Systematic Pharmacology - II
2013/14 Batch – Year 3 Semester II

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Web Copy

Topic	Objectives	Time (hrs)	Department	T/L activity
2013-3/PHARM-SBM-4/01				
Drugs in Nervous System Diseases 1. Principles of drug treatment (to modify the altered structure and function) in common CNS disorders	1. recall the steps involved in the neurotransmission 2. recall the important neurotransmitters and the receptors on which they act 3. recall the electrophysiological basis of • resting membrane potential • action potential • excitatory post-synaptic potentials • inhibitory post-synaptic potentials 4. identify possible mechanisms by which drugs can modify the neuronal function			
b. general anesthetics	1. define sleep, amnesia, analgesia, general anaesthesia 2. list different phases/planes of general anaesthesia 3. classify the agents used for general anaesthesia 4. list the drugs used for induction and maintenance of general anesthesia 5. describe the mechanism of action, pharmacokinetics, adverse effects and drug interactions of different anaesthetic drugs. 6. compare the pharmacological effects of different general anaesthetic agents	17 2	Pharmacology	Lecture SGD
c. local anesthetics	1. recall how an action potential is generated and propagated in peripheral nerves 2. classify local anesthetics (LAs) based on the chemical structure 3. describe the mechanisms of action, pharmacokinetics and toxic effects of local anesthetics 4. describe the different techniques of use of LAs 5. describe the risks and benefits of using vasoconstrictors with LA			

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d. Epilepsy	1. define the terms 'seizure' and 'epilepsy' 2. classify the epileptic seizures 3. describe the mechanism of action, pharmacokinetics, adverse and toxic effects, important drug interactions of commonly used antiepileptic drugs 4. explain the clinical significance of the variability of pharmacokinetics of phenytoin 5. list the appropriate anti-epileptic drugs for the treatment of different seizures/epilepsy syndromes. 6. describe the basis of drug treatment of status epilepticus 7. explain the basis of the safe use of antiepileptic drugs during pregnancy.			
e. movement disorders	1. describe the mechanisms of action, pharmacokinetics, adverse effects of drugs used in the treatment of movement disorders (Parkinsonism, dystonia, chorea, tremors)			
f. Migraine	1. describe the pathophysiology of migraine 2. describe the mechanism of action, pharmacokinetics, adverse effects of drugs used in the treatment of migraine			
g. neuromuscular junction	1. list the drugs/agents that influence the neurotransmission at the neuromuscular junction 2. classify neuromuscular blockers based on their mechanism of action giving examples 3. describe the mechanisms of action, pharmacokinetics, clinical uses, adverse effects of drugs acting on the neuromuscular junction. 4. describe the basis of the use of acetylcholinesterase inhibitors in myasthenia gravis and reversal of the effects of muscle relaxants			
h. Anxiolytics/Hypnotics	1. define anxiolytics and sedatives/hypnotics 2. list different classes of commonly used anxiolytic/hypnotic drugs with examples 3. describe the mechanism of action, pharmacological effects, pharmacokinetics, adverse effects and important drug interactions of above drugs 4. explain the clinical significance of pharmacokinetics of benzodiazepines 5. describe the toxic effects (acute overdose) of benzodiazepines and basis of the use of an antidote			

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	6. describe the problems encountered with the continued use of hypnotics and the measures that can be taken to minimize them			
i. Antidepressants	1. describe the biochemical basis of depressive illness 2. classify the antidepressant drugs (with examples) based on their mechanism of action 3. describe the mechanism of action, pharmacokinetics, adverse drug effects, important drug/food interactions of antidepressants 4. list the clinical uses of antidepressants other than the treatment of depression 5. list the features of antidepressant drug overdose			
j. Antipsychotics	1. describe the biochemical basis of psychotic illnesses. 2. classify the antipsychotic drugs (with examples) 3. describe the mechanism of action, pharmacokinetics, adverse effects of antipsychotic drugs 4. list the clinical uses of antipsychotic drugs			
k. mood stabilizers	1. list the commonly used mood stabilizers 2. describe the mechanisms of action, pharmacokinetics, adverse and toxic effects of mood stabilizers			
l. dementia	1. list the commonly used drugs in dementia 2. describe the mechanisms of action, pharmacokinetics, adverse effects of drugs used in the treatment of dementia			
2013-3/PHARM-SBM-4/02				
Substance dependence and abuse	1. define substance abuse and dependence 2. list the substances that are likely to cause dependence and abuse 3. explain the biological mechanisms of substance dependence 4. list the clinical effects of above mentioned substances involved in abuse	2	Pharmacology/ Psychiatry	Student seminar
2013-3/PHARM-SBM-4/03				
Drugs acting on Gastrointestinal disorders	1. describe the mechanism of action, pharmacokinetics, clinical uses, adverse reactions and interactions of • anti-emetics • anti-spasmodics • laxatives • anti-diarrhoeal agnts 2. explain the basis on which antiemetics are selected in different clinical situations.	3 1	Pharmacology	Lecture SGD

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	3. list the commonly used anti-diarrhoeal agents and describe their clinical uses and limitations 4. describe the mechanism of action, pharmacokinetics, clinical uses, adverse reactions and interactions of • antacids • H2 receptor antagonists • proton-pump inhibitors • cytoprotective agents • gastric prokinetic agents • drugs used for *Helicobacter pylori* eradication 5. describe the mechanism of action, pharmacokinetics and adverse effects of drugs used in inflammatory bowel disease			
2013-3/PHARM-SBM-4/04				
Drugs acting on the reproductive system	1. list different types of oestrogen and progestogen preparations 2. list the clinical uses of oestrogens and progestogens and their combination therapy 3. list the advantages and disadvantages of hormonal contraception 4. list the benefits and risks of post menopausal hormone therapy 5. describe the mechanism of action and clinical uses of selective estrogen receptor modulators 6. describe the mechanism of action, pharmacokinetics and adverse effects of drugs acting on the myometrium 7. describe the clinical uses and misuses of testosterone and its derivatives 8. describe the mechanism of action, Pharmacokinetic and adverse effects of drugs used in the benign prostatic hypoplasia and the carcinoma of prostrate 9. describe the mechanism of action, Pharmacokinetic and adverse effects of drugs used in the disorders of urinary bladder	3	Pharmacology	Lecture

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