

Foundation in Pathology - Year 2 Semester II 2015/16 Batch

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Topic & Concepts	Objectives	Time	Dept.	T/L activity
	At the end of the module, the student should be able,			
2015-3/PATH-SBM-1/01				
Introduction to Pathology	to understand the purpose of the module and the basis for the design of the module	1h	Pathology	Introductory session - Lecture
2015-3/PATH-SBM-1/02				
Cell injuries and death				
a. Cell response to injury b. Cell death – Necrosis, Apoptosis c. Clinical manifestations of cell death	1. to outline the injurious agents to cells and describe the mechanisms of cell injury. 2. to outline the different cell response to injury 3. to outline the non reversible types of cell injury. 4. to describe the morphological changes that occur in necrosis 5. to describe the pathogenesis and pathology of different types of necrosis 4. to describe the clinical manifestations of necrosis and the methods of diagnosing. 5. to define the term apoptosis and describe the mechanism of apoptosis 6. to discuss the importance of apoptosis in physiology and the clinical significance of defective apoptosis. 8. to differentiate apoptosis from necrosis 9. to define the term reperfusion injury and describe the process	5h	Pathology	Lecture
2015-/PATH-SBM-1/03				
Acute inflammation and suppuration	1. to define the process of acute inflammation and discuss its uses 2. to describe in detail* the various steps, controlling factors (cells and chemical mediators), sequale, complications and clinicopathological effects of acute inflammation. (includes suppuration)			
2015-3/PATH-SBM-1/04		5h	Pathology	Lecture
Chronic inflammation	1. to define the process of chronic inflammation 2. to describe in detail* the non-specific and specific types of chronic inflammation, its sequele and complications			



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2015-3/PATH-SBM-1/05				
Tuberculosis	<ol style="list-style-type: none"> 1. to describe the pathogenesis of tuberculosis 2. to understand the concepts of primary and postprimary tuberculosis 3. to describe the complications of the tuberculosis 4. to explain pathological basis of the clinical effects 	2h	Pathology	Lecture
2015-3/PATH-SBM-1/06				
Leprosy	<ol style="list-style-type: none"> 1. to describe the aetiopathogenesis of leprosy 2. to describe the different types of leprosy and there pathogenesis and clinical features 3. describe the pathological basis of the clinical features 	1h	Pathology	Lecture
2015-3/PATH-SBM-1/07				
Atherosclerosis	<ol style="list-style-type: none"> 1. to describe the risk factors of atherosclerosis 2 to describe the pathogenesis and pathological processes involved in atherosclerosis 3. to describe the complications and clinicopathological effects of atherosclerosis. 	1h	Pathology	Lecture
2015-3/PATH-SBM-1/08				
Cellular adaptations of growth and differentiation	<ol style="list-style-type: none"> 1. to outline the ways in which different cell types react to altered environment e.g. increased work demand and chronic irritation. 2. to describe in detail* the processes, hypertrophy, hyperplasia, atrophy and metaplasia, and the pathology of these processes. 3. to give examples and also to state the clinico pathological effects of the processes mentioned above. 	2h	Pathology	Lecture
2015-3/PATH-SBM-1/09				
Cellular accumulations and Pathologic calcification	<ol style="list-style-type: none"> 1. to describe the process of pathological calcification and to state clinical examples. 2. to outline the types of abnormal pigments and accumulations in cells and their pathogenesis and clinical importance. 	2h	Pathology	Lecture
2015-3/PATH-SBM-1/10				
Wound healing	<ol style="list-style-type: none"> 1. to describe the process of healing in injured tissue and its complications 2. define the terms, resolution, regeneration and organization 3. to describe the process of organization 4. to describe the healing processes in different types of tissue including skin wounds. 	2h	Pathology	Lecture
2015-3/PATH-SBM-1/11				
Congestion and Oedema	<ol style="list-style-type: none"> 1. to define the term oedema and outline 2. describe the mechanisms of oedema 3. describe the effect of rennin angiotensin aldosterone system on oedema 4. outline the causes of localized and generalized oedema and the different clinical manifestations. 5. to list the processes that injure lymphatics and the clinicopathological outcome due to injured lymphatics. 	3h	Pathology	Lecture



