Frontal fibrosing alopecia and comorbidities in a Moroccan population

To the Editor: Frontal fibrosing alopecia (FFA) is a lymphocytic scarring alopecia that can be associated with multiple comorbidities.

The objectives of our study were to analyze the frequency of comorbidities associated with FFA in a Moroccan population.

A prospective and descriptive study was realized during 18 months at the Ibn Sina University Hospital in Rabat, Morocco.

A total of 38 female patients with a confirmed diagnosis of FFA were included. The median age was 53 years. 60.5% were postmenopausal. 68.4% had phototype IV, 28.9% had phototype V, and 2.6% had phototype III. 76.3% had a linear FFA type, 15.7% had a diffuse type, and 7.8% had a pseudo-fringe sign type. 65.7% had an eyebrow alopecia.

Lichen planus pigmentosus (36.8%) and rosacea (28.9%) were the most frequently reported comorbidities, followed by thyroid disorders (23.7%) and dyslipidemia (21.1%). Table I summarizes all the associated comorbidities.

Table I. Associated comorbidities

Associated comorbidities	*N* (%)
Cutaneous comorbidities	
Lichen planus pigmentosus	14 (36.8)
Rosacea	11 (28.9)
Vitiligo	1 (2.6)
Psoriasis	1 (2.6)
Acne	1 (2.6)
Endocrine comorbidities	
Thyroid disorders	9 (23.7)
Dyslipidemia	8 (21.1)
Diabetes	3 (7.9)
Cardiovascular comorbidities	
High blood pressure	7 (18.4)
Coronary artery disease	1 (2.6)
Others	
Atopy	2 (5)
Celiac disease	1 (2.6)
Psoriatic arthritis	1 (2.6)
Epilepsy	1 (2.6)

Lichen planus pigmentosus and FFA are variants of lichen and have been frequently associated especially in dark phototypes.

Rosacea was diagnosed in 28.9% of our patients, which supports findings by Pindado-Ortega et al[1] that patients with FFA have a higher risk of rosacea. It seems that the immune system plays an important role by the involvement of common inflammatory pathways to these 2 pathologies of the pilosebaceous follicle.[1] Also, the prevalence of rosacea increases with age and some risk factors could help the development of rosacea during FFA-like perifollicular erythema, a high body mass index and a low progesterone level.[2]

The association of thyroid disorders and FFA might be related to thyroid hormones. In short term they have a stimulating effect on the cytokeratin 15, a marker of stem cells found in the hair follicle bulge, but after a long stimulation, thyroid hormones will have a role in the apoptosis of stem cells.[3]

Dyslipidemia is also a frequently reported associated comorbidity with FFA. The peroxisome proliferator-activated receptor has been incriminated. This nuclear receptor plays the role of a transcription factor helping in the regulation of expression of genes involved in lipid homeostasis, hence it has a role in the maintenance of the pilosebaceous follicle. Studies have suggested that the initial triggering of inflammation in lichen planus is due to a dysfunction of this receptor, leading to a disruption of lipid metabolism in the sebaceous gland and a subsequent inflammatory response.[4]

As for diabetes, a lower risk of diabetes in FFA patients[5] has been reported which is consistent with our results, given the low percentage of diabetes; 7% in our patients, compared to 12.4%; prevalence of diabetes in the adult population in Morocco.

Given that the prevalence of arterial hypertension in Morocco is 33.6% in the adult population, it also seems that the FFA is associated with a lower risk of arterial hypertension.

In conclusion, we observed multiple comorbidities in our population of FFA patients seen in a university hospital in Morocco, though whether these levels differ significantly from those without FFA, and whether these findings are generalizable beyond our center, will require further studies.

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Key words: comorbidities; frontal fibrosing alopecia; Moroccan.

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Conflicts of interest

None disclosed.

REFERENCES

1. Pindado-Ortega C, Saceda-Corralo D, Buendía-Castaño D, et al. Frontal fibrosing alopecia and cutaneous comorbidities: a potential relationship with rosacea. *J Am Acad Dermatol*. 2018;78(3):596-597.e1.
2. Porriño-Bustamante ML, Fernández-Pugnaire MA, Arias-Santiago S. Frontal fibrosing alopecia: a review. *J Clin Med*. 2021;10(9):1805.
3. Tiede S, Bohm K, Meier N, et al. Endocrine controls of primary adult human stem cell biology: thyroid hormones stimulate keratin 15 expression, apoptosis, and differentiation in human hair follicle epithelial stem cells in situ and in vitro. *Eur J Cell Biol*. 2010;89(10):769-777.
4. Karnik P, Tekeste Z, McCormick TS, et al. Hair follicle stem cell-specific. PPARgamma deletion causes scarring alopecia. *J Investig Dermatol*. 2009;129:1243-1257.
5. Fertig RM, Hu S, Maddy A, et al. Medical comorbidities in patients with lichen planopilaris, a retrospective case—control study. *Int J Dermatol*. 2018;57(7):804-809.

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