Hair Thinning & Hair Loss

A CLINICAL UPDATE FOR NURSE PRACTITIONERS

1



Presented by:

- Dr. Christy A. Merrick, DNP, APRN, CNS, NP-C

No disclosures or conflicts of interest

2

Introduction

- -Scope of the problem
- -Prevalence by sex and age
- -Psychological and social impact

3

Learning Objectives

- -Differentiate common types of alopecia
- - Identify different causes
- - Apply evidence-based prevention and treatment strategies
- - Know when to refer

4

Why Hair Loss Matters

Affects > 50% of women and 70% of men over a lifetime

Significant psychological impact

Often first presents in Primary care

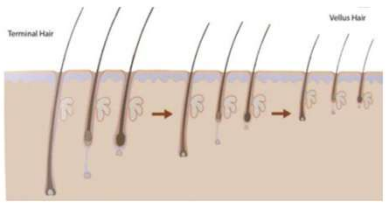
Can be first sign of something more serious

(Paus & Costsarelis, 1999)

5

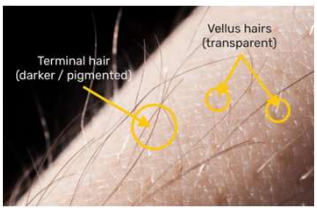
Hair Biology & Growth Cycle

TERMINAL VS VELLUS



6

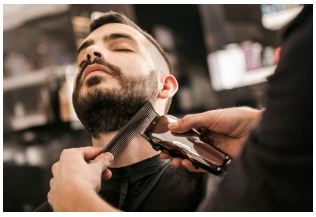
Terminal vs Vellus



- **Terminal Hair**: Thick, Coarse, Pigmented
  Fully developed Medulla
  Hormone influenced
- **Vellus Hair**: Fine, Soft, Thin
  Covers most of the body "peach fuzz"

7

Hormonal Influence



Androgens

- Testosterone
- Dihydrotestosterone (DHT)

These hormones can convert Vellus hair to Terminal hairs during puberty.

8

Hormonal Influence



Hyperandrogenism

- Hirsutism
- PCOS
- Vellus hairs become Terminal

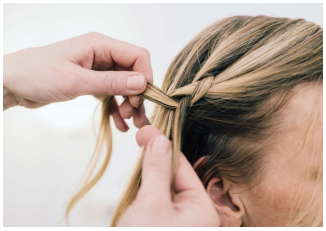
Androgenetic Alopecia

- Causes Terminal Hair (Scalp) to progressively miniaturize into Vellus like hairs.

9

Hair growth cycle

- **Anagen** (growth): 2-7 years
- **Catagen** (transition): 2-3 weeks
- **Telogen** (resting): ~3 months



10

Normal Shedding vs Pathologic Loss



PULL TEST

- Normal = 150 hairs per day
- Positive pull test = 3 or more hairs with each pull.

11

Non-Scarring Alopecia

ANDROGENIC ALOPECIA (AGA)

- Male Pattern Baldness
- Premature loss of hair of the central scalp
- Physiologic reaction induced by androgens in predisposed men
- Starts anytime after puberty
- Often fully expressed by 40's
- Increased growth of secondary sexual hair

ANDROGENETIC ALOPECIA

- Female Pattern Baldness
- Common hereditary thinning that begins at an early age
- Not the same as postmenopausal hair loss that begins in their 50's-70's
- Affected hairs have a shortened anagen cycle and progressive miniaturization of hair follicles

12

Telogen Effluvium

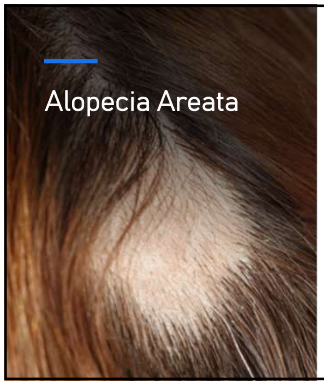
ACUTE

- Abrupt ~ 3-5 months after a specific trigger
- Lasts no more than 12 months
- Very dramatic, noticeable, and distressing
- Causes: Surgery, Major illness, Crash diet
- Also caused by a delay in anagen release; common 3-5 months after childbirth

CHRONIC

- Can start like Acute, or have a slow onset
- May not have an easily identified stressor
- Thought to be caused by a short anagen cycle d/t Medication or Autoimmune
- Chronic type usually affects middle-aged women, often with thick hair prior to the shedding

13



Alopecia Areata

- Rapid onset
- Sharply defined edges
- Usually round
- Sometimes at hairline
- Can be Diffuse or patchy
- More common in young adults
- Stress is cited as the usual cause
- Last for only a few months
- Can regrow with no changes or regrow fine and white

14

Alopecia Areata



15

Traction Alopecia

- Caused by;
- chronic pulling or tension on the hair follicles
- Tight hairstyles: ponytails, braids, buns, extensions, and dreds
- Chemical relaxers, heat styling, and weight of long hair
- Occupations like nursing increase risk d/t hair styles; Twist, buns, or from wearing surgical caps
- African American women are especially affected due to the frequent use of traction hairstyles, but this can occur in any ethnic group.
- Reversible if caught early





