Alopecia

Antonella Tosti

Fredric Brandt Endowed Professor of Dermatology & Cutaneous Surgery
Miller School of Medicine, University of Miami
DISCLOSURE OF RELATIONSHIPS WITH INDUSTRY

Antonella Tosti, MD
S049 Alopecia

DISCLOSURES

Fotofinder: Consultant, Springer & Verlag, CRC Press: Author-Royalties, Karger: Editor in chief
Most important challenges

1 Clinico/pathological correlations

2 Utilize dermoscopy to select optimal biopsy site

3 Distinguish early scarring alopecias from MPHL/FPHL

4 Pitfalls
Most important challenges

1. Lack of clinico/pathological correlations

The clinician is convinced that the patient has scarring alopecia

Pathologist signs as non scarring alopecia
1 Lack of clinico/pathological correlations

Most common reasons

Site of biopsy

Clinicians often decide to take the biopsy at the periphery of the patch as this is where the disease is active and it is more likely to obtain a pathological diagnosis.
1 Lack of clinico/pathological correlations

Most common reasons

Site of biopsy

This site might not be affected and pathology shows no scarring
1 Lack of clinico/pathological correlations

How to deal?

Look at the problem together!

1) Take a new biopsy in the scarring area, as patient otherwise gets confused

2) Use dermoscopy to see where the disease is active at periphery and in this case take a dermoscopy guided biopsy
1 Lack of clinico/pathological correlations

How to deal?

Look at the problem together!

2) Use dermoscopy to see where the disease is active at periphery and in this case take a dermoscopy guided biopsy.
1 Lack of clinico/pathological correlations

Different situation

In this case the clinician is unsure if this is scarring or non scarring: it is very important to take the biopsy at the center of the patch!
1 Lack of clinico/pathological correlations

Most common reasons

Specimen processing

- Transverse
- Vertical
1 Lack of clinico/pathological correlations

Best approach

If the clinician provides two biopsies process one for horizontal and one for vertical sections

If the clinician provides one biopsy process for horizontal sections

1 Lack of clinico/pathological correlations

Best approach

2 Utilize dermoscopy to select optimal biopsy site

Use the dermatoscope to select the biopsy site!

Area to select depends on disease

2 Utilize dermoscopy to select optimal biopsy site

Instruments

- DermLite® (3Gen LLC.)
- Handyscope® (FotoFinder Systems)
- DermScope ® (Canfield Imaging Systems)
2 Utilize dermoscopy to select optimal biopsy site

Area to select depends on clinical diagnosis and dermoscopic features

Select the area with dermoscopy

Mark and circle the area

Confirm selection with a dermoscopic picture
2 Utilize dermoscopy to select optimal biopsy site

Dermoscopic features associated with disease activity in scarring alopecias.

Peripilar casts
Hair tufting
Keratotic plugs
White gray halos
2 Utilize dermoscopy to select optimal biopsy site

Peripilar casts

White concentric scales surrounding the hair shaft at its emergency
2 Utilize dermoscopy to select optimal biopsy site

Hair tufting

Tuft of 2 or more hairs surrounded by casts
2 Utilize dermoscopy to select optimal biopsy site

Keratotic plugs

Keratotic masses filling the follicular openings
2 Utilize dermoscopy to select optimal biopsy site

White gray halos

White gray dots surrounding a tuft of 2 hais
2 Utilize dermoscopy to select optimal biopsy site

Site of Biopsy in Scarring Alopecias

Lichen planopilaris: tufted hairs with peripilar casts

Frontal fibrosing alopecia: terminal hairs with peripilar casts

Discoid lupus erythematosus: keratotic plugs, red dots

Folliculitis decalvans: tufts of six or more hairs emerging together

Central centrifugal cicatricial alopecia: white-gray halos
2 Utilize dermoscopy to select optimal biopsy site

Dermoscopy guided biopsy

• Increases pathological accuracy (diagnosis in 95% of biopsies)
• Very helpful in cases of early or focal disease
• Useful for dermoscopic-pathological correlations
3 Distinguish early scarring alopecias from FPHL/MPHL

