Hair Loss, Alopecia for the Generalist

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At the conclusion of this session, participants should be able to:

- Examine hair anatomy and how it relates to pathology of alopecia
- Identify types of hair loss (scarring and non-scarring) and causes of hair loss
- Identify labs are important for comprehensive work up of alopecia
- Discuss supplements and treatments for different types of alopecia, including traditional and emerging treatments, like platelet-rich plasma treatments and jak inhibitors
- Discuss treatments for special populations including pregnancy and transgender

Hair Growth Phases

- Anagen (active growth), about 3 years, about 90 % of hairs
- Catagen (resting/transitional), about 3 weeks, less than 10% of hairs
- Telogen (cessation and shedding), about 3 months, 5% to 10% of hairs

Anagen Effluvium

- Shedding occurs during growth (anagen) phase
  - Chemotherapy
  - Poisoning
  - Radiation therapy

Hair Facts

- ~100,000 hairs per head
- 85-90% growing at any time
- Growth phase lasts 2-6 years
- ~100 hairs lost per day
- Shaving/plucking does not make hair grow faster

Hair Facts

- Two types:
- Vellous
- “peach fuzz”- thin, fine, relative lack of pigment
- Terminal
- Pigmented, thicker
- All follicles can produce either type

This complaint can afflict the young and old.

Hair loss is one of the most common diagnoses of the pandemic.

Telogen Effluvium (effluvium="outflow")

- Massive hemorrhage
- Childbirth
- Crash diets
- Drugs
- Fever
- Thyroid disease
- Stress
- Severe illness
- Spontaneous non-scarring recovery typically seen within six months

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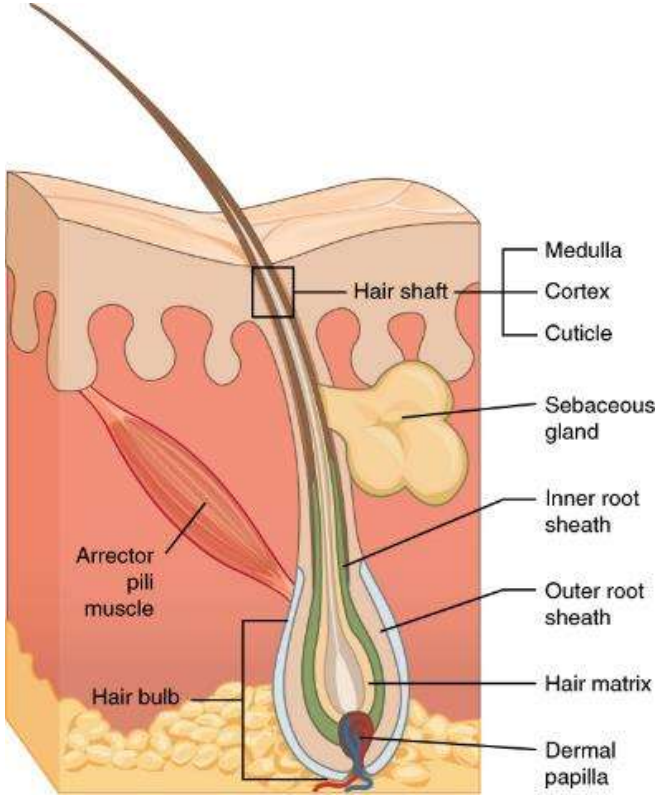
Scarring versus non-scarring hair loss

Hair Shaft Anatomy



Types of Hair loss

Scarring (Cicatricial)

- Central Centrifugal Cicatricial alopecia
- Discoid Lupus Erythematosus
- Lichen Planopilaris
- Dissecting Cellulitis of the Scalp
- Folliculitis Decalvans

Non Scarring

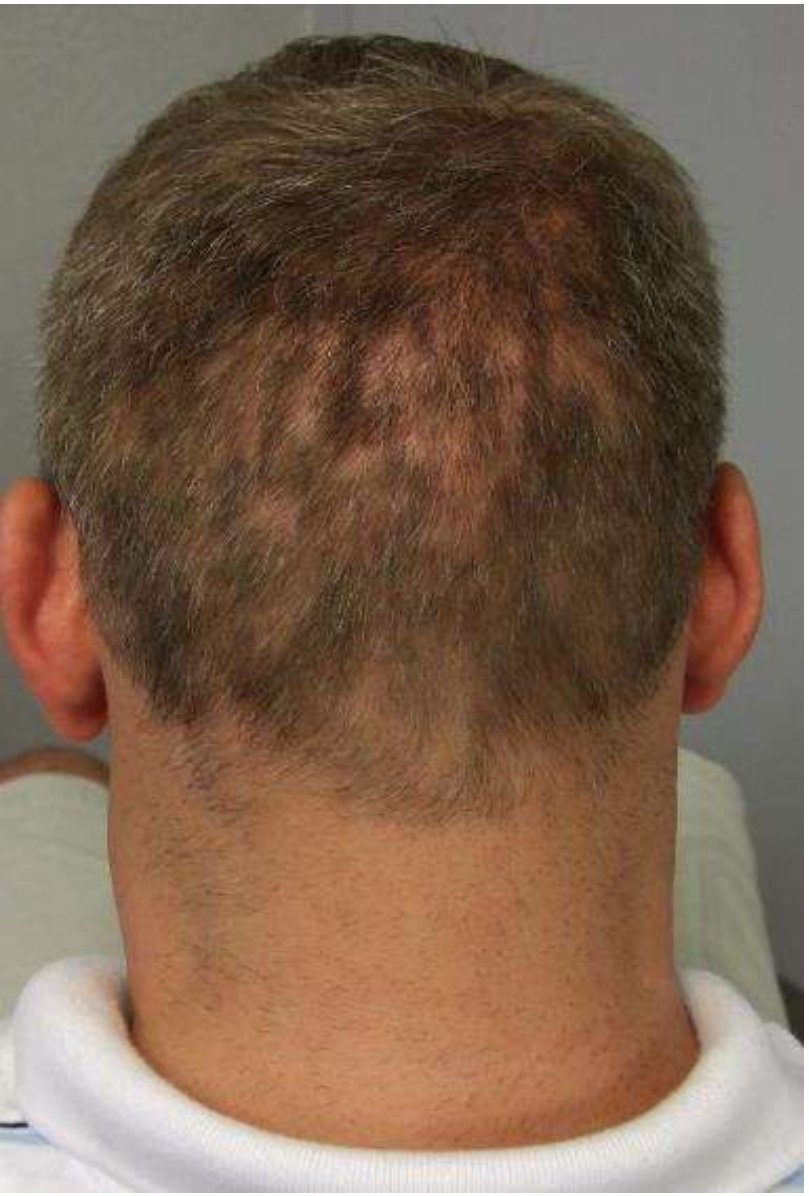
- Androgenic alopecia
- Anagen Effluvium
- Telogen Effluvium
- Alopecia Areata
- Tricotillomania
- Secondary Syphillis

Alopecia Areata

- Common autoimmune disorder characterized by rapid onset of hair loss in well-circumscribed areas.
- Hair loss is in annular patches, eyebrow/eyelash loss and nail changes are also possible
- If involvement is limited regrowth is typical.
- New hair may be finer and white.
- Treatment can include topical, intralesional and IM steroids.

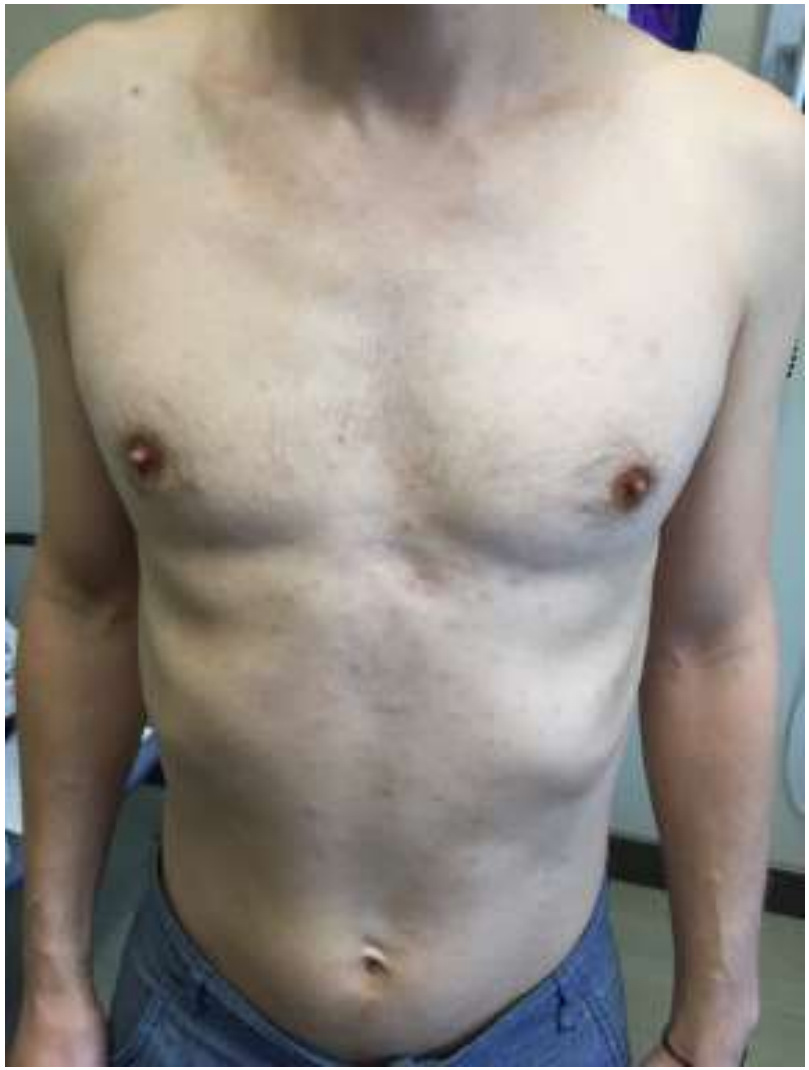
Trichotillomania

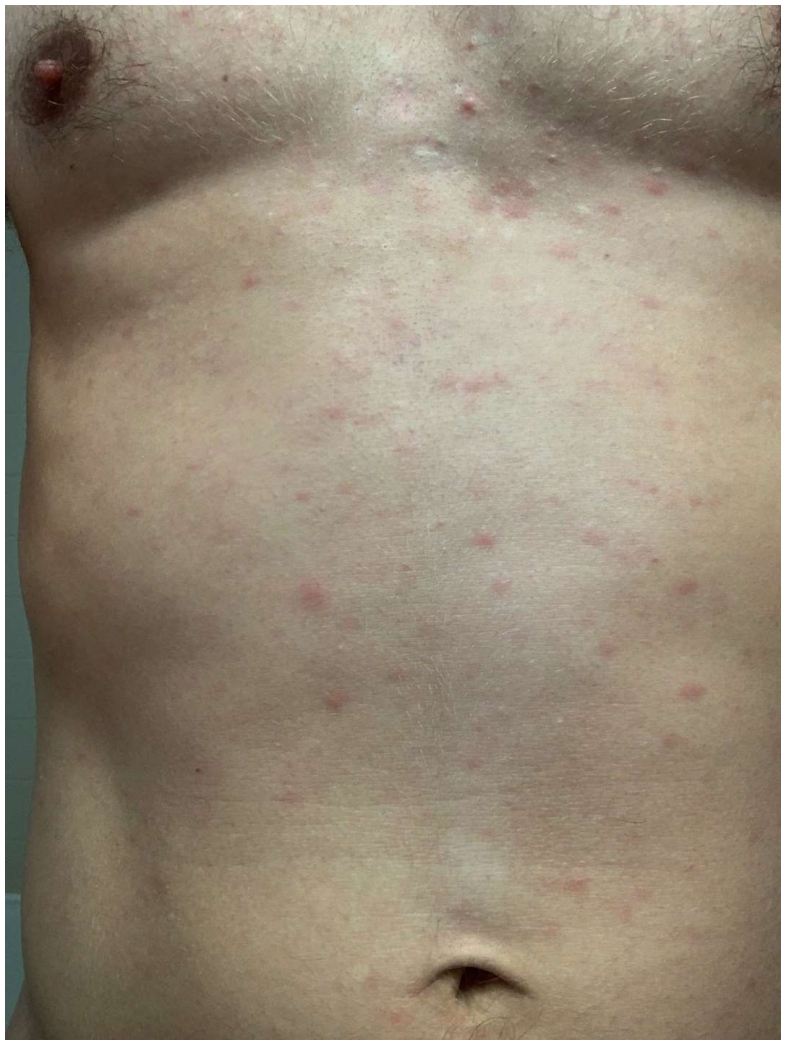
- The act of manually removing hair by manipulation.
- An obsessive-compulsive disorder seen in a 2.5:1 female to male ratio.
- mean age of onset of approximately 13 years
- reported to affect as much as 4% of the population, with the highest incidence in childhood and adolescence
- Cognitive behavior therapy and SSRIs



