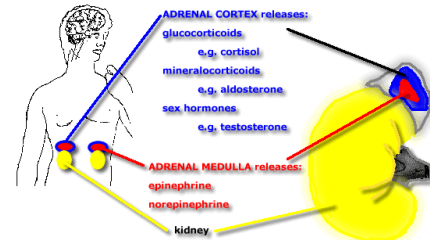


Pathology Session #7

Adrenal glands
Thyroid
Dermatology

Adrenals: Review



<http://www.flyfishingdevon.co.uk/salmon/year1/adrgln.gif>

Adrenal Stress Stage #1: Alarm

Stress → adrenal stimulation
= adrenaline release

- racing heart
- dry mouth
- anxiety
- the shakes
- diarrhea
- sweating

Stage #2: Adrenal Fatigue

Underactive Adrenals (due to chronic stimulation)
= low morning cortisol and low aldosterone

- hypotension (= $<95/65$)
- vertigo or "head rush" upon standing (orthostatic hypotension)
- hypoglycemia
- the sweats
- fatigue
- depression
- salt cravings
- anorexia or nausea

Adrenal-supportive Lifestyle (for individuals presenting with adrenal fatigue)

- low sugar
 - no stimulants or depressants (caffeine, alcohol)
 - sea salt, dulse
 - EFAs
- Lifestyle:
- stay horizontal 12 hrs.
 - avoid strenuous exercise
 - avoid negativity (media) and energy-drainers

Adrenal Supplementation

- B complex 50 mg
- Pantothenic acid 100mg-500mg
- Buffered C: 2000 mg+ to bowel tolerance
- L-tyrosine
- Licorice root tea
- Siberian ginseng
- Adrenal glandular

<http://www.sd-neurosurgeon.com/>

Cushing's Disease
Clinical aspect:
 'moon' face with acne
 Fatty deposits over back of neck (buffalo hump)
 Excessive hair growth
 Diabetes mellitus
 Muscle loss and fatigue
 Depression and psychosis

Etiology: Cortisol-secreting pituitary tumour
 OR long term corticosteroid use

<https://courses.stu.qmul.ac.uk/5md/kb/resources/endocrinologyresource/21-36.JPG>

Comparing Adrenal Pathologies

<p>Cushing's Disease Etiology: Excess corticosteroid exposure (tumour /chronic cortisone use) <u>Clinical aspect:</u> -moon face -Syndrome X triad -sarcopenia (loss of muscle) -buffalo hump -hirsutism (excessive body hair) -see also <i>long term effects of corticosteroids</i> <u>Complications:</u> Heart attack (MI), metastasis (if tumour)</p>	<p>Addison's Disease Etiology: cellular damage adrenals (AI/tumour/infection) <u>Clinical Aspect:</u> -see <i>adrenal fatigue</i> -patchy skin colour (face) -weight loss <u>Complications:</u> Acute adrenal crisis</p>
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Thyroid

- Controls speed of cellular processes throughout the body

brain → thyroid → tissues
 TSH (Thyroid - Stimulating Hormone) T4 → T3 (active thyroid hormone)

Thyroid disorders

- A: Underactive:**
 - Hashimoto's thyroiditis (AI)
 - goiter
- B: Overactive**
 - Grave's disease (AI)
 - Toxic nodular goiter (thyrotoxicosis)

<http://www.tss.co.il/images/1/goiter.gif>

Goiter: an enlarged thyroid (hypertrophy)

adam.com

http://phocinity.com/diseases/images/thyroid_enlargement.jpg

Thyroid imbalance

Hyperthyroidism/
Thyrotoxicosis and
Grave's Disease (AI)

- Bulging eyes
- Profuse sweating, feverish
- Weight loss
- Anxiety
- Rapid heartbeat
- Goiter (possible)

Hypothyroidism/
Hashimoto's disease

- Fatigue
- Obesity
- Constipation
- Headaches, depression
- Cold hands and feet
- Goiter (if I is insufficient)

Medical/Lab Analysis

Hyperthyroidism:

- fast pulse
- Excessive T3 and T4
- LOW TSH
(thyroid stimulating hormone)

• Hypothyroidism

- Slow pulse
- High cholesterol
- High triglycerides
- High blood pressure
- HIGH TSH
- LOW T4

Dietary Approach

Hyperthyroid

- Anti-inflammatory diet
- RAW cruciferous vegetables, cooked soybeans
- avoid iodine
- increase calories +500
- high-potency multi (iodine free, if possible)

