

SNS COLLEGE OF PHARMACY & HEALTH SCIENCES

COIMBATORE- 641035

Cell structure puzzle & case study questions

a) The Cell: Structure and Function

Puzzle Questions

1. Case 1: Muscle Weakness

A 20-year-old athlete complains of muscle fatigue even after mild exercise⁶. On investigation, ATP levels are very low⁷.

Puzzle: Which cell organelle might be defective? (Clue: Organelles responsible for energy production)

2. Case 2: Drug Toxicity

A patient taking high doses of medication develops liver toxicity⁹. Doctors test for enzyme activity in microsomes

Puzzle: Why test microsomes in this case?

3. Case 3: Lysosomal Storage Disorder

A child has swollen organs and an inability to break down certain lipids

Puzzle: Which organelle is likely defective?

4. Case 4: Transport Trouble

A patient's nerve cells show defective protein transport and accumulation in the cytoplasm¹⁴.

Puzzle: Which organelle is likely malfunctioning?

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b) Introduction to Human Body: Anatomical Terminology

Puzzle Questions

5. Case 5: The Puzzling Pain

A 35-year-old man presents to the clinic with persistent pain in his lower back¹⁶. He points to an area on his posterior side, away from his spine and closer to the outer edge of his back

Puzzle: Using anatomical terms, where exactly is his pain?