

Answer the following questions (10 points/each question):

1. What are the proposed mechanisms of action for cardiac glycosides which result in their positive inotropic effect? What is the rationale for the use of digitalis in certain atrial fibrillations or flutters?
2. The following drugs have been reported to affect neurotransmission in the central nervous system. Briefly describe (1) the types of neurotransmitter involved; (2) the mechanisms of action and (3) possible clinical uses or CNS effects of each drug.
A. Barbiturates B. l-DOPA C. Haloperidol D. Strychnine
E. Imipramine
3. Both allopurinol and sulfinpyrazone lower serum uric acid levels. What is the mechanism of each drug in producing this effect?
4. Briefly describe the mechanism of action of verapamil as an antiarrhythmic agent. Explain why verapamil is contraindicated in patients who are receiving beta-adrenoceptor blocking agents.
5. Compare the mechanisms of opioid analgesia and aspirin analgesia.
6. Explain the cytoprotection of prostaglandins on the ulcerative gastric mucosa.
7. Compare the action mechanisms of diethylether, thiopental and xylocaine in anesthesia.
8. Please state the suitable agents for the treatment of following diseases in details:
A. Glaucoma B. Unstable angina C. Post-operative constipation
D. Hypotension E. Asthma
9. Please explain the calcium channels and state the specific blockers of calcium channels in detail, including the clinical applications.
10. Please state the factor(s) that can influence the effectiveness of antineoplastic drugs.