Hair Disorders

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Friday, 3 PM

- Urticaria
- Alopecia
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- Urticaria
• How to provide an effective evaluation without losing your mind or staying until midnight
Rule 1

- Define goals of today’s visit
- Steps needed to reach diagnosis
- Rule outs
- Therapy
Rule 2

- Questionnaires
- Overprinted exam form / template
- Videos
- Handouts
Rule 3

• Must do’s
  – Trichodystrophy
  – Telogen or anagen effluvium
  – Is biopsy needed?
  – Is blood work needed
Trichodystrophy

• Are hairs breaking?
  – Ask
  – Look at hair length, scalp, shed hairs
  – Contrasting card
Hair pull

- Telogen effluvium
- Anagen effluvium
- Trichodystrophy
Rumpled Sock Cuticle
Telogen effluvium

• Early anagen release
  – Febrile illness, diet
• Delayed anagen release
  – Pregnancy
Telogen effluvium

- Early telogen release
  - Minoxidil

- Delayed telogen release
  - Seasonal, pregnancy

- Short cycle
  - Pattern
Anagen effluvium

- Chemotherapy
- Alopecia areata
- Lues
- Heavy metal ingestion
– Trichodystrophy
– Telogen or anagen effluvium
– Is biopsy needed?
– Is blood work needed
Indications for Biopsy

- Scarring alopecia
- Non-responsive “AA”
  - Lupus
  - Metastatic breast carcinoma
- Diffuse alopecia areata
- Moth-eaten alopecia (serology -)
- Trichotilllosis
Where to Biopsy

• Active lesion
  – Erythema, induration

• Established lesion of LE
  – At least 4 month old

• Burnt-out scar
  – Elastic stain
Vasopressin-induced Necrosis
Maximize Yield of Biopsy

• Two 4 mm punches
• Parallel to direction of hair growth
• One bisected transversely
• One bisected vertically
Tell the lab what you are doing

• One transversely bisected punch, $\frac{1}{2}$ vertically bisected punch

• Embed all pieces in one cassette, cut side down
Vertical and Transverse

• Transverse
  – See all hairs or fibrous tracts

• Vertical
  – DEJ, SQ, Dystrophic hairs

Lichen Planopilaris
- Trichodystrophy
- Telogen or anagen effluvium
- Is biopsy needed?
- Is blood work needed?
Increased shed, diffuse

• Trichodystrophy
  – No labs

• Tapered fractures
  – RPR

• Anagen
  – No labs
Increased shed, diffuse

• Telogen
  – Obvious cause: no labs
  – No obvious cause:
    • Fe, TIBC, saturation, ferritin
    • TSH
    • (ANA)
    • (ESR)
    • (RPR)
Ferritin

- unreliable in patients with RA
- increased as an acute phase reactant
- pair with ESR (10 mm/hr if run promptly)
- cut-off for deficiency
  - 20 microg/L (much of world)
  - 42 (50th % Hb)
  - 50 (up to half will have no stainable marrow iron)
  - 100 (iron replete)

Blood 2009; 114:3972-3
Increased shed, patchy

- Trichodystrophy
  - No labs
- Tapered fractures
  - RPR
- Telogen
  - No labs
  - Papulosquamous, LE
Chronic diffuse or pattern

- Tapered fractures
  - RPR

- Usually no increased shed
  - Look for reversible causes of low grade telogen effluvium
  - Iron studies
  - TSH
Virilization

• Labs as for hirsutism
Therapy

• Treat scarring alopecia
  – Steroids (topical, IL, po), plaquenil, retinoids

• Male pattern
  – Finasteride, minoxidil

• Female pattern
  – Minoxidil, spironolactone
YOUR VERY LAST CHANCE FOR HAIR!

PREPARATION Z™

“Shrinks Your Head To Maximize What Little Hair You Have Left!”

