

**SNS COLLEGE OF PHARMACY  
AND HEALTH SCIENCES**

*Affiliated To The Tamil Nadu Dr. MGR Medical University, Chennai  
Approved by Pharmacy Council of India, New Delhi.  
Coimbatore -641035*

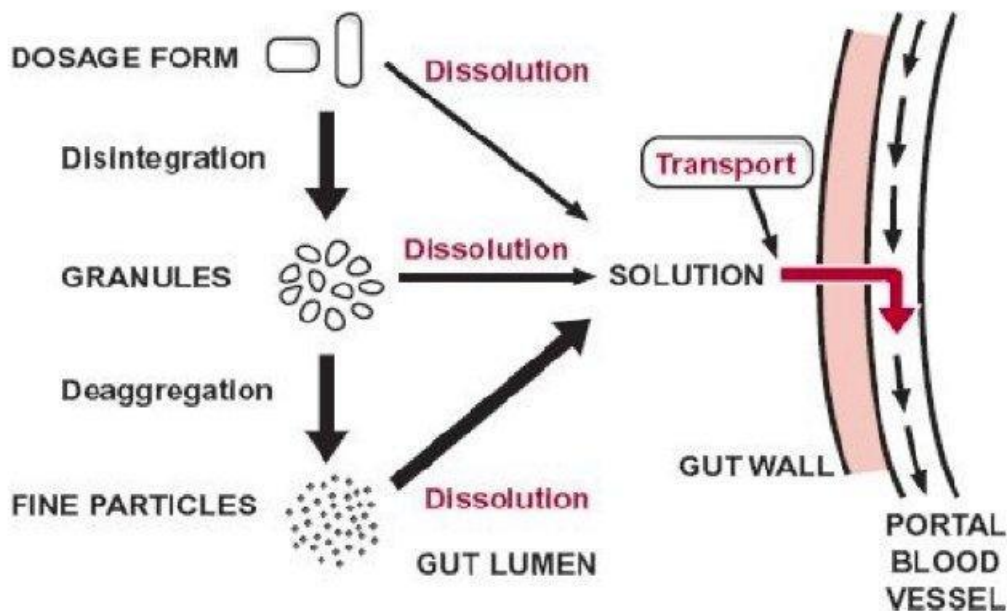


**BP 604 T. BIOPHARMACEUTICS AND PHARMACOKINETICS**

**UNIT 1**

**CASE STUDY PUZZLES**

**Case Study Puzzle 1:**



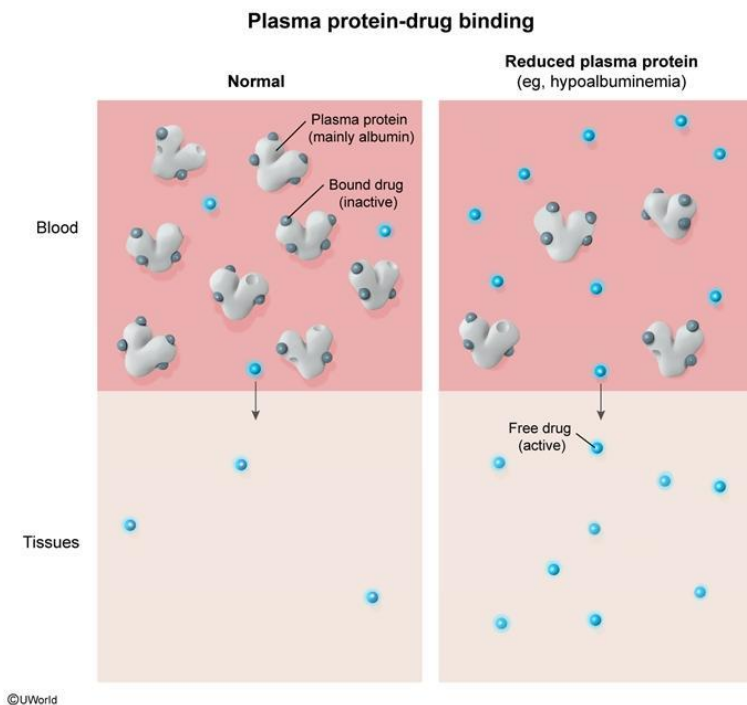
**Puzzle Question:** A 45-year-old patient suffering from gastric ulcer is prescribed an oral antibiotic. Even after regular dosing, the drug does not show proper therapeutic action. Later, it is found that the patient frequently consumes antacids. Analyze how the altered gastric pH affected drug absorption and suggest ways to improve therapy. **Case Study Puzzle 2: Pediatric Dilemma**