**Important mimics of MPHL/FPHL**

Frontal fibrosing alopecia

Fibrosing alopecia with a pattern distribution
3 Distinguish early scarring alopecias from FPHL/MPHL

Frontal fibrosing alopecia

- Frequency is increasing worldwide
- Not limited to postmenopausal women
- Commonly associated with androgenetic alopecia
- Early cases can be difficult to detect
3 Distinguish early scarring alopecias from FPHL/MPHL

Frontal fibrosing alopecia

Clinical features

- Frontal hairline recession
- Loss of eyebrows
- Prominent temporal/frontal veins
- Hair loss in the limbs
- Facial lesions
3 Distinguish early scarring alopecias from FPHL/MPHL

Frontal fibrosing alopecia

Frontal hairline recession

Mean glabellar–frontal distance : 8,5 cm (controls 5.9 cm)

The alopecic area shows less signs of photodamage as compared with the forehead

3 Distinguish early scarring alopecias from FPHL/MPHL

Frontal fibrosing alopecia

Frontal hairline recession

**Lonely hair**: a clue to diagnose Frontal Fibrosing Alopecia

Presence of one or few isolated remaining terminal hair in the middle of the forehead, at site of the original hairline implantation is a clinical clue for diagnosis of FFA

3 Distinguish early scarring alopecias from FPHL/MPHL

Frontal fibrosing alopecia

Frontal hairline recession

Perifollicular erythema and scaling
3 Distinguish early scarring alopecias from FPHL/MPHL

Frontal fibrosing alopecia

Clinical features

  Loss of eyebrows (75% of patients)
3 Distinguish early scarring alopecias from FPHL/MPHL

Frontal fibrosing alopecia

Clinical features

Prominent
temporal/frontal veins
3 Distinguish early scarring alopecias from FPHL/MPHL

Frontal fibrosing alopecia

Frequency is increasing worldwide

Very common in Europe, Americas, Africa, few cases reported from China, rare in South Arabia

Role of sunscreens

Research Letter

Frontal fibrosing alopecia in men: an association with facial moisturizers and sunscreens


First published: 23 May 2017  Full publication history
DOI: 10.1111/bjd.15311  View/save citation
3 Distinguish early scarring alopecias from FPHL/MPHL

Frontal fibrosing alopecia

Not limited to postmenopausal women

Also seen in young women and men
3 Distinguish early scarring alopecias from FPHL/MPHL

Frontal fibrosing alopecia

Increasingly reported in men


3 Distinguish early scarring alopecias from FPHL/MPHL

**Frontal fibrosing alopecia**
- Increasingly reported in men

  Can start from sideburns

  Beard and body hair commonly involved
3 Distinguish early scarring alopecias from FPHL/MPHL

**Frontal fibrosing alopecia**

Commonly associated with androgenetic alopecia
3 Distinguish early scarring alopecias from FPHL/MPHL

**Frontal fibrosing alopecia**

Look at the hairline of all women consulting for hair loss!

Parietal hairline often first site of involvement
3 Distinguish early scarring alopecias from FPHL/MPHL

Frontal fibrosing alopecia

Tips to recognize early FFA

- Suspect FFA in all patients showing sparse/tattooed eyebrows
- Be aware of facial lesions!
- Look for presence/absence of vellus hair at the hairline
3 Distinguish early scarring alopecias from FPHL/MPHL

Frontal fibrosing alopecia

Tips to recognize early FFA

Suspect FFA in all patients showing sparse/tattooed eyebrows

3 Distinguish early scarring alopecias from FPHL/MPHL

Frontal fibrosing alopecia

Tips to recognize early FFA

Be aware of facial lesions!

Facial papules
Keratosis pilaris like lesions
Facial erythema
Facial macules
Facial hyperpigmentation
3 Distinguish early scarring alopecias from FPHL/MPHL

Frontal fibrosing alopecia

Facial papules

More common in women with dark phototypes

Forehead
Temples
Checks
Chin
3 Distinguish early scarring alopecias from FPHL/MPHL

Frontal fibrosing alopecia

Facial papules

Lichenoid inflammation involving vellus hair follicles and perifollicular fibrosis
3 Distinguish early scarring alopecias from FPHL/MPHL

Frontal fibrosing alopecia

Facial papules

Pinkus acid orcein staining showing reduction and fragmentation of elastic fibers.
3 Distinguish early scarring alopecias from FPHL/MPHL

Frontal fibrosing alopecia

Facial papules

We propose that an abnormal elastic framework could be responsible for the remodeling of the shape of sebaceous lobules and ducts in this anatomic microenvironment, leading to the popping out of sebaceous glands and the clinical formation of FP.