Very Special Shampoo

.3125 oz (9 grams)
Hirsutism

- Hirsutism vs. hypertrichosis
Familial, Long-standing

- No labs
- Laser
- Wax
- Bleach
- Shave
- Chemical depilatories
- Spironolactone, OCP
Post-menopausal, mild - moderate

- No labs
- Replace Estrogen (SHBG)
- Decreased Provera
- Epilation
Severe, new, progressive

- HCG, FBS, Lipids, TSH
- +/- Total Testosterone
- +/- 24 hr urine cortisol
- +/- DHEA-S
- +/- 17-OH-progesterone
  - AM, 3rd day of period/progesterone/stim.
- +/- Prolactin
• Assays for Testosterone highly lab dependent

Evaluation for Tumor

- History and Physical: Better predictive value than Testosterone and DHEA-S

• 478 patients
• Signs of hyperandrogenism
• Oligomenorrhea
• (PCOS)
• 11 with Testosterone > 8.7 nmol/l
  – 1 with tumor
• 10 with DHEA-S > 16 mmol/l
  – 0 with tumor
Androgens

• About half from adrenal glands
• About half from ovaries
  – Theca cells and peripheral conversion
SHBG

- Increased by estrogens and thyroid hormone
- Decreased by androgen excess, obesity, GH excess
Virilizing tumor

- History/ physical exam
- Total testosterone > 200 ng/dl
- DHEA-S > 8000 ng/dl
- Imaging studies (U/S, CT, MRI)
Non-classic 21-hydroxylase Deficiency

• Homozygous recessive
• Up to 10% of our patients with severe hirsutism

• Screening:
  – baseline AM 17-OH-progesterone (follicular phase, progesterone)
  – Stimulated 17-OH-progesterone
Non-classic 21-hydroxylase Deficiency

• Outcome with HS dexamethasone may be no better than empiric treatment with spironolactone.
PCOS

• Most of our patients with severe hirsutism
• AD
• Insulin resistance in muscle and adipose
• Ovarian theca cells produce androgens
PCOS

- Muscle and adipose resistant to insulin
- Ovaries not resistant
- Abnormal GnRH regulation
- Secondary dysregulation of LH
PCOS

• NIH Consensus Conference definition
  – Chronic anovulation (< 9/yr or cycle > 40d)
  – Clinical signs of androgen excess
  – Exclusion of other causes
PCOS

- LH/FSH ratio elevated in only 50%
- Cysts on ultrasound not a requirement
- Hyperprolactinemia up to 30%
- Testosterone normal to increased
- SHBG low (obesity)
- Hyperlipididemia
PCOS

• Hirsutism, acne, alopecia
• Obesity
• Abnormal menses
• Often history of early puberty
• Onset during puberty
PCOS

• Androgens converted to estrogen
  – Risk of endometrial cancer
PCOS Management

- Hair removal / antiandrogens
- Protect endometrium
  - OCP +/- insulin sensitizer
- Hyperlipidemia
- Screen for DM and HTN
  - FBS and 2 hr Glucose Tol. test
Hirsutism

• Treatment
  – Mechanical / laser / galvanic epilation
  – Spironolactone 100 mg BID
  – OCP
  – Insulin sensitizers
OCP

- Estrogen increases SHBG
- Progestin inhibits gonadotropin secretion
  - Desogestrel, gestodine, norgestimate less adrogenic
  - Levonorgestrel, cyproterone acetate
Insulin Sensitizers

• Biguanides
  – Phenformin (DBI)
  – Metformin (Glucophage)

• Thiazolidinediones
  – Troglitazone (Rezulin)
  – Rosiglitazone (Avandia)
  – Pioglitazone (Actos)
Hirsutism

• Other agents
  – Flutamide
  – Metformin
  – Cyproterone acetate
  – Luprolide plus estrogen
  – Finasteride
Future

• Spironolactone plus insulin sensitizer
• +/- OCP
• +/- newer and better antiandrogens or 5-alpha-reductase inhibitors
Trichostasis spinulosa
Hair Cast
Disseminate Infundibulofolliculitis