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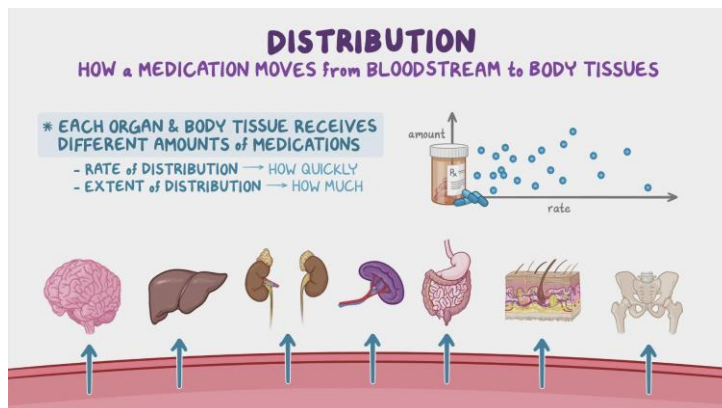


**Case Study Puzzle 2:**



**Puzzle Question:** A patient receiving a highly plasma protein-bound anticoagulant suddenly develops bleeding complications after starting another medication for diabetes. Investigate the possible pharmacokinetic interaction responsible for this condition and explain the role of protein binding displacement.

**Case Study Puzzle 3:**



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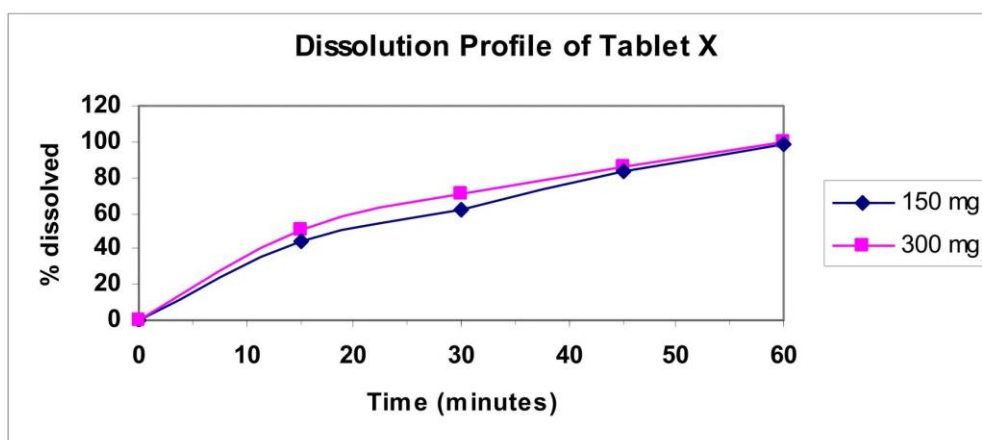
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Puzzle Question: A new lipid-soluble drug developed for hypertension shows rapid entry into tissues and prolonged action in the body. Researchers observe a very high apparent volume of distribution. Explain how lipid solubility, tissue permeability, and drug distribution contribute to this observation. Case Study Puzzle 4: Overdose Incident

**Case study puzzle 4:**

## Dissolution Profile



**f2 = 62.3**



Puzzle Question: Two formulations of the same oral drug are administered to different groups of patients. One formulation produces rapid onset of action, while the other produces delayed therapeutic response. Examine the formulation and physiological factors that may influence gastrointestinal absorption.

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**Case Study Puzzle 5:**



**Puzzle Question:** A patient with severe liver disease is treated with a highly protein-bound drug. Even at normal doses, the patient develops signs of toxicity. Discuss how decreased plasma protein levels affect free drug concentration, distribution, and clinical response.