Functional Medicine University's Functional Diagnostic Medicine Training Program

Module 1 * Lesson 6

Physical Exam & Associated Pathology Part II – Skin

By Wayne L. Sodano, D.C., D.A.B.C.I., & Ron Grisanti, D.C., D.A.B.C.O., M.S.
http://www.FunctionalMedicineUniversity.com

Functional Medicine University's
Functional Diagnostic Medicine Training Program
Module 1 * Lesson 6: Part II: Skin
Physical Exam & Associated Pathology
By Wayne L. Sodano, D.C., D.A.B.C.I., & Ron Grisanti, D.C., D.A.B.C.O., M.S.
http://www.FunctionalMedicineUniversity.com

Contents

The Skin 2
The Health History 2
Detecting Moles 3
The Examination 3
Physical Signs of Skin Indicative of Undernutrition 5
Hair 5
Nails 5
Functional Medicine Considerations for Common Skin Disorders 6
Treatment Considerations 8
References 8

The Skin

Too often the primary care physician is put on the spot by a patient wanting immediate treatment for a visible skin disorder which ultimately demands a quick decision.

Over 2000 skin diseases exist. Signs of which cannot be regarded as an isolated local disorder because they often hold evidence of disease that could contain other serious implications for the patient.

It is highly recommended that you obtain an illustrated clinical dermatology atlas for your office. Although this lesson will cover an in-depth overview of common skin disorders, it will not comprehensively cover the uncommon presenting conditions and their possible underlying causes. This lesson will look at skin conditions frequently treated from a functional medicine perspective.

The skin is the heaviest single organ of the body, accounting for approximately 16% of the body weight. It contains three layers: the *epidermis*, the *dermis*, and the *subcutaneous tissues*.

The major function of the skin is to keep the body in homeostasis. It provides boundaries for body fluids while protecting underlying tissues from microorganisms, harmful substances, and radiation. It is responsible for modulating body temperature and synthesizing vitamin D. Hair, nails, and sebaceous and sweat glands are considered appendages of the skin. The skin is one of four ways in which toxins leave the body.

The Health History

- Signs or symptoms
    - Hair loss
    - Rash
    - Moles
- Causes of generalized itching include: nutritional deficiency, allergy, liver dysfunction, dry skin, aging, pregnancy, uremia, jaundice, cancer, drug reaction, and lice.
- *Skin cancers* are the most common cancers in the United States and usually arise on sun-exposed areas, such as the head, neck, and hands. The majority of cancers are of three types:
    - *Basal cell carcinoma* occurs in the lowest level of the epidermis. It accounts for approximately 80% of skin cancers. These cancers arise in sun-exposed areas, usually the head and neck. They appear pearly white and are translucent. BCC is slow growing and rarely metastasizes.
    - *Squamous cell carcinoma* occurs in the upper layer of the epidermis, and accounts for approximately 16% of skin cancers. SCC are crusted and scaly with a red inflamed appearance, and can metastasize.
    - *Melanoma* come from the melanocytes in the epidermis that give the skin its color. It accounts for approximately 4% of skin cancers and is the most lethal type.

Detecting Moles

- Patients and clinicians who find moles should apply the *ABCD method* to screen for melanoma. Sensitivity ranges from 50% to 97%, and specificity from 96% to 99%.

- ABCDs of Examining Moles for Possible Melanoma
    - **A**: asymmetry
    - **B:** irregular borders
    - **C:** variation or change in color, especially blue or black
    - **D:** diameter ≥6 mm or different from others, especially if changing, itching, or bleeding
    - **E** (elevation/evolving)

- The *'ugly duckling'* is suspicious
    - When a group of moles presents with one abnormally different that the rest

The Examination

- Inspect and palpate the skin.
    - Color
        - Inspect for an increase or decrease in pigmentation, yellowing of the skin, redness, and cyanosis.
        - Pallor can be caused by a decrease in blood flow and anemia.
        - *Central cyanosis* is identified in the lips, oral mucosa, and the tongue.
            - Causes include advanced lung disease, congenital heart disease, and blood dyscrasias.
            - *Venous obstruction* may cause peripheral cyanosis.
        - Cyanosis of the nails, hands, and feet may be central or peripheral in origin.
        - Yellow color in the sclera indicates jaundice. Jaundice may also appear in the palpebral conjunctiva, lips, hard palate, undersurface of the tongue, tympanic membrane, and skin.
            - Suggests liver disease or RBC hemolysis.