Secondary Syphilis

- Classic “moth-eaten” alopecia with irregular, patchy, non-scarring alopecia that may also affect the eyebrows and beard areas



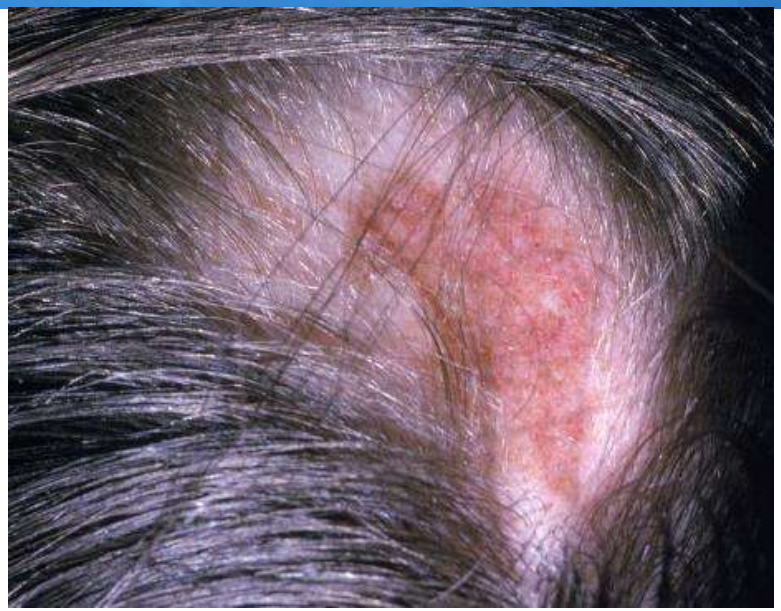


Discoid Lupus Erythematosus (DLE)

Clinical appearance: Disfiguring, erythematous scaly atrophic plaques that can result in pigmentary changes mainly on the head and neck and conchal bowls of the ear

- 5-10% of patients with DLE will have systemic lupus erythematosus
- Of patients with SLE 20% will have Discoid lesions
- Risk factors for development of SLE:
  - Widespread DLE
  - Arthritis, arthralgias
  - Nail changes
  - Anemia
  - Leukopenia
  - Elevated ESR
  - Positive ANA

Discoid Lupus Erythematosus (DLE)



Discoid Lupus Erythematosus (DLE)

DDx: Lichen planopilaris, Sarcoidosis, Subacute cutaneous lupus erythematosus

- Diagnostic work up: punch biopsy of the erythematous portion of the plaque
- To aid in diagnoses of systemic lupus erythematosus:
  - ANA, Double stranded DNA, Anti-Ro (SSA), anti-La (SSB)
  - CBC with diff, ESR, CMP, UA

SLE should be excluded. Patients with systemic involvement may require referral to a rheumatologist and/or a nephrologist.

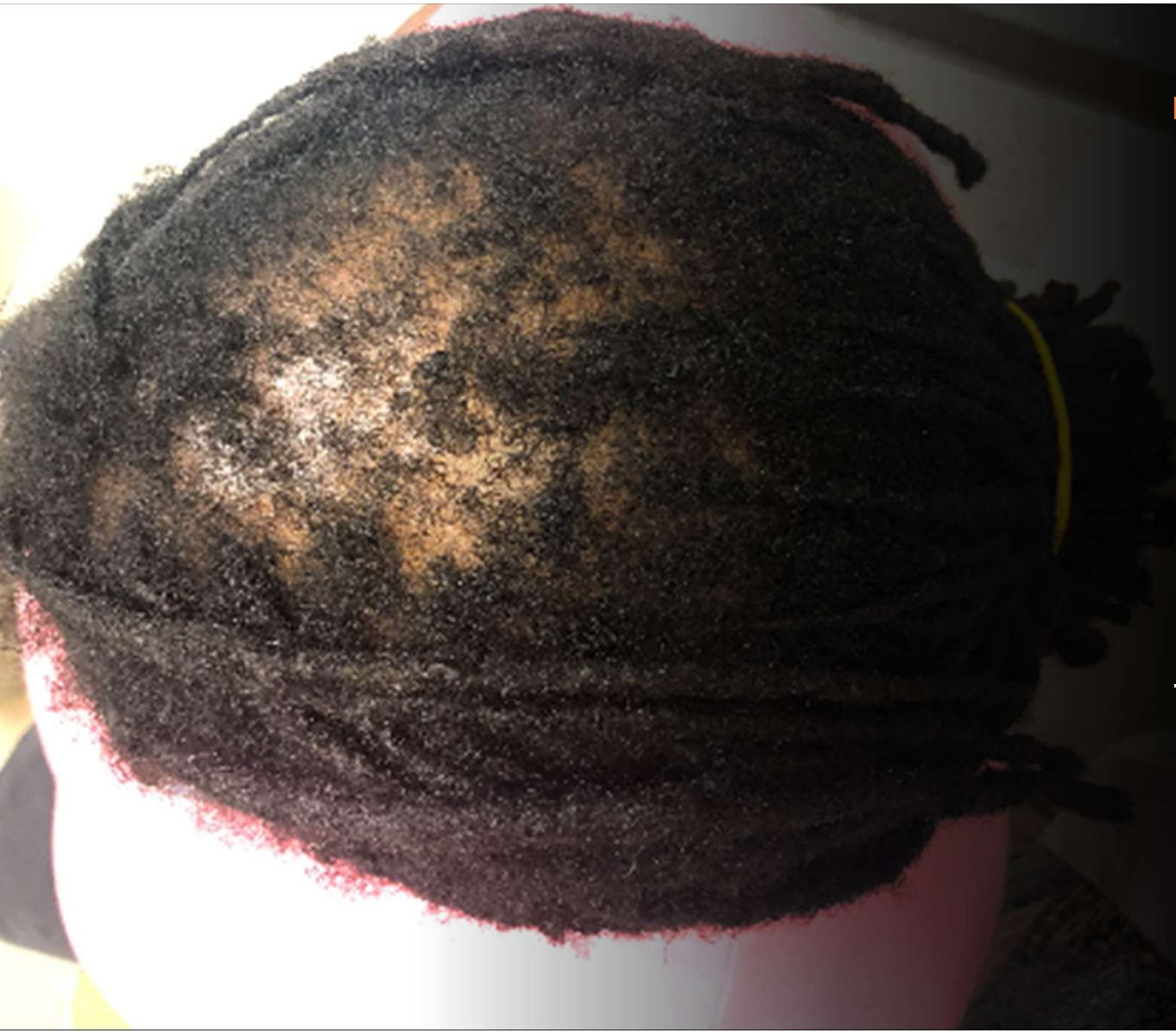
Discoid Lupus Erythematosus (DLE)

Treatment

- Sunscreens, sun-protective clothing, and sun avoidance
- High-potency topical corticosteroids on active areas
- Intralesional triamcinolone can be effective in active lesions, with injections repeated every month while the lesion is active
- Hydroxychloroquine 200 mg twice daily alone or in combination with quinacrine 100 mg/day
- Dapsone (100-200 mg by mouth daily), methotrexate, mycophenolate mofetil, and other immunosuppressives have also been used

Central Centrifugal Cicatricial alopecia

Can initially present as hair breakage, scalp pruritus and progress to scarring hair loss

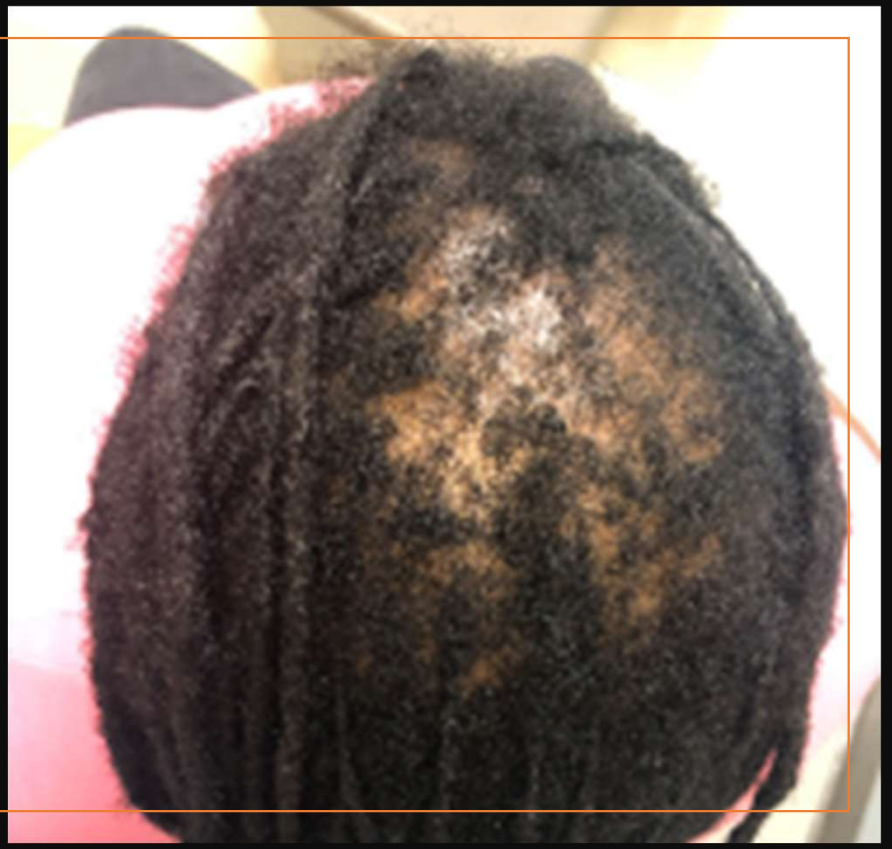


Central Centrifugal Cicatricial alopecia

With preservation of the occipital and frontal hairline

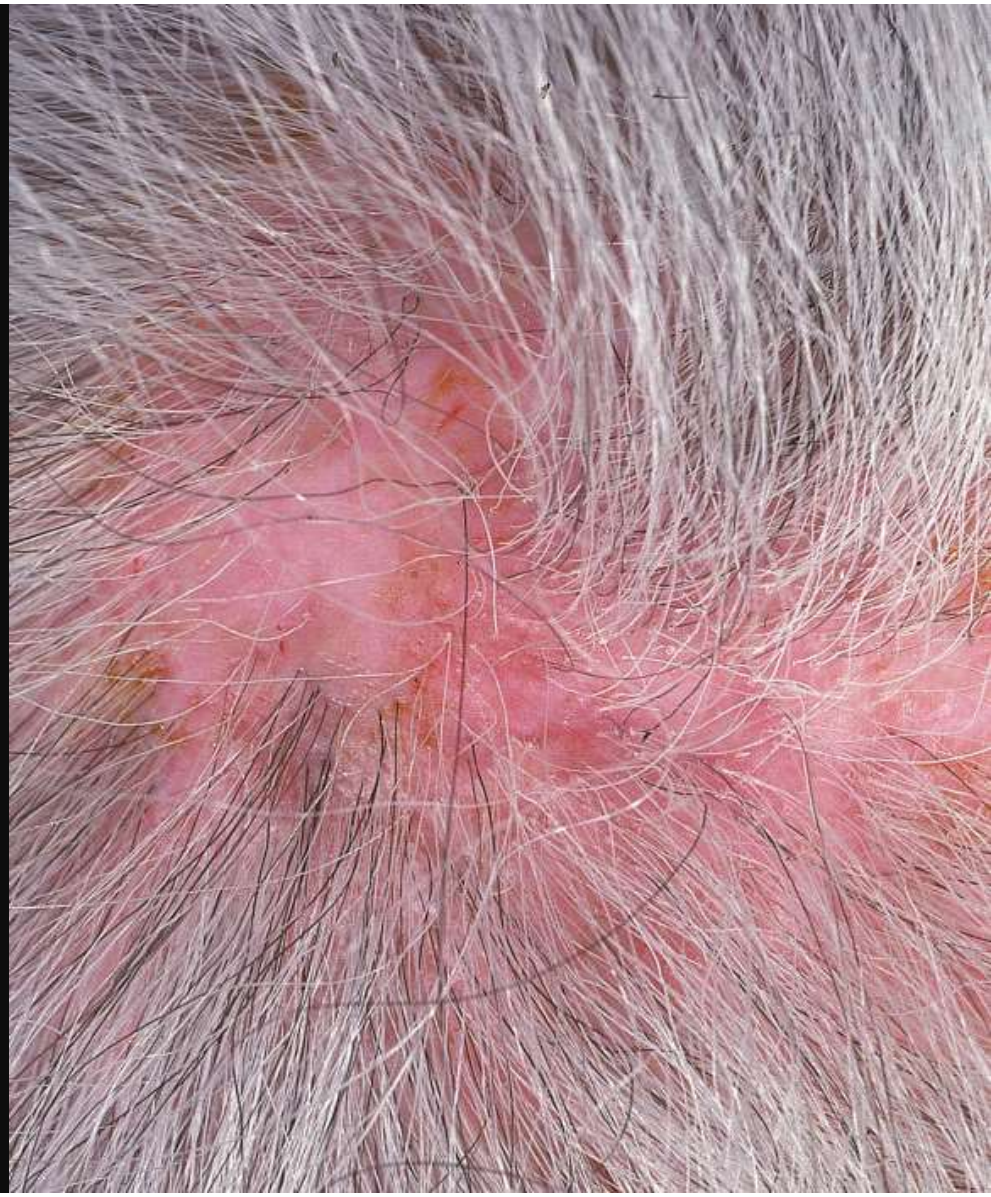
Central Centrifugal Cicatricial alopecia

