



Dr. Arvind Kumar Gupta
(M.Pharm, PDCR, PGDMM & Ph.D)
GATE 2003 Qualified with 97.2 percentile
Dr. S. N. Dev College of Pharmacy
Shamli (U.P.)

OFFICE: BUILDING No. 3/314, OFFICE-1, GAUSHALA ROAD, SHAMLI DISTRICT SHAMLI (U.P.) – 247776

Mobile: +91-9719638415

Email: arindrkgit@gmail.com

Course Name : D. Pharm

Year : Second Year

Subject Name : Pharmacology

Topic Name : Local anesthetics

MULTIPLE CHOICE QUESTIONS

1. Local anesthetics are classified based on their chemical structure. Which of the following is not a classification of local anesthetics?
- a) Esters
 - b) Amides
 - c) Ketones
 - d) Alcohols

Answer: d) Alcohols

2. Local anesthetics are primarily classified into two main groups based on their chemical structure. These groups are:
- a) Steroids and non-steroids
 - b) Esters and amides
 - c) Short-acting and long-acting
 - d) Natural and synthetic

Answer: b) Esters and amides

3. Which of the following is an example of an ester-type local anesthetic?
- a) Lidocaine
 - b) Bupivacaine
 - c) Procaine
 - d) Articaine

Answer: c) Procaine

4. Amide-type local anesthetics are metabolized primarily in the:
- a) Liver
 - b) Kidneys
 - c) Lungs
 - d) Intestines

Answer: a) Liver

5. Which of the following local anesthetics has a relatively rapid onset and short duration of action?
- a) Lidocaine
 - b) Bupivacaine
 - c) Procaine
 - d) Mepivacaine

Answer: d) Mepivacaine

6. Cocaine is an example of which classification of local anesthetic?
- a) Ester

- b) Amide
- c) Ketone
- d) Alkylating agent

Answer: a) Ester

7. Which local anesthetic is commonly used in dentistry due to its rapid onset and intermediate duration of action?

- a) Lidocaine
- b) Bupivacaine
- c) Articaine
- d) Procaine

Answer: c) Articaine

8. Articaine is unique among local anesthetics because it contains:

- a) An ester linkage
- b) An amide linkage
- c) A tertiary amine group
- d) A thiophene ring

Answer: d) A thiophene ring

9. Which of the following is an example of a long-acting amide-type local anesthetic?

- a) Lidocaine
- b) Procaine
- c) Bupivacaine
- d) Mepivacaine

Answer: c) Bupivacaine

10. Local anesthetics exert their effects by blocking:

- a) Potassium channels
- b) Sodium channels
- c) Calcium channels
- d) Chloride channels

Answer: b) Sodium channels

11. **Local** anesthetics exert their effects primarily by blocking which type of ion channels?

- a) Potassium channels
- b) Sodium channels
- c) Calcium channels
- d) Chloride channels

Answer: b) Sodium channels

12. The mechanism of action of local anesthetics involves binding to sodium channels in what state?

- a) Open state

- b) Closed state
- c) Inactivated state
- d) Resting state

Answer: c) Inactivated state

- 13.** Which of the following is a characteristic of local anesthetics regarding nerve conduction?
- a) Increase nerve excitability
 - b) Decrease nerve excitability
 - c) Inhibit nerve transmission at the synapse
 - d) Enhance nerve transmission at the synapse

Answer: b) Decrease nerve excitability

- 14.** Lidocaine, a commonly used local anesthetic, is frequently employed for which of the following procedures?
- a) Dental procedures
 - b) Spinal anesthesia
 - c) Major surgeries
 - d) Cardiac catheterization

Answer: a) Dental procedures

- 15.** Bupivacaine, a long-acting local anesthetic, is often preferred for which type of anesthesia?
- a) Epidural anesthesia
 - b) Topical anesthesia
 - c) Intravenous regional anesthesia
 - d) Local infiltration anesthesia

Answer: a) Epidural anesthesia

- 16.** Articaine, a local anesthetic with a thiophene ring, is commonly used in which dental procedure?
- a) Root canal therapy
 - b) Tooth extraction
 - c) Crown placement
 - d) Periodontal surgery

Answer: d) Periodontal surgery

- 17.** Local anesthetics are often employed in combination with vasoconstrictors like epinephrine to:
- a) Increase duration of action
 - b) Reduce systemic toxicity
 - c) Enhance analgesia
 - d) All of the above

Answer: d) All of the above

18. Procaine, historically used for infiltration anesthesia, is less commonly used today due to its:

- a) Short duration of action
- b) High potential for toxicity
- c) Low potency
- d) Allergic reactions

Answer: a) Short duration of action

19. Mepivacaine, a medium-duration local anesthetic, is frequently used in which medical procedure?

- a) Arthroscopic surgery
- b) Peripheral nerve blocks
- c) Neurosurgery
- d) Cardiac surgery

Answer: b) Peripheral nerve blocks

20. Local anesthetics are not effective in blocking which type of nerve fibers?

- a) Afferent (sensory) fibers
- b) Efferent (motor) fibers
- c) Sympathetic fibers
- d) Parasympathetic fibers

Answer: b) Efferent (motor) fibers