Frontal Fibrosing Alopecia: Current Understanding And Treatment

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Paradi Mirmirani, MD
The Permanente Medical Group, Vallejo, CA
Regional Director, Hair Disorders
paradi.mirmirani@kp.org
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I will be discussing off-label use of medications
Frontal Fibrosing Alopecia: Current Understanding And Treatment


Frontal fibrosing alopecia: a disease fascinating for the researcher, disappointing for the clinician and distressing for the patient.

Jimenez F¹, Harries M², Poblet E³.
Frontal fibrosing alopecia
Bandlike Frontal Hair Loss in a 62-Year-Old Woman

Paradi Mirriri, MD; Timothy McGalmon, MD; Vera H. Price, MD, FCRPC; University of California, San Francisco

REPORT OF A CASE

A 62-year-old white woman presented with a 1-year history of decreased hair density and itching of the scalp. The hair loss was most prominent along the frontal hairline. She also noted decreased density and then complete loss of both eyebrows. She was in good health except for a history of basal cell cancer and acinic keratocyst. She had undergone a hysterectomy at the age of 65 years, and the only medication she used was vaginal estrogen cream. She denied any family history of androgenetic alopecia or other types of hair loss.

The results of laboratory tests, including a complete blood cell count and measurement of thyrotropin and antinuclear antibody levels, were normal. Physical examination revealed seemingly normal scalp hair density. However, an absence of follicular orifices and increased spacing between the hairs in a bandlike distribution from ear to ear were evident on close examination of the frontal hairline (Figure 1, top arrow). The skin in the area of alopecia, anterior to the frontal hairline, was pale and contrasted with the suntanned skin of the lower area of the forehead. Sparse residual hairs along the frontal hairline had notable perifollicular erythema and scale. Eyebrows were absent bilaterally (Figure 1, bottom arrow). Anagen hairs were easily extracted from the affected area. Findings of examination of the skin, nail, and mucous membranes were normal.

A 4-mm punch biopsy specimen from the affected area was horizontally sectioned (Figure 2 and Figure 3). What is your diagnosis?
Postmenopausal Frontal Fibrosing Alopecia
Scarring Alopecia in a Pattern Distribution
Steven Kossard, FACD


6 women
FFA- pre-menopausal
FFA-facial papules
FFA in men
FFA- Lichen planus pigmentosus/lichen planus pigmentosus inversus
Hypothesis: Pathogenesis
Sebaceous Gland Dysfunction

- Asebia mouse: animal model for cicatricial alopecia (Sundberg et al 2000)
- Histology: absence of sebaceous glands
- Sebaceous glands
  - Responsive to various hormones
  - Repository for toxins
Molecular evidence- Sebaceous Gland Dysfunction

- Loss of PPAR gamma *
- Mitochondrial dysfunction**


**Subbaiah et al. Mitochondrial Dysfunction Present Early and Trigger the Pathogenic Sequelae in Cicatricial Alopecia. JID 133, S260-S302 (May 2013).
Current Controversy: FFA and Facial Moisturizers/ Sunscreens?

105 women FFA and 100 age matched controls
– Use of sunscreens significantly higher in FFA group

17 men with FFA and 73 controls
– Use of facial moisturizers and sunscreens higher in FFA group
Defining and Measuring Disease Activity and Endpoints

- Symptoms (itch, pain, burn)
- Signs of inflammation (erythema, scaling)
- Progression of hair loss (photography/measurements)
- Scalp biopsy (degree of inflammation)

Follow up - every 2-3 months until stable

Expected duration of treatment
  - 6-9 months after stabilization
  - Recurrences are frequent
Therapy for frontal fibrosing alopecia: Steps and Layers

**Anti-inflammatory**
- Tier 1: Intralesionals (5mg/ml tac), topical corticosteroids
- Tier 2: Antibiotics (doxycycline 100mg bid), antimalarials (hydroxychloroquine 200mg bid), ppar gamma agonists (pioglitazone 15mg qd)
- Tier 3: Systemic anti-inflammatory (prednisone, cyclosporine 200-400mg qd, mycophenolate mofetil 1-2 g qd)

**Non-specific hair growth promotion**
- Topical minoxidil, 5-alpha- reductase inhibitors (finasteride, dutasteride)

**Cosmetic**
*Cicatricial Alopecia an Approach to Diagnosis and Management, Springer 2011*
Evidence for Treatment Efficacy

- Hydroxychloroquine:
  - 40 patients with LPP, FFA
  - Improvement in LPPAI in 69% and 83% of patients after 6 & 12 months, respectively
<table>
<thead>
<tr>
<th>Time</th>
<th>Description</th>
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<tbody>
<tr>
<td>Initial visit</td>
<td>3 month followup 6 months pioglitazone 15mg qd</td>
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<tr>
<td>• PPAR gamma agonist</td>
<td>• Can be used in non-diabetics</td>
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<tr>
<td>• Side-effects include weight gain, peripheral edema, bladder CA &gt;1 year</td>
<td>• 1/3 remission, 1/3 responder, 1/3 non-responder</td>
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Treating FFA with 5-alpha reductase inhibitors

- Cohort of 355 patients
  - (111) 31% took finasteride or dutasteride
  - 47% improved, 53% stabilized

- Targeted treatment or non-specific hair regrowth?
  - Co-existent AGA 40% of women and 67% of men
  - 5-alpha reductase type II - hair follicles
  - 5-alpha reductase type I - sebaceous glands
Intralesional injection of triamcinolone acetonide- regrowth in FFA

Eyebrow regrowth in patients with frontal fibrosing alopecia treated with intralesional triamcinolone acetonide.

Donovan JC, Samman A, Rubin BS, Price VH
Finding the missing hairline in FFA: cocking the eyebrows, a useful maneuver
Hairline measurements for follow up visits
Conclusions

- Increasing incidence of FFA worldwide
- Defects in sebaceous gland likely central to pathogenesis of FFA
- Treatment strategies
  - Anti-inflammatory
  - PPAR-gamma agonists
  - 5 alpha reductase inhibitors