- DDx: Androgenic Alopecia, Other Scarring alopecias like Discoid lupus Erythematous (DLE) or Lichen Planopilaris (LPP)
- Diagnosis: Clinical but if doubtful you can biopsy and send to a dermatopathologist that has experience in alopecia



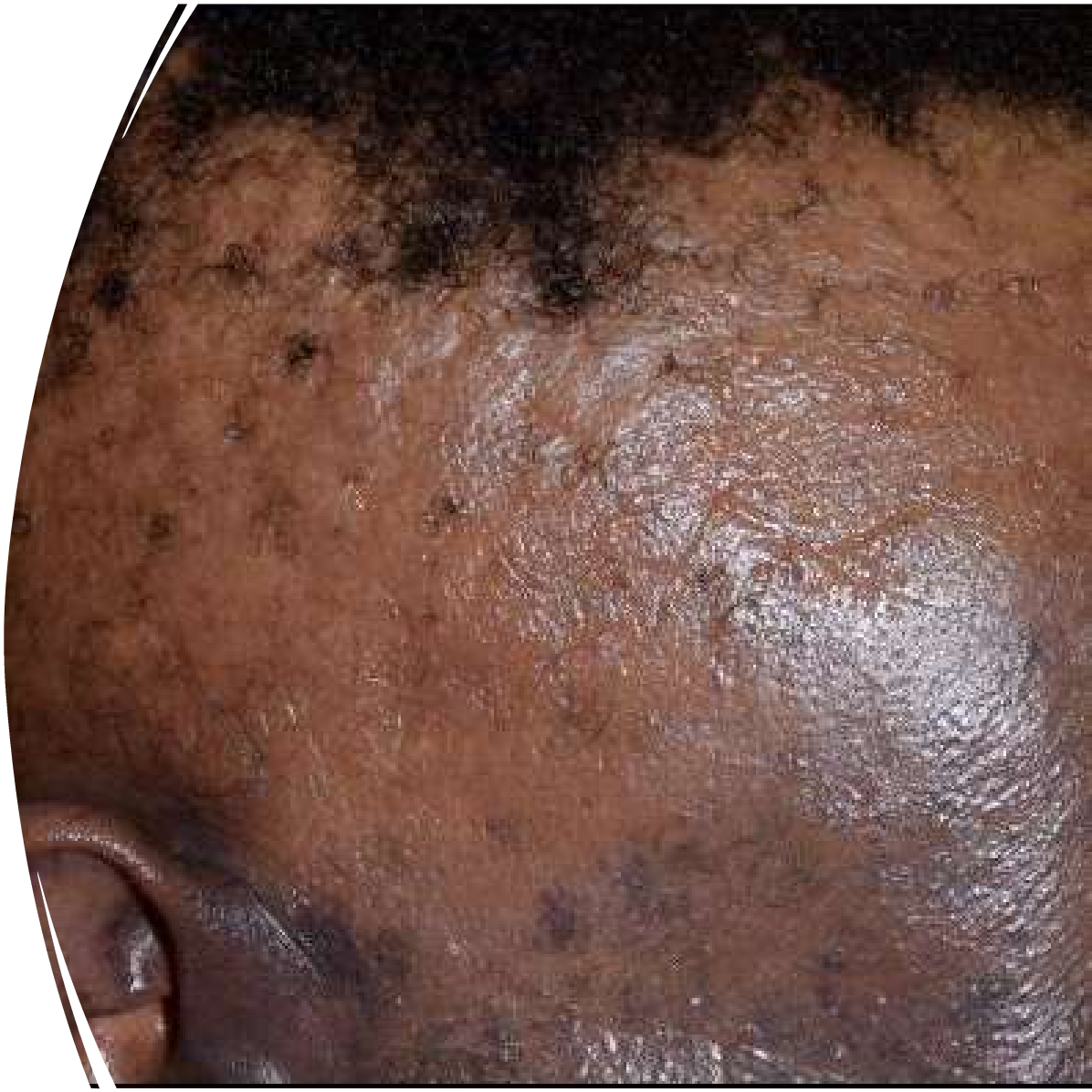
Lichen Planopilaris

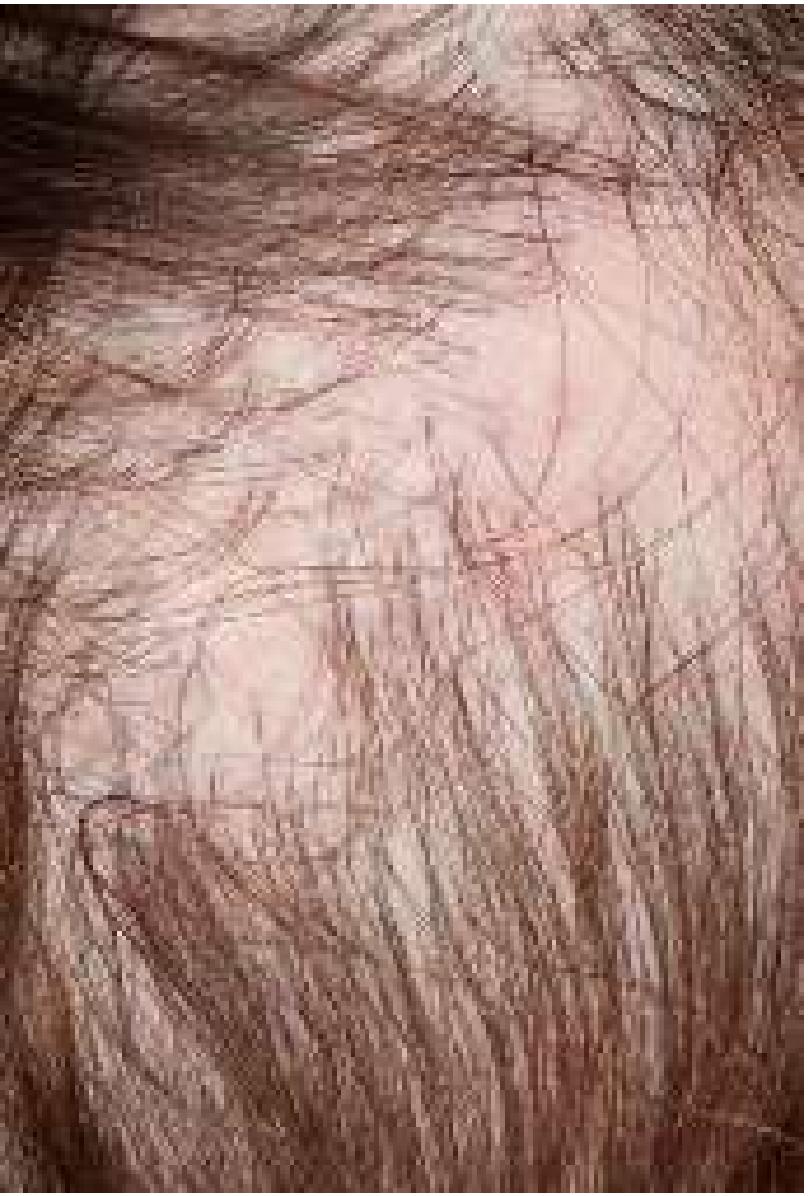
- characterized by perifollicular erythema and scale that can progress to cicatricial (scarring) alopecia over time
- affects women more commonly than men
- skin phototypes are more often affected than individuals with darker skin phototypes
- Typical age range is 40-60 year olds
- Increased hair shedding, severe itching, scaling, burning, and tenderness are common symptoms



Lichen Planopilaris

- There is a variant of LPP called Frontal fibrosing alopecia characterized by a band like hair loss from the frontal scalp
- affects women





Lichen Planopilaris

- Diagnosis: clinical diagnosis +/- biopsy
- Management of LPP can be quite challenging, with frequent treatment relapses, and thus may require continued follow-up with a dermatologist.

  The goal of treatment of LPP is to stop the inflammatory process quickly to minimize the number of hair follicles permanently lost.

Do I need labs?

Because many conditions can cause hair loss, there are no routine tests to evaluate hair loss. Laboratory testing is indicated when the history or physical examination findings suggest an underlying comorbidity.

Labs

CBC	Iron Studies	Ferritin	ESR
Thyroid function	Vitamin D screen	Zinc	B12

Supplements

- Iron deficiency is the most common nutritional deficiency31 and is common among women with hair loss. Iron supplementation is indicated in patients with iron or ferritin deficiency and hair loss.
- Zinc deficiency is also associated with hair loss, which can be reversed with zinc supplementation. In 1 study, 66.7% of patients with alopecia areata and low zinc levels responded to treatment with zinc gluconate supplementation

Ablon G. Nutraceuticals. *Dermatologic Clinics*. 2021;39(3):417-427. doi:10.1016/j.det.2021.03.006

Supplements

- Considered by the FDA to be food not medicine regulated differently.

Supplements

- Biotin, also known as vitamin B7, stimulates keratin production in hair and can increase the rate of follicle growth.
- there is little conclusive evidence that biotin reduces hair loss, but it remains a popular supplement for hair, skin, and nail growth.
- Important to note: biotin interference can cause lab abnormalities in troponin, Thyroid testing, digoxin, hCG, ferritin, estradiol, folate

- Holmes EW, Samarasinghe S, Emanuele MA, Meah F. Biotin Interference in Clinical Immunoassays: A Cause for Concern [published correction appears in Arch Pathol Lab Med. 2018 Jan;142(1):10]. *Arch Pathol Lab Med*. 2017;141(11):1459-1460. doi:10.5858/arpa.2017-0107-LE

Supplements

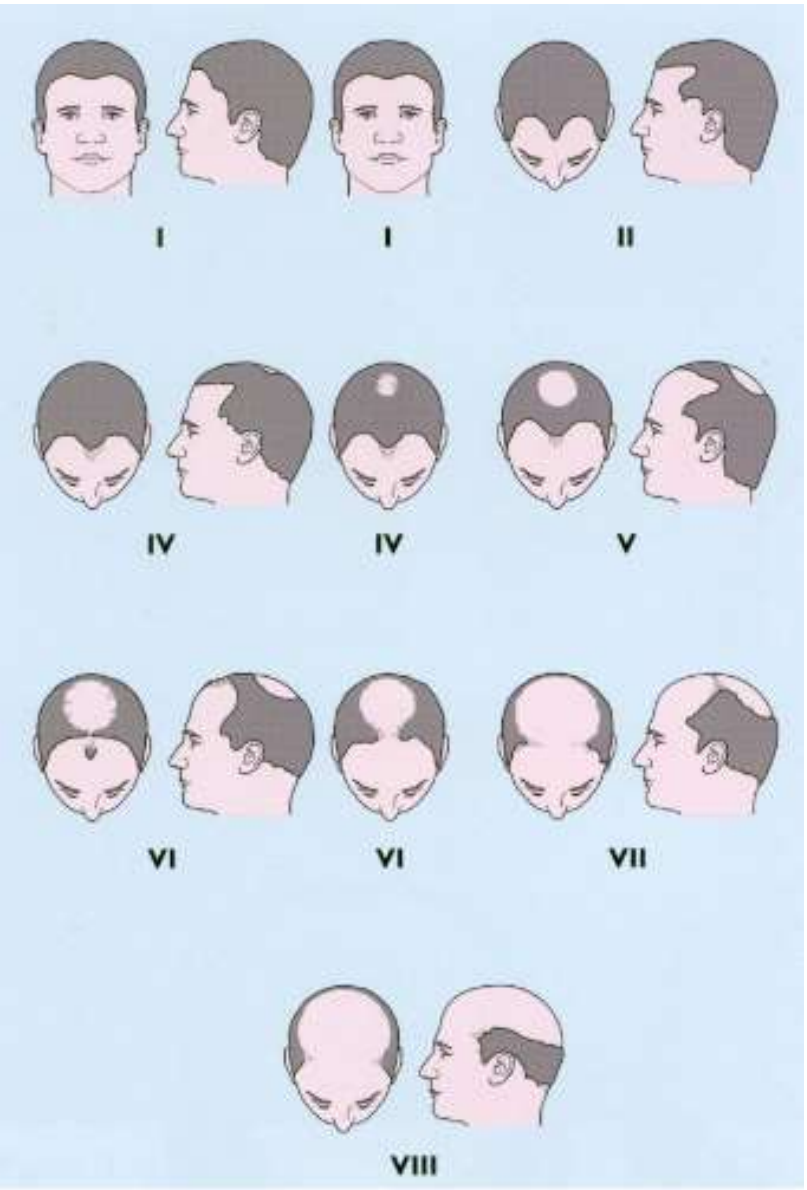
Nutrafol	Viviscal Professional
$88/ mo	$38/mo
Can use without fish allergy	The star ingredient that makes Viviscal supplements so successful is its trademarked AminoMar marine complex, which is a blend of sustainably sourced shark cartilage and mollusk powder, **fish oil**, and silica.
4 pills a day 6 months of daily use	2 pills a day 6 months of daily use

