

UNIT 3

COURSE NAME: HUMAN ANATOMY & PHYSIOLOGY

TOPIC: LYMPHATIC SYSTEM

Case Study Puzzle 1: The Silvery Scales

A 35-year-old man presents with well-demarcated, erythematous plaques covered with thick, silvery-white scales on his elbows, knees, and scalp. He reports occasional joint pain and nail pitting. Lesions itch mildly and have worsened with stress.

Puzzle: What chronic autoimmune disorder of the skin involves rapid keratinocyte turnover, leading to thickened plaques with Auspitz sign (pinpoint bleeding when scale removed)?

Hint: It's associated with HLA-Cw6 and often triggered by infections or medications.

(Solution: Psoriasis, specifically plaque psoriasis, due to T-cell mediated inflammation.)



psoriasis.org

Plaque Psoriasis: Symptoms, Causes & Treatment

Case Study Puzzle 2: The Itchy Flexures

A 22-year-old woman with a history of asthma and allergies complains of intense pruritus in the antecubital and popliteal fossae. The skin there is lichenified, excoriated, and oozing in acute flares. She notes worsening with certain foods and dust.

Puzzle: What inflammatory skin condition, often called eczema, features a defective skin barrier (filaggrin mutation) and Th2 immune response, following the "atopic march"? Hint: It's characterized by the itch-scratch cycle and elevated IgE levels.

(Solution: Atopic dermatitis, a type IV hypersensitivity with impaired epidermal integrity.



Case Study Puzzle 3: The Pearly Nodule

A 68-year-old fair-skinned man notices a slow-growing, pearly papule with telangiectasias on his sun-exposed forehead. It occasionally ulcerates and bleeds but doesn't heal. Biopsy shows palisading basaloid cells.

Puzzle: What is the most common skin cancer, arising from basal cells of the epidermis, often presenting as a "rodent ulcer" due to local invasion? Hint: It's strongly linked to UV radiation and rarely metastasizes.

(Solution: Basal cell carcinoma, a non-melanoma skin cancer with hedgehog pathway mutations.)



Case Study Puzzle 4: The Teenage Breakout

A 16-year-old boy reports comedones, papules, pustules, and nodules on his face, chest, and back. He feels embarrassed and notes oily skin. Symptoms started around puberty and fluctuate with diet.

Puzzle: What common inflammatory disorder involves pilosebaceous units, driven by androgens, *Propionibacterium acnes*, and sebum overproduction? Hint: It ranges from mild comedonal to severe nodulocystic forms.



Case Study Puzzle 5: The Belt of Fire

A 72-year-old woman experiences unilateral burning pain along her thorax, followed days later by grouped vesicles on an erythematous base in a dermatomal distribution. She recalls having chickenpox as a child. Pain persists after rash resolution.

Puzzle: What viral reactivation in dorsal root ganglia causes a painful, vesicular rash confined to one or two dermatomes? Hint: It's caused by varicella-zoster virus and can lead to postherpetic neuralgia in elderly patients.

(Solution: Herpes zoster (shingles), due to waning cell-mediated immunity.)