Pharmacology topics of research projects for 3rd year medical students

Final Exam 2020

1-Pharmacology of Benzodiazepines

Classification ,pharmacokinetics , receptors ,mechanism of action ,pharmacological actions and therapeutic uses of Benzodiazepines.

Benzodiazepines are the preferred sedative hypnotics. Explain .

2- Pharmacology of Opioids

Classification of Opioid agonists and antagonists.

Classification of Opioid receptors and ionic mechanisms that result from their activation.

Pharmacological actions ,adverse effects and contraindications of Morphine.

Mechanism of opioid tolerance development .

3- Pharmacology of antiseizure drugs

Classification of seizure types.

Molecular targets for antiseizure drugs at the excitatory, glutamatergic synapse. and at

the inhibitory, GABAergic synapse.

Common adverse effects of each drug.

4-Pharmacologic managememt of Parkinsonism

Pathogenesis of Parkinsonism.

Classification of Antiparkinsonian drugs.

Mechanism of action and adverse effects of each drug.

Comment on Fluctuations of response of drugs used in Parkinsonism.

5- Pathophysiology of major depressive disorder (MDD) with important implications for drug

 treatment

Neurotrophic Monoamine,Neuroendocrine hypotheses of (MDD)

Classification, pharmacokinetics ,pharmacological actions , adverse effects and drug interactions of Antidepressant drugs.

Selective serotonin reuptake inhibitors are preferred to tricyclic antidepressant drugs.Explain

6- Pharmacology of Drugs Used in Disorders of Coagulation

 Blood coagulation cascade

 Classification , mechanism of action and dose monitoring of Anticoagulants.

 Comparison of Heparin and Warfarin.

 Classification , mechanism of action of Antiplatelet drugs.

7-Adrenal glucorticosteroids

 Sequence of biosynthesis of Adrenocorticosteroids.

 Pharmacological actions ,therapeutic uses, preparations , dosage schedule, adverse effects

 and contraindications of glucorticosteroids

 Adrenocortical antagonists

8- Antidiabetic drugs

 Types of Diabetes mellitus.

 Classification with examples, mechanism of action , adverse effects and drug interactions of

 Antidiabetics.

9- Gonadal hormones

 Mechanism of action ,preparations and adverse effects of combined hormonal contraceptives.

 Gonadal hormone Antagonists mechanism of action and uses .

10-Ceftaroline ,Vancomycin , Streptogramins and Daptomycin ,are active against

 methicillin -resistant strains of staphylococci (MRSA)

 Explain the mechanism of action of each one, bacterial resistance and adverse effects .

**GOOD LUCK**

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