Ablon G. Nutraceuticals. *Dermatologic Clinics*. 2021;39(3):417-427. doi:10.1016/j.det.2021.03.006

Hair growth slows with age and illness

Hair Growth

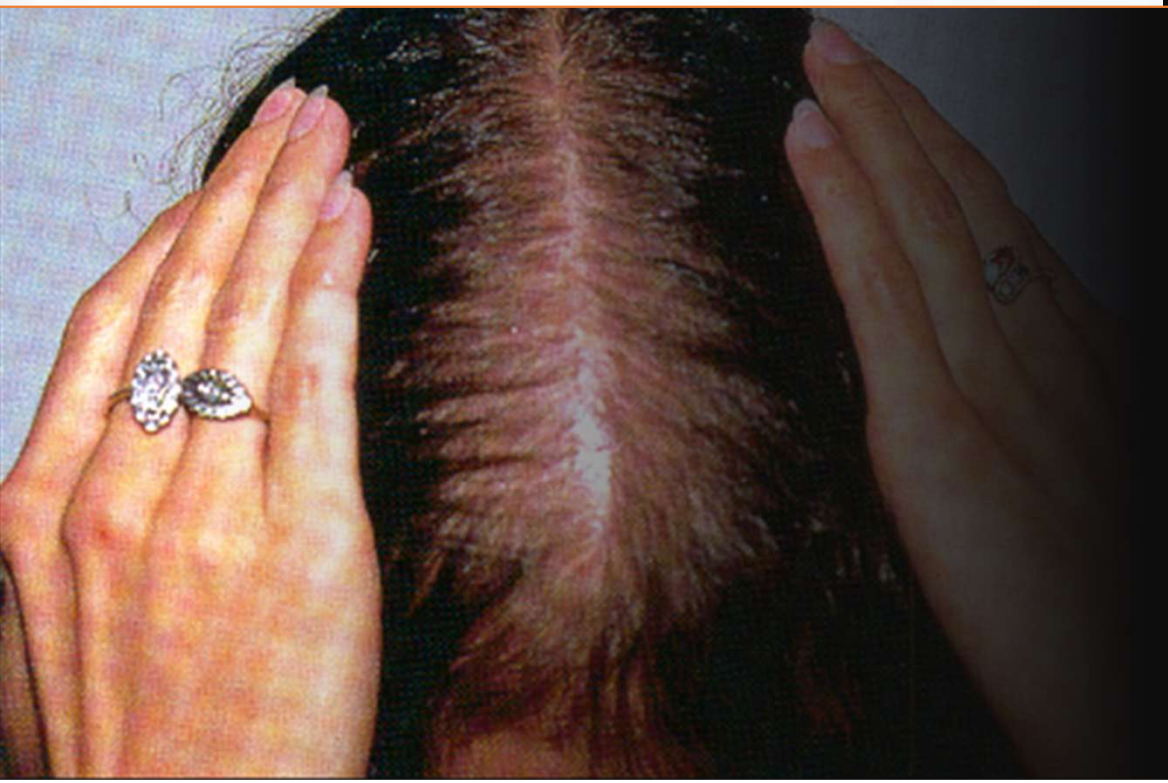
- Follicular activity is intermittent (cyclical)
- Hair on your head grows approx. ½ in per year
- As you age your rate of hair growth slows



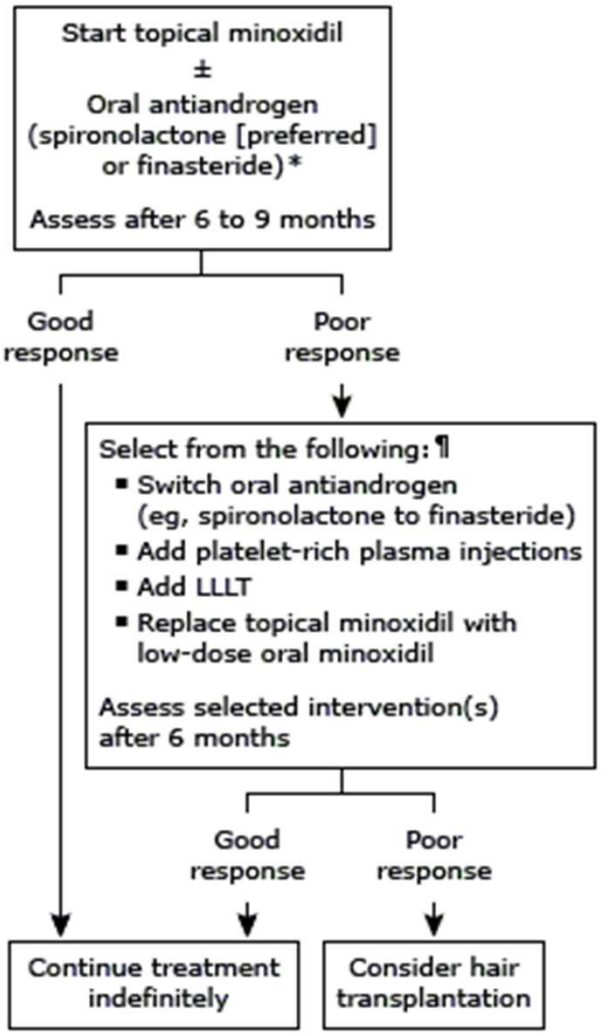
Androgenetic Alopecia

- “Male Pattern” baldness
- Genetic predisposition
- Terminal hairs transition to vellous.
- Polygenic in origin
- Can start in teens, 20s, 30s or later (menopause)

Androgenetic Alopecia (Female Pattern)



- Preservation of the frontal hairline and occipital scalp
- Genetic in origin



LLLT: low-level laser therapy; FPHL: female pattern hair loss.
* We treat most patients with both topical minoxidil and an oral antiandrogen. Treatment with topical minoxidil alone is an alternative initial approach for patients who cannot tolerate or prefer to avoid oral antiandrogenic therapy. Spironolactone is our preferred initial oral antiandrogen based upon data that suggest benefit and the extensive experience with this drug for other indications in females.

Minoxidil

- Vasodilator, increases hair flow to the hair follicles
- 2% and 5% foam and solution
- 1 mL twice daily for 4-6 months

Finasteride

- 5-alpha reductase inhibitor- treats BPH by blocking the body's production of a male hormone that causes the prostate to enlarge. Finasteride treats male pattern hair loss by blocking the body's production of a male hormone in the scalp that stops hair growth.
- Contraindicated in
- women of child bearing potential as it is cause preterm birth and impaired cognitive functioning in the newborns
- present in semen so men whose partners are attempting pregnancy should not take this
- children
- caution if hepatic impairment
- caution if other urological disease (BPH use)

Finasteride

NOT FDA Approved for hair-loss in Women. FDA approved for use in Men. Used in Dermatology primarily for MALE Pattern Hair Loss. There are conflicting reports of the effectiveness of Finasteride for FPHL.

Although one double-blind controlled trial failed to show any statistical significant improvement in a group of postmenopausal women who used finasteride 1 mg for one year compared to placebo, another study has confirmed the efficacy of oral daily dosage of 5 mg finasteride in treating a group of normoandrogenic pre and postmenopausal women with FPHL.

At this point in time, the successful use of finasteride in women with FPHL is unpredictable

Side effects: headache, menstrual irregularity, dizziness, and increased body hair growth, depression, nausea, hot flashes and teratogenicity in fetus (Finasteride is pregnancy category X risk. Therefore, its use is contraindicated in premenopausal women without appropriate contraceptive methods as it can cause feminization of a male fetus).

Cautions

- Pregnancy should be avoided while taking finasteride due to risk of feminization of a male fetus.
- There is no direct evidence linking finasteride as a causative agent in estrogen-dependent malignancies, and the potential for this to induce malignancy has been debated. It is recommended that finasteride not be given to women with a genetic predisposition to estrogen-dependent cancers.

Spironolactone

- aldosterone antagonist that competitively blocks androgen receptors and weakly inhibits androgen synthesis
- 100 to 200 mg per day. begin at lower dose (eg, 50 mg per day) to support tolerance of the drug. Provided that patients tolerate the 50 mg dose, we increase the dose to 100 mg per day after two to four weeks.
- least six months prior to assessing its efficacy
- Efficacy: Overall, 44 percent of patients had regrowth, 44 percent had no change in hair density, and 12 percent had continued hair loss

Sinclair R, Wewerinke M, Jolley D. Treatment of female pattern hair loss with oral antiandrogens. Br J Dermatol. 2005;152(3):466-473. doi:10.1111/j.1365-2133.2005.06218.x

Adverse effects – Spironolactone

headache, decreased libido, menstrual irregularities, orthostatic hypotension, fatigue, and hyperkalemia. There is a theoretical concern that spironolactone may cause feminization of a male fetus; therefore, the drug should not be administered during pregnancy

Theoretical concern for an elevation in breast cancer risk based upon the estrogenic effects of spironolactone, there is no definitive evidence linking human breast tumors, or other estrogen-dependent tumors, to spironolactone therapy

Low Dose Oral Minoxidil

- Dosages between 0.25-1.25 are beneficial and well tolerated can be titrated up to 5 mg daily
- Can combine 0.25 mg with spironolactone 25 mg
- Adverse effects: dizziness, postural hypotension, hypertrichosis (hair growth in unwanted areas), lower leg swelling, abnormal heart beat and heart rate
- Black Box warning pericardial effusion resulting in tamponade
- Can have transient hair shedding lasting 3-6 weeks

Emerging therapies

- Platelet rich plasma
- Jak inhibitors oral vs topical

Platelet Rich Plasma (PRP)

- Concentrated autologous (self derived) platelet rich plasma contains epidermal growth factors that can promoted hair regeneration
- Improved hair density, hair thickness in Androgenic alopecia
- 6 injections Q monthly
- Lack of standardized dose, frequency
- Well tolerated, adverse effects are limited: Headache
- Can be cost prohibitive

JAK inhibitors for Alopecia areata

JAK inhibitors for Alopecia areata

- Janus Kinase inhibitor names after the God of beginnings, gates, transitions, time, duality
- Block T-cell mediated inflammation
- Treat rheumatoid arthritis, psoriasis, psoriatic arthritis
- Ruxolitinib, baricitinib, tofacitinib

JAK inhibitors for Alopecia areata

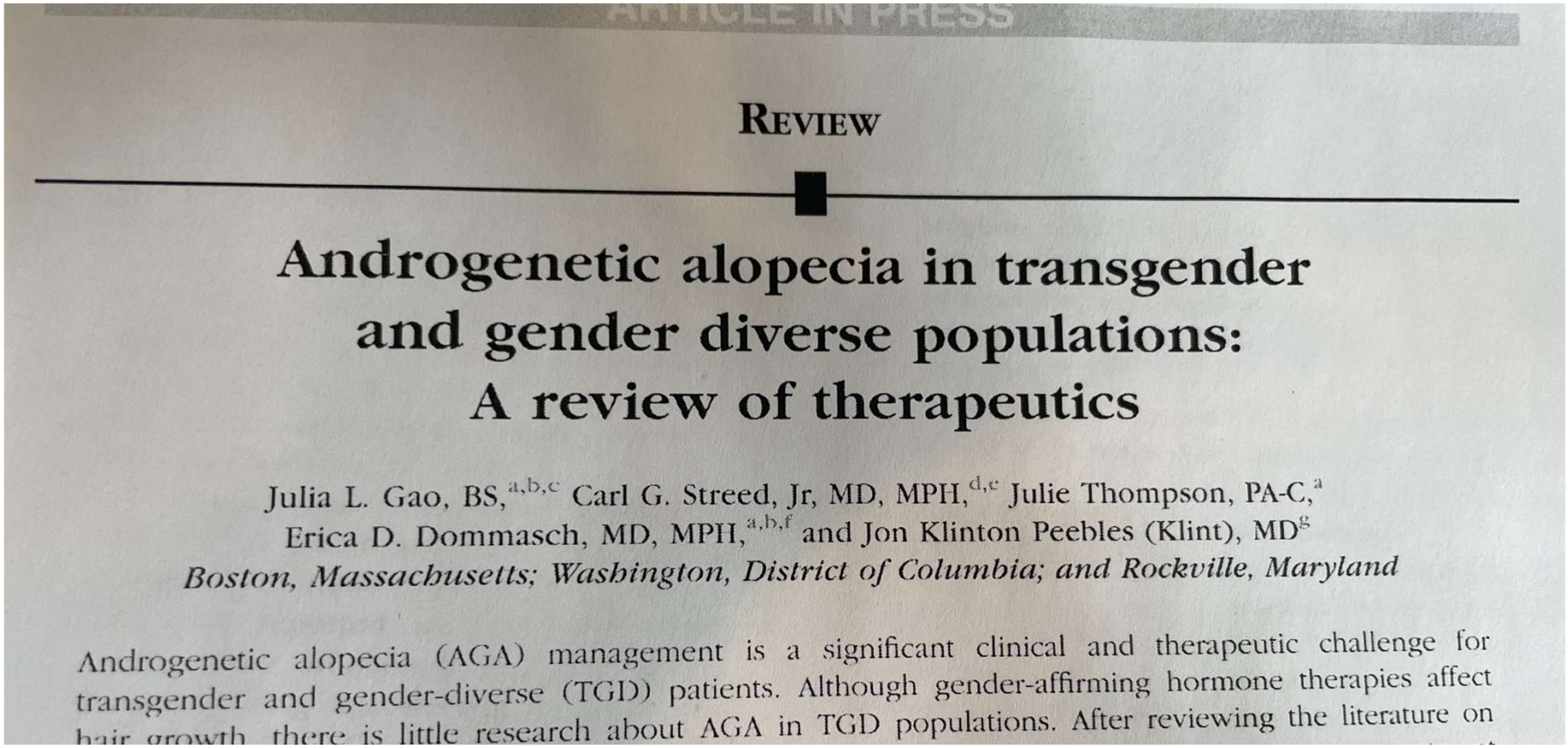
- In June 2022, baricitinib (Olumiant) received approval from the Food and Drug Administration (FDA) to treat severe cases of alopecia areata
  - Oral medication 2 mg and 4 mg daily dosing
  - Takes months (6-9 to work)