The Examination (con't)

- Moisture
  - Dryness: *hypothyroidism*
  - Oiliness in acne
- Temperature
  - Use the backs of your fingers to make this assessment. In addition to generalized warmth or coolness of the skin, note the temperature of any red areas.
  - Generalized warmth: fever, *hyperthyroidism.* Coolness: *hypothyroidism,* decreased circulation
  - Local warmth: inflammation, cellulitis, trauma
- Texture
  - Roughness: *hypothyroidism*
  - Velvety texture: *hyperthyroidism*
- Mobility and Turgor
  - Lift a fold of the skin – *Mobility* is the ease in which lifts up. *Turgor* indicates the speed in which it returns into place.
  - Decreased mobility: edema, *scleroderma.* Decreased turgor: free radical change, dehydration
- Lesions
  - Observe any lesions of the skin and note the following:
    - Location and distribution
    - Patterns
    - Types (e.g., tumor, vesicle)
    - color

Physical Signs of Skin Indicative of Undernutrition

Normal Appearance	Signs of Undernutrition	Symptoms	Remedial Nutrient
Absent of rashes, swelling, dark/light spots, bruising	Flaking skin, edematous dermis, follicular hyperkeratosis, xerosis, dyspigmentation, petechiae, fat atrophy or vasculitis, bilateral symmetric dermatitis, dark discolorations, red swollen pigmentation of exposed areas: pellagrous dermatosis, acrodermatitis, enteropathica	Dry and scaly, flaky, pain	Vitamin A, zinc
		Pallor	Iron, B12 folate
		Follicular hyperkeratosis	Vitamin A, EFA
		Psoriasis rash	Vitamin A, zinc
		Nasolabial seborrhea	EFA
		Dryness & Xerosis	Biotin, Linoleic Acid, zinc
		Bruises easily	Vitamin K or C
		Hyperpigmentation	Niacin
		Slow would healing	Vitamin C, A, zinc, protein, omega-6 FA
		Pellagrous dermatosis	Niacin

Hair

- Quantity, distribution, and texture
    - Alopecia refers to hair loss – diffuse, patchy, or total.
    - Sparse hair in *hypothyroidism.* Fine, silky hair in *hyperthyroidism*
    - Hair that is pulled out easily suggests possible protein deficiency, fungal infection, or psoriasis.
    - Virilization
        - Adrenal disorder or tumor
        - Polycystic ovary syndrome
        - Surreptitious anabolic steroid use

Nails

- Note color, shape, and any lesions
- Clubbing of the Fingers
    - The distal phalanx of each finger is rounded and bulbous, the nail plate is more convex, and the angle between the plate and the proximal nail fold increases to 180^0 or more. The proximal nail fold feels spongy when palpated. There are several causes, which include chronic hypoxia from heart disease or lung cancer and hepatic cirrhosis.
- Paronychia
    - Is an inflammation of the proximal and lateral nail folds which appear red, swollen, and tender; the cuticle may not be visible. This condition may be acute or chronic and multiple nails are affected. May be due to staph/strep infection under the nail

Nails (con't)

- Onycholysis
    - Refers to a painless separation of the nail plate from the nail bed, usually enlarging the free edge of the nail to a varying degree, and has many causes – local trauma, infection, diabetes, hyperthyroidism
- Terry's Nails
    - Mostly whitish with a distal band of reddish brown; lunulae of the nails may not be visible. May appear with aging and in chronic diseases such as cirrhosis of the liver, congestive heart failure, and non-insulin-dependent diabetes.
- White Spots (Leukonychia)
    - Trauma to the nails is commonly indicated by white spots that grown slowly out with the nail. Indicates a zinc deficiency.
- Transverse White Lines (Mees' Lines)
    - Lines, not spots, with curves similar to those of the lunulae, not the cuticle, and may follow an acute or severe illness. They emerge from under the proximal nail folds and grow out with the nails. Indicates arsenic, carbon monoxide poisoning or chemotherapy.
- Psoriasis
    - Small pits in the nails may be early signs of psoriasis but are not specific for it.
- Beau's Lines
    - Are transverse depression in the nails associated with acute severe illness that emerge from under the proximal nail folds weeks after the illness and grow out gradually with the nail. As with Mees' lines, clinicians may be able to estimate the timing of a causal illness. Temporary disruption of growth.

Functional Medicine Considerations for Common Skin Disorders

- Acne
- Psoriasis
- Rosacea
- Urticaria

Acne

- Common causes
    - Hormonal imbalances
    - Gastrointestinal
    - Environmental, pharmaceutical (oral contraceptives), and topical toxins (cosmetics)
    - Food allergies

Psoriasis

Skin cells replicate too rapidly for normal shedding

- Common causes
    - Genetic
    - Bowel toxemia
    - Incomplete protein digestion
    - Liver dysfunction
    - Alcohol
    - Inflammatory diet
    - Stress
    - Nutritional deficiencies

Rosacea

- Common causes
    - Gastrointestinal disorders
        - Hypochlorhydria
        - H.pylori
        - Pancreatic enzyme insufficiency
    - Skin infections
    - *Demodex folliculorum* (skin mite considered as a causative factor)

Urticaria

- Common causes
    - Food allergies
    - Gastrointestinal disorders
    - Food additives
        - Dyes
        - Salicylates
        - Aspartame
        - Preservatives
        - Emulsifiers & stabilizers
        - Antioxidants (BHT and BHA)
        - Sulfites
    - Infections
        - Bacteria, viruses, and yeast Candida albicans

Treatment Considerations

- Cryotherapy (Cryosurgery)
    - Warts, precancerous lesions, skin cancer
- Undecylenic Acid (Antifungal Topical; Natural fatty acid which is derived from natural castor oil)
    - Fungal infections of the skin and nails
- Pinpoint laser

References:
All reference material is listed at the conclusion of the Physical Examination and Associated Pathology lessons.