Hypothyroid

- Anti-inflammatory diet (if AI form)
- Extra zinc, selenium
- adequate iodine
- l-tyrosine
- avoid fluoride
- distilled or RO water

Dermatological Pathologies

Channels of Elimination

- Liver
- Lungs
- Kidneys
- Colon
- SKIN

Acne

Acne Vulgaris

- infection of the skin by *p. acne bacteria*
- interaction of hormones, sebum (oil) and bacteria
- common sites: face, back, chest
- testosterone increases sebum, breakouts

Acne Rosacea

- inflammatory
- aggravated by vasodilators: wine, vinegar, spices
- aggravated by weather: wind, sun
- may affect the eyes
- affects only face
- affects more women than men

Subtype 1: FACIAL REDNESS
(erythematotelangiectatic rosacea) Flushing and persistent redness. Visible blood vessels may also appear.

Subtype 2: BUMPS AND PIMPLES
(papulopustular rosacea) Persistent facial redness with bumps or pimples. Often seen following or with subtype 1.

Subtype 3: SKIN THICKENING
(rhymatous rosacea) Skin thickening and enlargement, usually around the nose.

Subtype 4: EYE IRRITATION
(ocular rosacea) Watery or bloodshot appearance, irritation, burning or stinging.



<http://www.rosacea.org>

Eczema

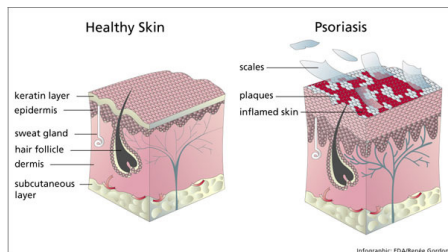


http://z.about.com/d/menshealth/1/0/X/1/derm_22330014.jpg

Eczema (atopic dermatitis)

- inflammatory
- intensely itchy patches of tiny blisters
- weeping of clear-yellow exudate (fluid)
- final phase: flaking of the skin (healing)
- Signals an overactive immune system, reaction to stress (alarm mode)

Psoriasis



http://www.fda.gov/fdac/graphics/2004/graphics/psoriasis_sinfog.jpg

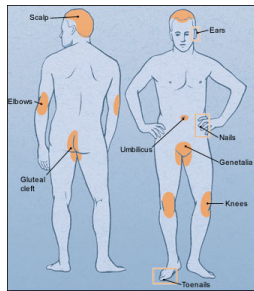
Psoriasis



http://www.psoriasisofscure.com/virtualtour/psoriasis_pictures/psoriasis_plaque.jpg

The scaly plaques of psoriasis occur due to unusually rapid turnover of skin cells.

Common sites for psoriasis



http://www.aafp.org/afp/20000201/725_f1.jpg

Nutritional Recommendations for Inflammatory Skin Conditions

- Anti-inflammatory diet
- extra omega-3
- Dysbiosis protocol
- Liver protocol
- Skin nutrients: ACEZ for healing
- Herbal anti-microbials
- Topical herbal creams/oils (e.g. tea tree oil)
- Sea buckthorn oil/soap (esp. for rosacea)

Viral Skin Infections

Herpes Simplex 1 and 2

- type 1: coldsore on/around mouth
- type 2: genital blister(s); sexually transmitted
- Herpes Zoster ('shingles')

Herpes Zoster (a.k.a 'shingles')

Clinical presentation: a single *dermatome*, typically on chest; knife-like pain at affected site

Risk factors: advanced age; previous infection with 'chicken pox', compromised immunity

Complications: eye damage (if affecting face), post-herpetic neuralgia (nerve damage and irritation)

Herpes is a permanent infection once acquired, making itself known only when the immune system is weakened.



http://missinglink.ucsf.edu/In/DermatologyGlossary/img/Dermatology%20Glossary/Glossary%20Clinical%20Images/Herpes_Zoster-ZZ.jpg

Prevention and Treatment of Herpes Outbreaks

- under-active immune protocol
- low-arginine diet
- lysine inhibits viral replication
- Supplementary l-lysine:
2000 mg preventively
3000-5000 mg daily during outbreak

Limit Arginine

Lysine-rich foods:

Milk
Eggs
Meats
Quinoa
Vegetables
Legumes

Arginine-rich foods:

AVOID:
Nuts
Wheat
Chocolate

Exam material stops here!