Black Box warnings for JAK inhibitors

- incr. risk of serious infection: TB, invasive fungal infections
- Mortality higher rate of mortality, incl. sudden cardiovascular death, observed in RA pts 50 yo and older w/ at least 1 cardiovascular risk factor treated w/ tofacitinib 5 mg bid or 10 mg bid vs. TNF blockers in a large, randomized, post-marketing study
- Malignancies, incl. lymphoma and solid tumors, occurred in pts treated w/ JAK inhibitors for inflammatory conditions; higher rate of malignancies (excluding non-melanoma skin CA), lymphoma, and lung CA observed in RA pts treated w/ tofacitinib 5 mg bid or 10 mg bid vs. TNF blockers; incr. risk in current or past smokers; incr. rate of EBV-assoc. post-transplant lymphoproliferative dz observed in renal transplant pts receiving concomitant immunosuppressive meds
- Major Adverse Cardiovascular Events
  - higher rate of major adverse cardiovascular events, incl. cardiovascular death, non-fatal MI, and non-fatal stroke, observed in RA pts 50 yo and older w/ at least 1 cardiovascular risk factor
- Thrombosis
  - thrombosis, incl. PE, DVT, and arterial thrombosis

Hair loss treatment in Special populations

- Pregnancy
  - Topical minoxodil pregnancy category C
  - All Oral treatments are contraindicated in pregnancy
- Transgender



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REVIEW

Androgenetic alopecia in transgender and gender diverse populations: A review of therapeutics

Julia L. Gao, BS,[a,b,c] Carl G. Streed, Jr, MD, MPH,[d,e] Julie Thompson, PA-C,[a]
Erica D. Dommasch, MD, MPH,[a,b,f] and Jon Klinton Peebles (Klint), MD[g]
Boston, Massachusetts; Washington, District of Columbia; and Rockville, Maryland

Androgenetic alopecia (AGA) management is a significant clinical and therapeutic challenge for transgender and gender-diverse (TGD) patients. Although gender-affirming hormone therapies affect hair growth, there is little research about AGA in TGD populations. After reviewing the literature on

Gao JL, Streed Jr. CG, Thompson J, Dommasch ED, Peebles JK. Androgenetic alopecia in transgender and gender diverse populations: A review of therapeutics. J Am Acad Dermatol. Published online October 27, 2021. doi:https://doi.org/10.1016/j.jaad.2021.08.067.

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Transmasculine

- transgender person (generally one who was assigned female at birth), and whose gender is masculine and/or who express themselves in a masculine way. Transmasculine people feel a connection with masculinity, but do not always identify as a man.

Transfeminine

- being a person whose gender identity is partially or fully feminine and differs from the sex the person had or was identified as having at birth

Tinea Capitis (Scalp fungal infection)

- Most cases occur between the ages of 3 and 7 years
- In the United States and Great Britain, the most common causative agent is *Trichophyton tonsurans*. The most common agent worldwide, however, is *Microsporum canis*.

Tinea Capitis (Scalp fungal infection)

- presents as numerous scaly macules and patches of broken hairs and alopecia on the scalp
- severe forms are associated with inflammatory papules, pustules, and plaques can have lymphadenopathy

Tinea Capitis (Scalp fungal infection)

- Tinea capitis should be in the differential diagnosis in any child who presents with alopecia

Tinea Capitis (Scalp fungal infection)

- Secondary bacterial infections can occur and should be considered in any patient with purulent discharge

Diagnosis:

- Light microscopy may be performed using a plucked hair, although this cannot determine the causative organism.
- Fungal culture allows for the determination of the causative organism

Tinea Capitis (Scalp fungal infection)

- Terbinafine is dosed based on weight. Duration of treatment is 4-8 weeks.
  10-20 kg: 62.5 mg every 24 hours
- 20-40 kg: 125 mg every 24 hours
- Weighing greater than 40 kg: 250 mg every 24 hours

Tinea Capitis (Scalp fungal infection)

- Alternative agents: Fluconazole, Itraconazole or Griseofulvin

  (Weight based) look out for medication interactions

References:

- Alopecia in patients with COVID-19: A systematic review and meta-analysis Nguyen, Betty et al. JAAD International, Volume 7, 67 – 77 1.
- The Alopecia Areata Consensus of Experts (ACE) study part II: Results of an international expert opinion on diagnosis and laboratory evaluation for alopecia areata Meah, Nekma et al. Journal of the American Academy of Dermatology, Volume 84, Issue 6, 1594 – 1601
- Androgenetic alopecia in transgender and gender diverse populations: A review of therapeutics Gao, Julia L. et al. Journal of the American Academy of Dermatology, Volume 0, Issue 03.
- Types of Hair loss, Treatment of Hair loss, Causes of hair loss, American Academy of Dermatology Accessed June 23, 2022 https://www.aad.org/public/diseases/hair-loss/types

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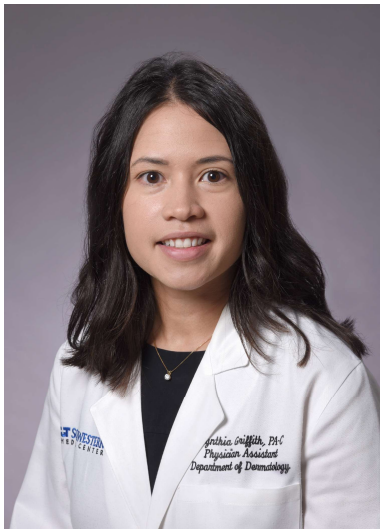

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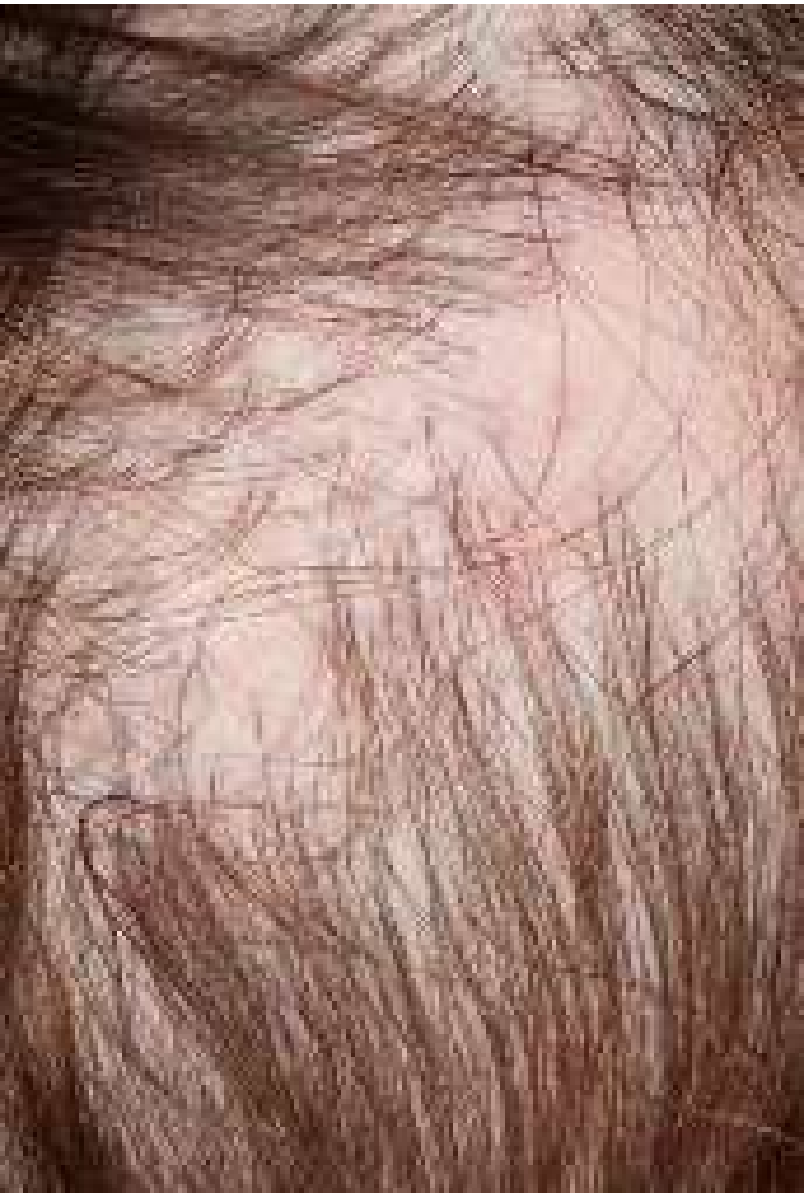
Questions and discussion

TIP #4

Labs can aid in evaluating hair loss



Treatment

- For localized disease, topical and intralesional steroids may be used:
  Topical corticosteroids (class 1-2) – Clobetasol cream, ointment applied every 12 hours (30, 45, 60 g)
- Intralesional corticosteroids – Triamcinolone acetonide 2.5-10 mg/ml up to a total of 2 ml every 4-6 weeks
- Generally considered first line for recalcitrant or aggressive disease:
  Hydroxychloroquine 200 mg by mouth twice daily for at least 3 months

Treatment:

- Start an anti-dandruff (anti-inflammatory shampoo), wash once weekly. Nizoral 2% shampoo was prescribed. Others include Keracare shampoo/conditioner for dry itchy scalp - obtain at a beauty supply store such as sally's, MG217 3% Coal Tar shampoo - can obtain this at CVS. Always condition your hair after shampoo.

TIP #6

Scalp itching and hair breakage could be concern for permanent hair loss

TIP #1

Stress can cause hair to fall out

Pulling out your hair?

Tips for treating hair loss

Non Scarring Alopecia

Androgenetic Alopecia

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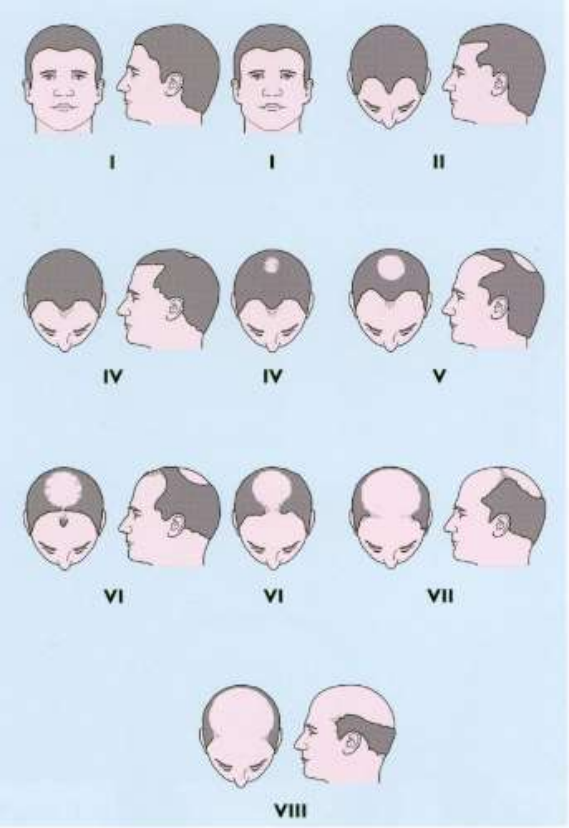
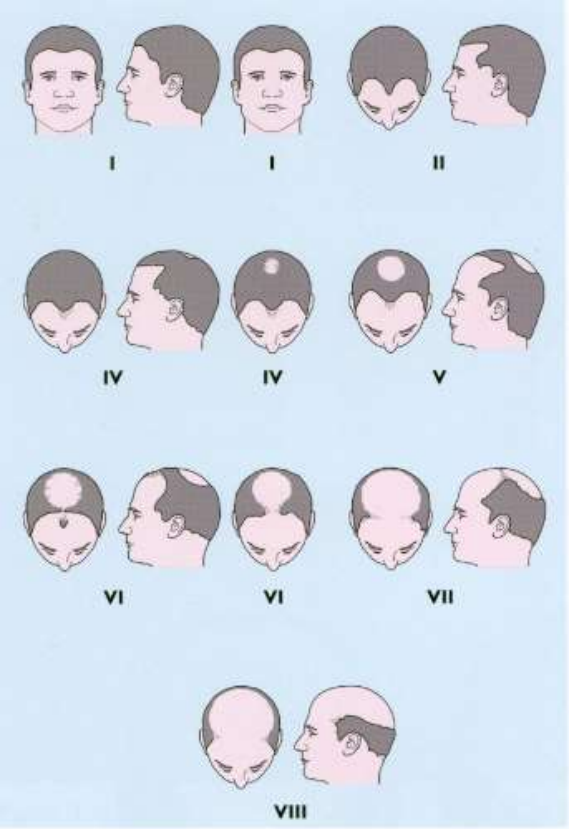
- Genetic predisposition
- Terminal hairs transition to vellous.
- Polygenic in origin
- Can start in teens, 20s, 30s or later (menopause)



