associated with various types of diffuse hair loss in women.

TE (n=46)	FPHL (n=70)	CTE (n=71)	CTE / FPHL (n=11)	AA (diffuse) (n=1)	Anagen effluvium (n=1)
High fever 7 Post partum hemorrhage 5 Hypothyroidism 5 Emotional stress 4 Diabetes 2 Crash diet 3 Toxic epidermal necrosis 1 Erythema multiforme 1 Epilepsy 1 Rheumatoid arthritis 1 Cutaneous vasculitis 1 Gall stone surgery 1 Anemia 18	Hirsutism 6 Obesity 6 Polycystic ovarian disease 4 Hypothyroidism 4 Diabetes 2 Irregular periods 3 Hypertension 1 Acne 2 Hyperthyroidism 2 Anemia 22	Hypothyroidism 11 Polycystic ovarian disease 6 Diabetes 2 Obesity 1 Irregular periods 2 Anemia 30	Diabetes 1 Depression 1 Anemia 4	Diabetes 1 Hypothyroidism 1 Anemia 1	Ca breast 1

DISCUSSION

CTE, FPHL and TE are the three most common causes of non-scarring diffuse hair loss alopecia in adult women. Together they account for most of the cases of diffuse hair loss. [1-5] In this study also, these three entities accounted for 93.5% (187/200) of total cases. The prevalence of FPHL and CTE in this study was almost equal in percentage term, 35% for FPHL and 35.5% for CTE, while TE was seen in 23% of cases. The prevalence of these different types of alopecia varies in different studies and a comparison between prevalence studies is hampered by the lack of universally accepted criteria for diagnostic definition of these disorders.

Anemia (75 out of 200 cases, 35.5 %) and abnormal thyroid functions (23 out of 200 cases, 11.5 %) were noted in a significant number of cases of diffuse hair loss. Other reports also suggest the association of anemia and abnormal thyroid functions in diffuse hair loss. [6,7] Anemia and thyroid hormone disorders are the two common conditions often associated with diffuse hair loss, and most of the time, there are no apparent clinical features to suggest them, so these must be investigated in all cases of diffuse hair loss in women.

A number of triggering factors were identified for patients of TE. Common among them were fever (7/46, 15.21% of TE cases), postpartum hemorrhage (5/46, 10.86%) and emotional stress (4/46, 8.69%). Hypothyroidism was detected in 5/46 (10.86%) cases and anemia in 18 / 46 (39.13%). These triggering factors were recorded in other studies also. [8-10] In 14 out of 46 (30.43%) cases of TE, no triggering factor or associated condition was noted.

A large number of associated conditions were noted in FPHL cases. Common among them were hirsutism (6/70, 8.57%), obesity (6/70, 8.57%), polycystic ovarian disease (4/70, 5.71%), hypothyroidism (4/70, 5.71%) and diabetes (4/70, 5.71%). Abnormal hormone profiles were observed in 67% of the patients with alopecia alone in one study. [11] Androgens

were not estimated in this study, but 30% (21/70) of cases of FPHL had features suggestive of hyperandrogenism, such as hirsutism, polycystic ovarian syndrome, obesity, acne and irregular periods.

In Chronic telogen effluvium, anemia (30/71, 42.25 %), and abnormal thyroid functions (11 / 71, 15.49 %) were the two most common associated conditions recorded in the study. This is in line with other studies. [6,7]

CONCLUSION

Anemia (75 out of 200 cases, 35.5 %) and abnormal thyroid functions (23 out of 200 cases, 11.5 %) were the two most common co-morbidities found across all types of Diffuse hair loss in women. Apart from anemia, a significant number of patients of Diffuse hair loss (90 / 200, 45.5 %) had an associated condition. The common among these are triggering factors like fever (7/46, 15.21% of TE cases), postpartum hemorrhage (5/46, 10.86%) and emotional stress (4/46, 8.69%) in cases of Telogen effluvium; hirsutism (6/70, 8.57%), obesity (6/70, 8.57%), polycystic ovarian disease (4/70, 5.71%), hypothyroidism (4/70, 5.71%) and diabetes (4/70, 5.71%) in cases of FPHL, and hypothyroidism (11/71, 15.49%) and polycystic ovarian disease (6/71, 8.45%) in Chronic telogen effluvium.

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