16



Trichotillomania

- Recurrent pulling of one's own hair
- May involve hours each day
- The "Puller" does not admit to this habit
- Often in children, sometimes continues into adulthood
- Female-to-male ratio is 2.5 to 1
- Starts with twisting hair before bed or while watching TV
- Parents don't notice at first
- Underlying anxiety, depression, or low self-esteem
- Can involve eyelashes, brows, arm hair, easy-to-reach areas
- Short broken hairs, varying length, not completely bald

17

Scarring Alopecia

- Lichen Planopilaris
- Discoid Lupus Erythematosus
- Central Centrifugal Cicatricial Alopecia (CCCA)



- Auto immune
- Balding, often in patches
- Permanent scarring and baldness
- Patient may c/o pain, burning
- Red inflamed

Gilhar, Etzioni, Paus(2012)

18

Etiology & Risk Factors

Hormonal & Endocrine

- Androgen (DHT sensitivity)
- Pregnancy/postpartum
- Menopause
- Thyroid disease
- PCOS



Nutritional Deficiencies

- Iron (ferritin, <30-40ng/ml)
- Vitamin D
- Zinc
- Protein-calorie deficiency
- Malnutrition



19

Etiology & Risk Factors

Systemic & Medical Causes

- Autoimmune Disease
- Acute illness, Surgery, COVID
- Chronic Inflammatory states

Medications

- SSRIs
- Beta Blockers
- Retinoids
- Anticoagulants
- Chemotherapy



20

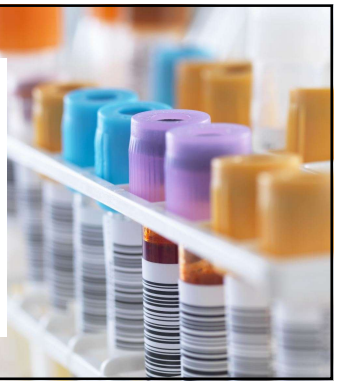
Clinical Evaluation

- History-
  - Onset, duration, progression
  - Triggers 3-6 mths prior
  - Hair care products
  - Family history
  - Menstrual & endocrine history
- Exam-
  - Scalp findings (erythema, scale, scarring)
  - Pain
  - Hair "Pull test"



21

Clinical Evaluation



- Labs-
  - TSH
  - Ferritin
  - Vit D
  - CBC
  - CMP
  - Androgen Panel

22

Prevention & Counseling

- Gentle hair care practices
- Avoidance of traction hairstyles
- Nutritional adequacy
- Stress Management
- Realistic expectations
  - Treatments slow loss and improve density
  - Full regrowth is uncommon in AGA



23

Evidence-Based Treatments

- **Topical Therapies**
  - Topical Minoxidil (2%, 5%, foam/solution)
    -First-line treatment
    -Some shedding is normal
  - OTC Biotin shampoo, scalp treatments
  - Castor oil



- **Oral and biologic Therapies**
  - Finasteride
    - Off-label in women
  - Spironolactone
    - Hyperandrogenic women
  - Biotin supplements 10K mcg qd
  - Intralesional injections (corticosteroids)
  - JAK inhibitors – Litfulo, Olumiant

24

Evidence- Based Treatments

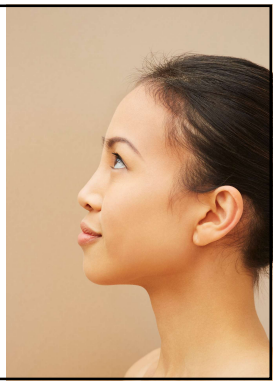


- **Procedural & Adjunctive Therapies**
  - Platelet-rich Plasma (PRP)
  - Microneedling
  - Low-level laser therapy
  - Red light therapy

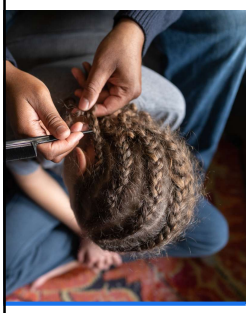
25

Referral

- Scarring alopecia
- Rapid or unexplained loss
- Children
- Treatment is failing



26



Summary

- Most hair loss is diagnosable clinically
- Early identification Prevents irreversible loss
- Combination therapy often needed
- NP's play a key role in access and continuity of care

27

Questions



28

References

- Almohanna HM, Ahmed AA, Tsatalis JP, Tosti A. The role of vitamins and minerals in hair loss. Dermatology Therapies. 2019;9:51–70.
- Dlova NC et al. Central centrifugal cicatricial alopecia. *JAMA. Dermatology.* 2017;153(11):1154–1162.
- Gilhar A, Etzioni A, Paus R. Alopecia areata. New England Journal of Medicine. 2012;366(16):1515–1525.
- Habif TP, Campbell JL, Chapman MS, Dinulos JG, Zug KA. Skin Disease Diagnosis and Treatment, 2nd ed. Elsevier. 2005(20):516–521.
- Malkud S. Telogen Effluvium: A review. *Journal of Clinical Diagnostic Research.* 2015;9(9):WE01–WE03.
- Olsen EA. Female pattern hair loss. *Journal of American Academy of Dermatology.* 2001;45(3 supp):S70–S80.
- Paus R, Cotsarelis G, The biology of hair follicles. New England Journal of Medicine.1999;341(7):491–497.
- Sinclair R. Female pattern hair loss. BMJ. 2007;334(7603):887–893.
- Trost LB, Bergfeld WF, Calogeras E. The diagnosis and treatment of iron deficiency and its potential relationship to hair loss. *JAMA* Dermatololgy.2006;54(5):824–844.

29