Androgenetic Alopecia

- Treatment:
  - Minoxidil (2 or 5%) bid
  - Finasteride 1mg qd



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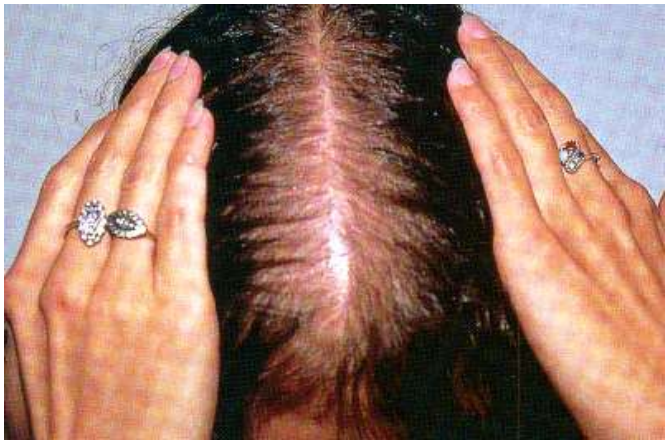
- Preservation of the frontal hairline and occipital scalp
- Genetic in origin

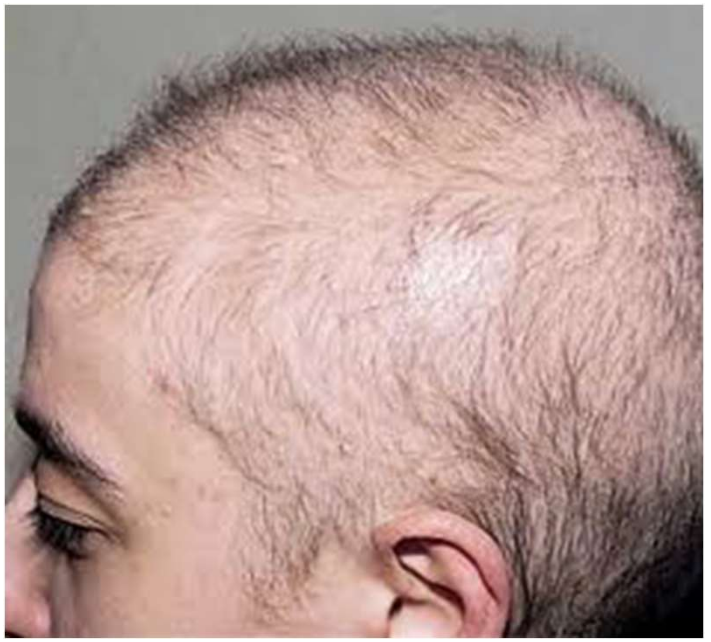


Minoxidil

- Vasodilator, increases hair flow to the hair follicles
- 2% and 5% foam and solution
- 1 mL twice daily for 4-6 months

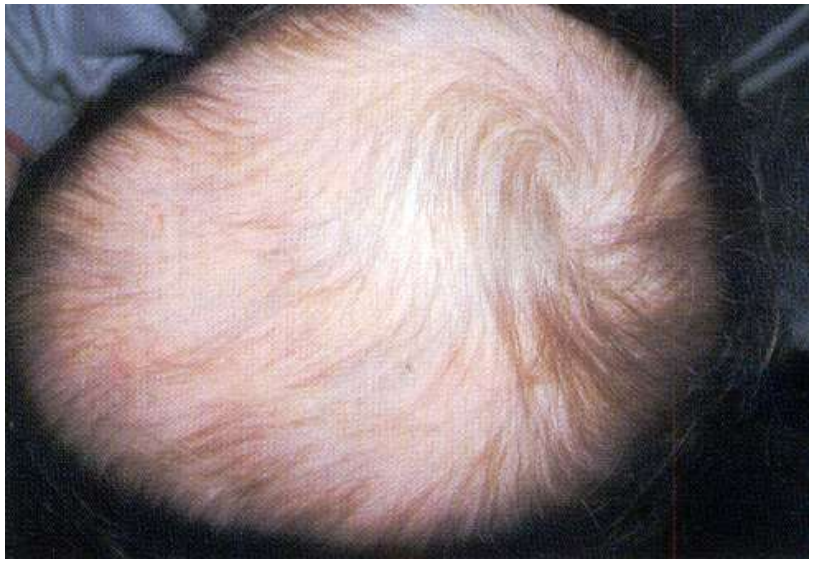
Anagen Effluvium

- Shedding occurs during growth (anagen) phase
  - Chemotherapy
  - Poisoning
  - Radiation therapy



Telogen Effluvium
(effluvium="outflow")

- Massive hemorrhage
- Childbirth
- Crash diets
- Drugs
- Fever
- Thyroid disease
- Stress
- Severe illness
- Spontaneous non-scarring recovery typically seen within six months

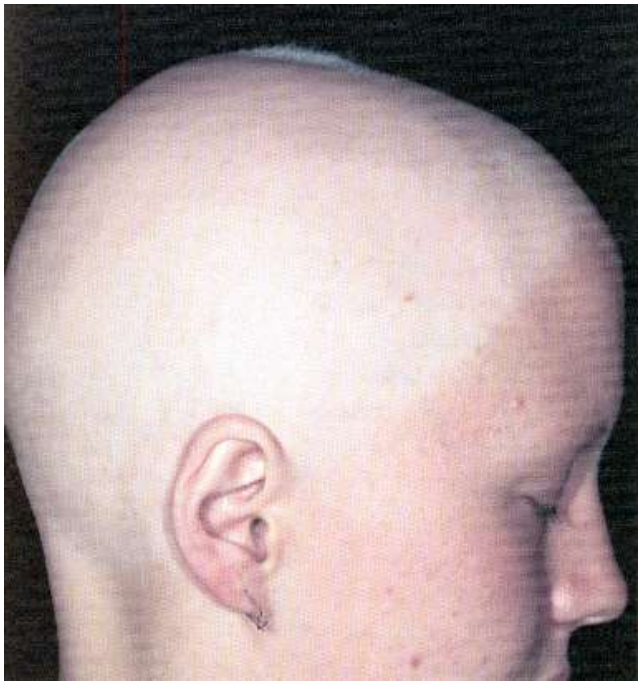


Alopecia Areata

- Common autoimmune disorder characterized by rapid onset of hair loss in well-circumscribed areas.
- If involvement is limited regrowth is typical.
- New hair may be finer and white.
- Treatment can include topical, intralesional and IM steroids.

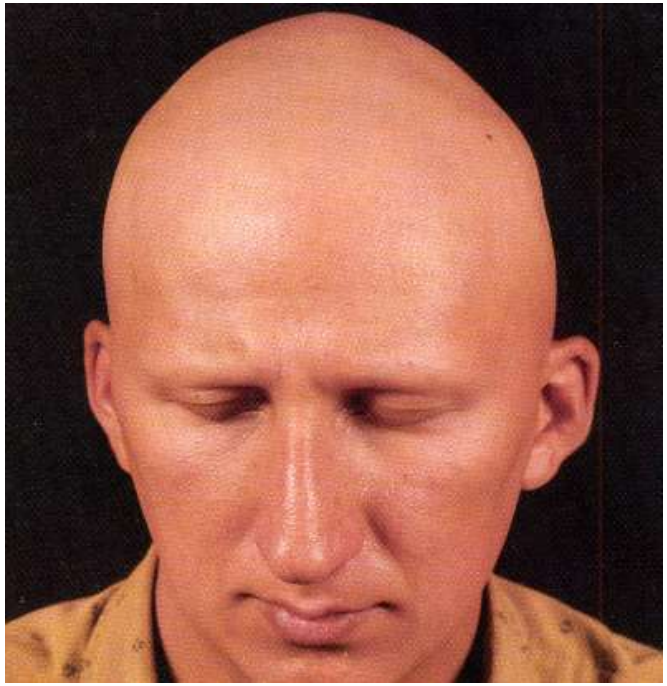
Alopecia Areata Totalis

- Total loss of scalp hair.
- Seen primarily in younger patients with alopecia areata.
- Long term regrowth prognosis is poor.



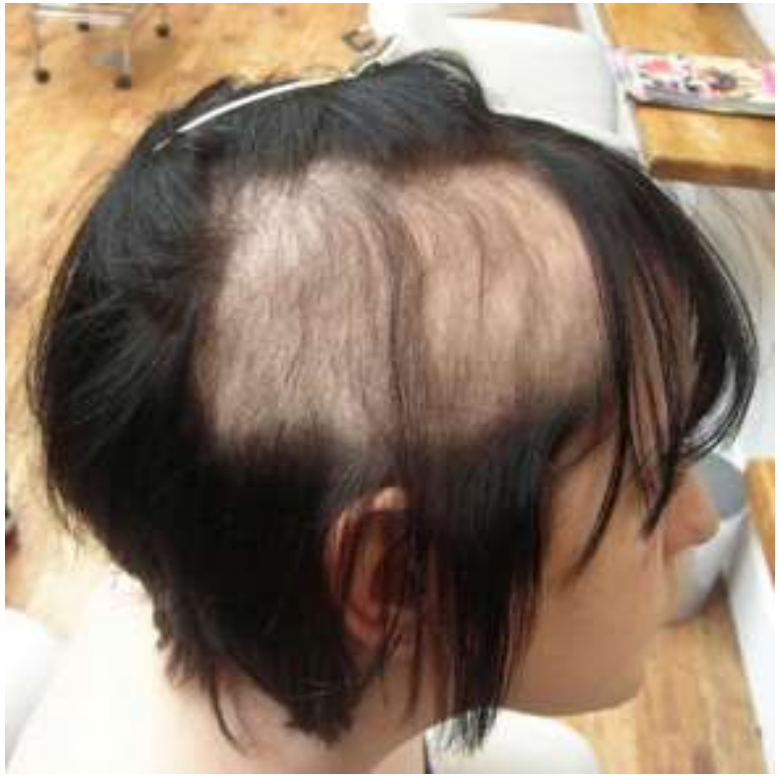
Alopecia Areata Universalis

- Very rare complication of alopecia areata.
- Complete and total loss of all body hair.
- May spontaneously re-grow.