3 Distinguish early scarring alopecias from FPHL/MPHL

Frontal fibrosing alopecia

Facial papules

3 Distinguish early scarring alopecias from FPHL/MPHL

Frontal fibrosing alopecia

Other facial lesions

In dark phototypes easily confused with melasma

In fair phototypes easily confused with rosacea
3 Distinguish early scarring alopecias from FPHL/MPHL

Frontal fibrosing alopecia

Tips to recognize early FFA

Look at hairline for presence/absence of vellus hair

You need a dermatoscope!
Distinguish early scarring alopecias from FPHL/MPHL

Take home message

- FFA increasingly common
- Not limited to postmenopausal women
- You might get eyebrow biopsies
- You might get biopsies of facial lesions
Distinguish early scarring alopecias from FPHL/MPHL

26 year old man with patterned alopecia and scalp itching
3 Distinguish early scarring alopecias from FPHL/MPHL

- Dry dermoscopy
- Hair shaft variability
- Peripilar casts
- Hair tufting
- V sign
3 Distinguish early scarring alopecias from FPHL/MPHL

Fibrosing alopecia with a pattern distribution

First described by Zinkernagel & Trueb in 2011

Pathology: miniaturization (as in androgenetic alopecia) and lichenoid perifollicular inflammation

3 Distinguish early scarring alopecias from FPHL/MPHL

Fibrosing alopecia with a pattern distribution

Diagnosis:

Need to take dermoscopy guided biopsy!
3 Distinguish early scarring alopecias from FPHL/MPHL

Fibrosing alopecia with a pattern distribution

Diagnosis pathology :

Need horizontal sections!
3 Distinguish early scarring alopecias from FPHL/MPHL

Fibrosing alopecia with a pattern distribution vs lichen planopilaris

FAPD : miniaturization is a specific feature
LPP : vellus hairs are lost
3 Distinguish early scarring alopecias from FPHL/MPHL

Fibrosing alopecia with a pattern distribution

May be no so uncommon

Might be the reason of LPP after hair transplantation

Pathologists are really important in detecting these patients

4 Pitfalls

14 year old African American girl

3 months history of erythema, boggy induration, serosanguinous drainage and hair loss
4 Pitfalls

A scalp biopsy was read as consistent with dissecting cellulitis, PAS stain negative
4 Pitfalls

Treatment with doxycycline 200 mg daily and clobetasol 0.01% foam produced no improvement.

Follow up after 3 months showed persistence of tender scalp nodules, scalp erythema, severe alopecia, pus discharge and cervical adenopathy.
4 Pitfalls

Scalp dermoscopy

Scales, broken hairs, comma and corkscrew hairs
4 Pitfalls

Diagnosis: tinea capitis

Terbinafine 250 mg day for 6 weeks

At end of treatment inflammation had completely resolved but areas of alopecia were still present

Diagnosis confirmed by culture that grew *Trichophyton sp*
4 Pitfalls

Why pathology showed dissecting cellulitis?

Why fungal stains were negative?
4 Pitfalls

Tinea Capitis Mimicking Dissecting Cellulitis

Nodulocystic form of tinea capitis with overlying alopecia, closely resembling dissecting cellulitis of the scalp.

Histopathology shows a dense mixed lympho-plasmacytic and neutrophilic infiltrate and fungal stains are usually negative

4 Pitfalls

Tinea Capitis Mimicking Dissecting Cellulitis

Inflammatory tinea capitis can mimic dissecting cellulitis clinically and histologically.

Dermoscopy may indicate correct diagnosis.

Always take a culture in inflammatory scalp diseases of children and adolescents!!!

Culture and fungal stains maybe negative.

Thank you!

atosti@med.miami.edu