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**Course Name : D. Pharm**

**Year : Second Year**

**Subject Name : Pharmacology**

**Topic Name : Drug Bioavailability**

**MULTIPLE CHOICE QUESTIONS**

**1.** What is drug bioavailability?

- a) The percentage of the administered dose that reaches the systemic circulation intact
- b) The percentage of the administered dose that is metabolized by the liver
- c) The percentage of the administered dose that is excreted unchanged
- d) The percentage of the administered dose that is bound to plasma proteins

Answer: a) The percentage of the administered dose that reaches the systemic circulation intact

**2.** Which of the following factors affects drug bioavailability?

- a) Solubility
- b) Permeability
- c) Metabolism
- d) All of the above

Answer: d) All of the above

**3.** What is the bioavailability of a drug that is completely absorbed and not metabolized?

- a) 0%
- b) 50%
- c) 100%
- d) 200%

Answer: c) 100%

**4.** Which of the following drugs has high bioavailability?

- a) Tetracycline
- b) Ampicillin
- c) Erythromycin
- d) Aspirin

Answer: d) Aspirin

**5.** What is the effect of food on drug bioavailability?

- a) Always increases bioavailability
- b) Always decreases bioavailability
- c) May increase or decrease bioavailability depending on the drug
- d) Has no effect on bioavailability

Answer: c) May increase or decrease bioavailability depending on the drug

**6.** Which of the following routes of administration has the highest bioavailability?

- a) Oral
- b) Rectal
- c) Parenteral

d) Topical

Answer: c) Parenteral

**7.** What is the term for the study of the rate and extent of drug absorption?

a) Pharmacokinetics

b) Pharmacodynamics

c) Pharmaceutics

d) Clinical pharmacology

Answer: a) Pharmacokinetics

**8.** Which of the following drugs has low bioavailability due to extensive first-pass metabolism?

a) Tetracycline

b) Ampicillin

c) Erythromycin

d) Propranolol

Answer: d) Propranolol

**9.** What is the effect of liver disease on drug bioavailability?

a) Always increases bioavailability

b) Always decreases bioavailability

c) May increase or decrease bioavailability depending on the drug

d) Has no effect on bioavailability

Answer: c) May increase or decrease bioavailability depending on the drug

**10.** Which of the following drugs is an example of a prodrug?

a) Tetracycline

b) Ampicillin

c) Erythromycin

d) Levodopa

Answer: d) Levodopa

**11.** What is the term for the conversion of a prodrug to its active form?

a) Bioactivation

b) Bioavailability

c) Biotransformation

d) Biodegradation

Answer: a) Bioactivation

**12.** Which of the following factors affects drug bioavailability in pediatric patients?

a) Age

b) Weight

c) Renal function

d) All of the above

Answer: d) All of the above

**13.** What is the effect of renal impairment on drug bioavailability?

- a) Always increases bioavailability
- b) Always decreases bioavailability
- c) May increase or decrease bioavailability depending on the drug
- d) Has no effect on bioavailability

Answer: c) May increase or decrease bioavailability depending on the drug

**14.** Which of the following drugs has high bioavailability in elderly patients?

- a) Tetracycline
- b) Ampicillin
- c) Erythromycin
- d) Digoxin

Answer: d) Digoxin

**15.** What is the term for the study of the relationship between drug concentration and effect?

- a) Pharmacokinetics
- b) Pharmacodynamics
- c) Pharmaceutics
- d) Clinical pharmacology

Answer: b) Pharmacodynamics

**16.** Which of the following drugs is an example of a drug with high first-pass metabolism?

- a) Tetracycline
- b) Ampicillin
- c) Erythromycin
- d) Lidocaine

Answer: d) Lidocaine

**17.** What is the effect of drug interactions on bioavailability?

- a) Always increases bioavailability
- b) Always decreases bioavailability
- c) May increase or decrease bioavailability depending on the drug
- d) Has no effect on bioavailability

Answer: c) May increase or decrease bioavailability depending on the drug

**18.** Which of the following routes of administration bypasses the first-pass effect?

- a) Oral
- b) Rectal
- c) Parenteral
- d) Topical

Answer: c) Parenteral

19. What is the term for the study of the movement of drugs across biological membranes?

- a) Pharmacokinetics
- b) Pharmacodynamics
- c) Pharmaceutics
- d) Transport phenomena

**Answer: d)** Transport

**20.** Which of the following organs primarily contributes to the first-pass metabolism of orally administered drugs?

- A) Liver
- B) Kidneys
- C) Lungs
- D) Heart

**Answer: A)** Liver