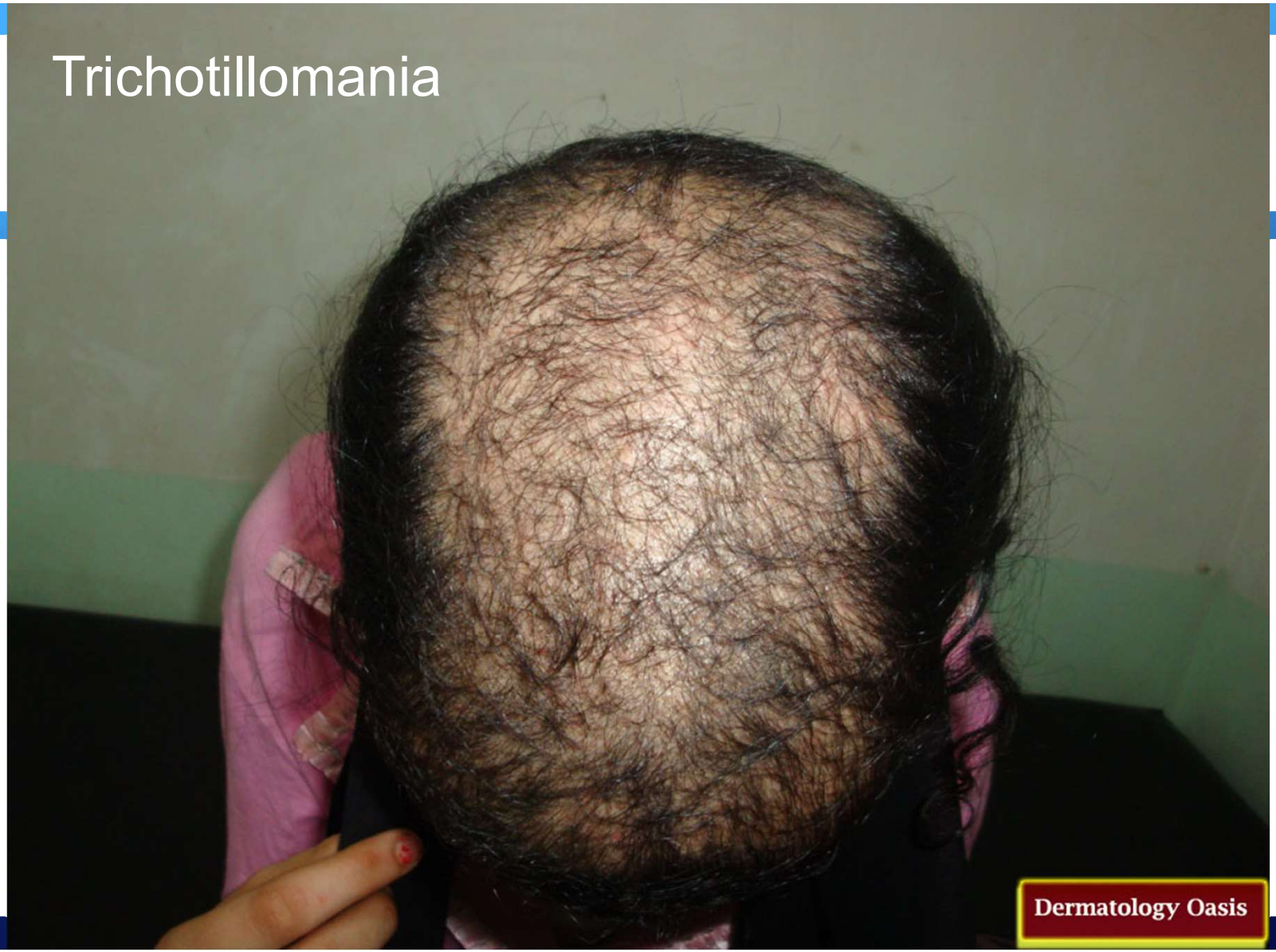


Trichotillomania

- The act of manually removing hair by manipulation.
- An obsessive-compulsive disorder seen in a 2.5:1 female to male ratio.
- May require lifelong psychotherapy and medication for control.
- May resolve after menopause onset.

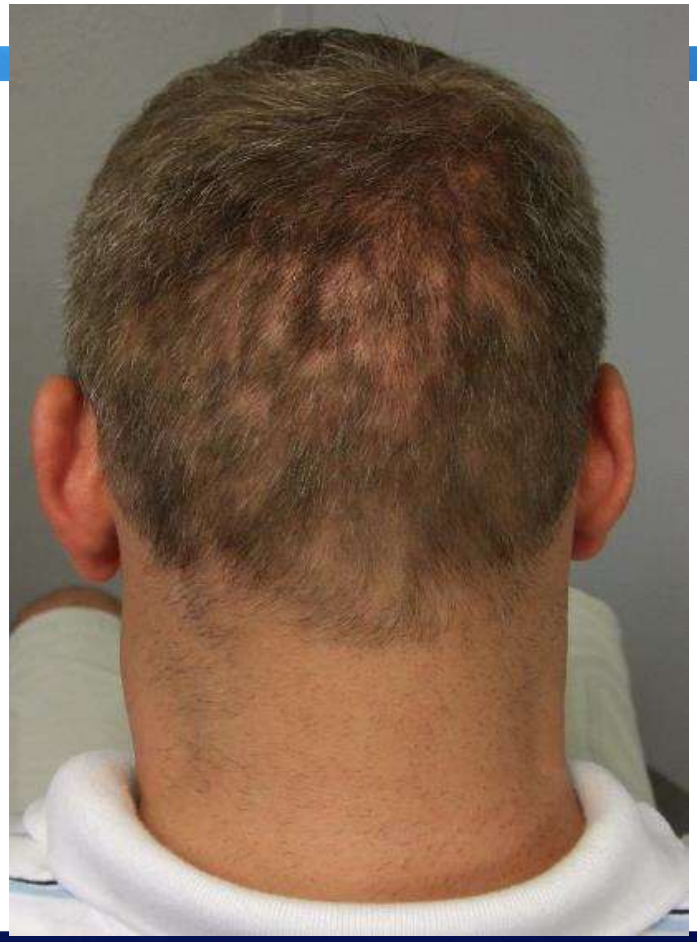


Trichotillomania



Secondary Syphilis

- Classic "moth-eaten" alopecia with irregular, patchy, non-scarring alopecia that may also affect the eyebrows and beard areas



Scarring Alopecia

Cicatricial Aloepcia

Central Centrifugal Cicatricial alopecia

- Can initially present as hair breakage, scalp pruritus and progress to scarring hair loss

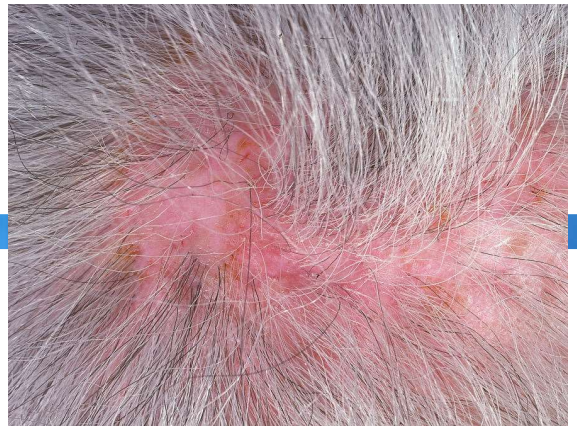
Central Centrifugal Cicatricial alopecia

- With preservation of the occipital and frontal hairline

Central Centrifugal Cicatricial alopecia

- DDx: Androgenic Alopecia, Other Scarring alopecias like Discoid lupus Erythematous (DLE) or Lichen Planopilaris (LPP)
- Diagnosis: Clinical but if doubtful you can biopsy and send to a dermatopathologist that has experience in alopecia

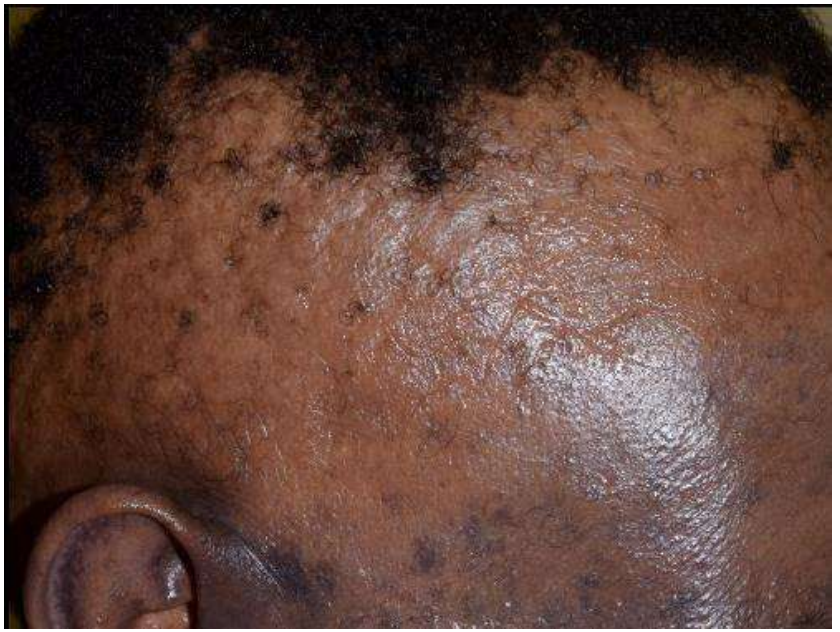
Lichen Planopilaris



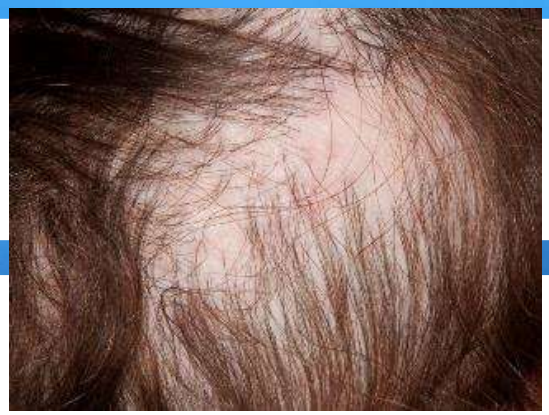
- characterized by perifollicular erythema and scale that can progress to cicatricial (scarring) alopecia over time
- affects women more commonly than men
- skin phototypes are more often affected than individuals with darker skin phototypes
- Typical age range is 40-60 year olds
- Increased hair shedding, severe itching, scaling, burning, and tenderness are common symptoms

Lichen Planopilaris

- There is a variant of LPP called Frontal fibrosing alopecia characterized by a band like hair loss from the frontal scalp
- affects women



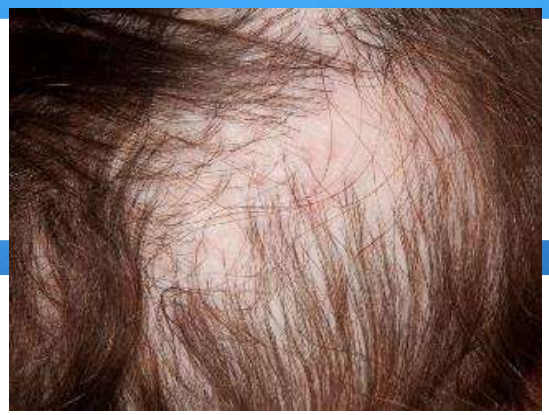
Lichen Planopilaris



- Diagnosis: clinical diagnosis +/- biopsy
- Management of LPP can be quite challenging, with frequent treatment relapses, and thus may require continued follow-up with a dermatologist.

  The goal of treatment of LPP is to stop the inflammatory process quickly to minimize the number of hair follicles permanently lost.

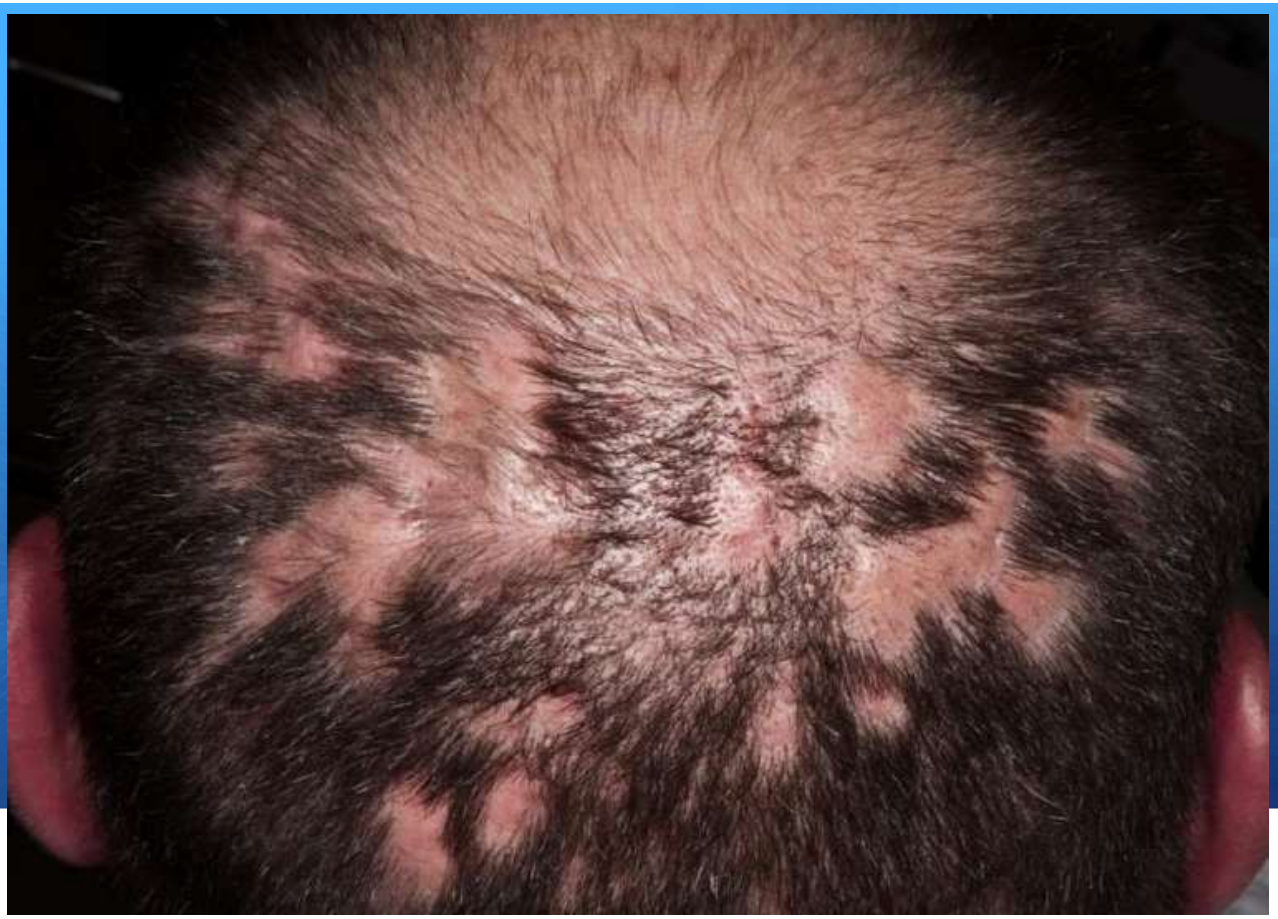
Lichen Planopilaris



- Treatment:
- For localized disease, topical and intralesional steroids may be used: Topical corticosteroids (class 1-2) – Clobetasol cream, ointment applied every 12 hours (30, 45, 60 g)
- Intralesional corticosteroids – Triamcinolone acetonide 2.5-10 mg/ml up to a total of 2 ml every 4-6 weeks
- Generally considered first line for recalcitrant or aggressive disease: Hydroxychloroquine 200 mg by mouth twice daily for at least 3 months

Dissecting Cellulitis of the Scalp

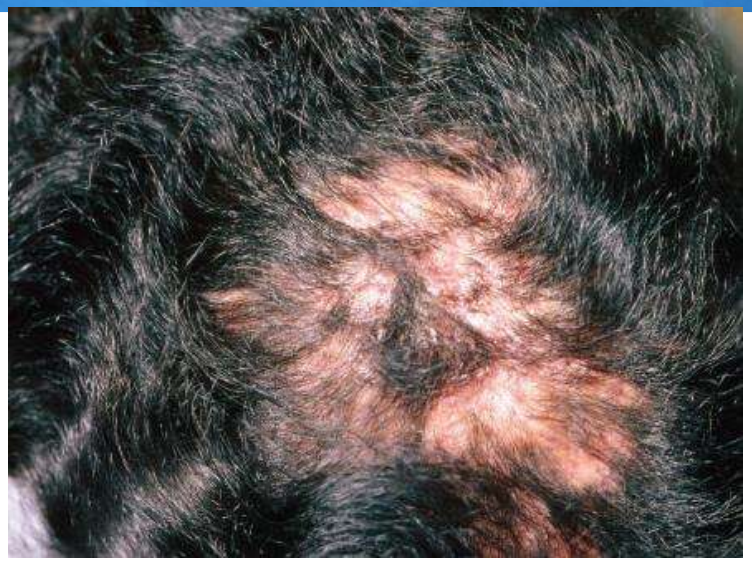
- AKA: Perifolliculitis capitis abscedens et suffodiens (PCAS)
- neutrophilic scarring alopecia with an abnormal inflammatory response to staphylococcal antigens
- follicle occludes, dilates, and ruptures, and the keratin promotes an inflammatory response in conjunction with a secondary staphylococcal infection attracting neutrophils
- typically affects African-American men between the ages of 20 and 40, but it can occur in other races, in women, and in children



usually affects the vertex (although the entire scalp can be involved), producing boggy or fluctuant pustules and nodules

Dissecting Cellulitis of the Scalp

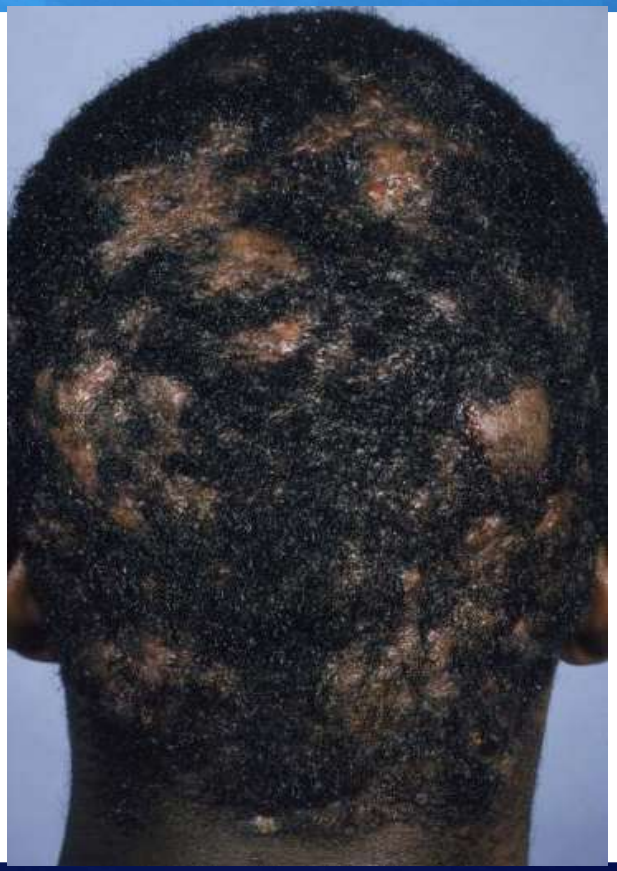
- may occur alone or as part of a follicular occlusion triad that includes acne conglobata and hidradenitis suppurativa or a tetrad including pilonidal cysts
- On the scalp, look for boggy or fluctuant pustules and nodules, which may exude pus, on the vertex. As the disease progresses, look for sinus tracts and hypertrophic scars, keloids, and overlying patchy alopecia.



Dissecting Cellulitis of the Scalp

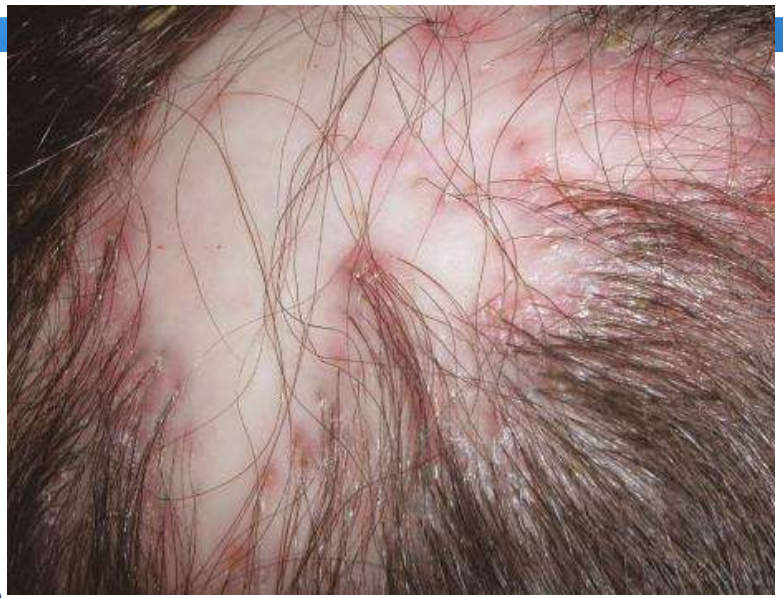
- Diagnosis: Clinical + biopsy + culture
- Treatment: a difficult condition to treat; management by a dermatologist is recommended
- course is chronic and relapsing
- Antibiotics, typically of the tetracycline class: minocycline 100 mg by mouth twice daily.

  Oral antibiotics can be combined with topical antibiotic soaps, chlorhexidine, or benzoyl peroxide



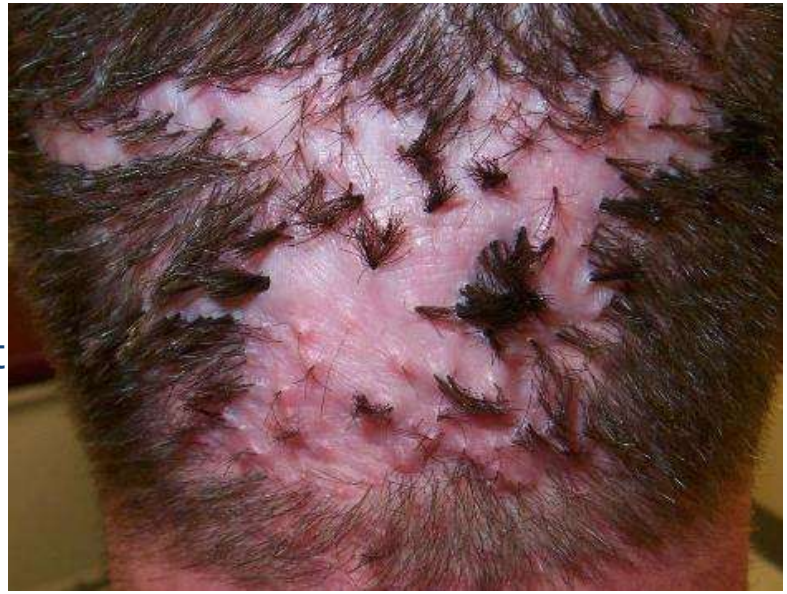
Folliculitis Decalvans

- common form of scarring alopecia characterized by suppurative folliculitis with destruction of the hair follicle
- *Staphylococcus aureus* is often isolated from the follicular pustules, and it is thought that an abnormal host response occurs to this organism



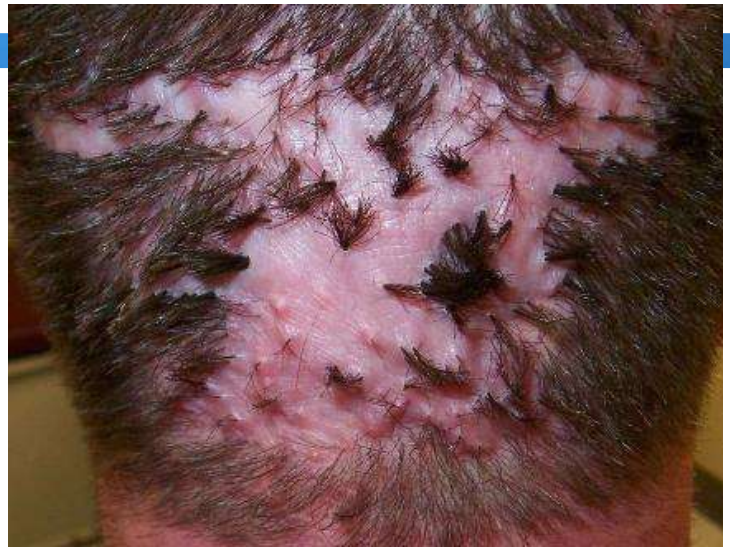
Folliculitis Decalvans

- Look for crops of perifollicular pustules, most commonly on the crown of the scalp
- Characteristically, there may be several residual hairs growing out of a single hair follicle, so-called "tufting," "tufted folliculitis," or "doll's hair."

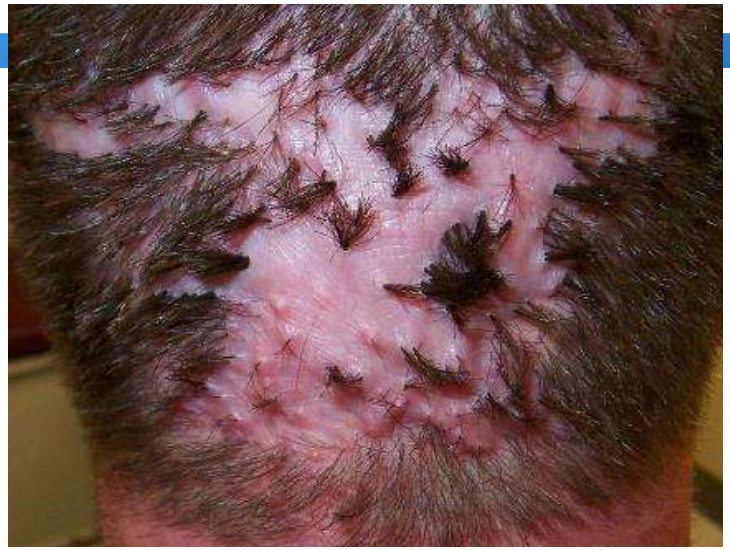


Folliculitis Decalvans

- Diagnoses: Biopsy and culture
- can be resistant to treatment
- Treatment:
  - Topical antistaphylococcal antibiotics (eg, clindamycin 1% lotion, erythromycin 2% gel, mupirocin 2% ointment) 2-3 times per week.
  - Topical tacrolimus 0.1% ointment.
  - Intralesional triamcinolone 5-10 mg/mL once every 3 months in patients with active inflammation.
  - Vitamin D derivatives (calcipotriol) in patients with desquamation and seborrhea, salicylic acid in patients with hyperkeratosis, and minoxidil in patients with coexisting androgenic alopecia may be helpful adjuncts.



Folliculitis Decalvans



Treatment:

- **Oral treatment options include:** For mild to moderate disease (largest alopecic patch < 5 cm): Doxycycline or minocycline 100 mg daily for 8-12 weeks for active inflammation.
- Azithromycin: 500 mg daily 3 days a week for 3 weeks if there is bacterial resistance.