	<ol style="list-style-type: none"> 6. to define the processes hyperaemia (active congestion) and congestion (passive congestion) 7. to describe the pathogenesis of these processes. 8. describe the aetiopathogenesis, morphological changes and clinical manifestations in acute and chronic venous congestion of liver and lung. 			
2015-3/PATH-SBM-1/12				
Thrombosis	<ol style="list-style-type: none"> 1. to define thrombosis and haemostasis 2. to list the main factors which predispose to thrombosis. 2. to describe the pathogenesis and sequelae of thrombosis in different types of blood vessels and the heart, and the fate of thrombi 3. to mention the clinicopathological features of thrombosis in the different types of blood vessels. 	2h	Pathology	Lecture
2015-3/PATH-SBM-1/13				
Embolism	<ol style="list-style-type: none"> 1. to define the process of embolism. 2. to describe the aetiopathogenesis of different types of emboli (thromboemboli, fat, bone marrow, gas and amniotic fluid) and the outcomes and clinicopathological effects. 	1h	Pathology	Lecture
2015-3/PATH-SBM-1/14				
Ischaemia and infarction	<ol style="list-style-type: none"> 1. to define the terms; hypoxia, Ischaemia and infarction 2. to describe the aetiopathogenesis of ischaemia and infarction in different tissues. 3. to describe the pathological changes in infarctions in different tissues 4. to outline the clinical manifestations of infarctions 5. to outline the healing process of infarction in different tissues. 	2h	Pathology	Lecture
2015-3/PATH-SBM-1/15				
Amyloidosis	<ol style="list-style-type: none"> 1. to define the process of amyloidosis 2. to describe the physical and chemical characteristics of amyloid. 3. outline the methods of identification of amyloid. 4. to describe the different types of amyloidosis and their aetiopathogenesis and clinical effects. 	1h	Pathology	Lecture
2015-3/PATH-SBM-1/16				
Neoplasia and Carcinogenesis				
Introduction to Neoplasia	<ol style="list-style-type: none"> 1. to define the term neoplasia and outline the differences between neoplasia and hyperplasia. 2. describe the properties of a malignant tumour 3. to compare and contrast benign and malignant tumours 4. to describe the concepts of dysplastic and premalignant lesions. 	2h	Pathology	Lecture



2015-3/PATH-SBM-1/17				
Spread of tumours	1. to describe the modes of spread of malignant tumours and the clinicopathological effects.	2h	Pathology	Lecture
2015-3/PATH-SBM-1/18				
a. Oncogenesis	1. to describe the cell cycle and the genes controlling it. 2. to outline the genes involved in carcinogenesis and describe the mechanism by which the defects in these genes promote carcinogenesis. 3. to describe the process of carcinogenesis and tumour progression 4. to outline the common carcinogens 5. to describe the mechanisms by which carcinogenesis by chemicals, viruses and radiation.	3h	Pathology	Lecture
b. Clinical aspects of tumours	1. to outline the clinicopathological features of benign and malignant tumours (local and systemic) and describe their pathological basis. 2. describe the term paraneoplastic syndrome and discuss the common examples. 3. describe the pathogenesis and clinical manifestations of tumour cachexia. 4. outline the prognostic indicators of malignant tumours	1h	Pathology	Lecture
c. Methods of tumour diagnosis	1. to outline the different methods available for tumour diagnosis 2. to outline the screening methods available for tumour detection 3. describe what are tumour markers and their uses. 4. to outline commonly used tumour markers	2h	Pathology	Lecture
2015-3/PATH-SBM-1/19				
Applied general pathology	1. to describe the applications of the general pathological processes in the pathogenesis of diseases in the respiratory system, circulatory system, central nervous system, gastrointestinal tract, liver and the urinary tract.	10h	Pathology	Lecture
2015-3/PATH-SBM-1/20				
Clinical Hematology				
a. Introduction to anaemia b. History and examination findings in haematological disorders c. Specimen collection for haematological investigations d. Interpretation of haematology reports e. Problems in interpreting haematological investigations	1. to know the definition of anaemia and classification of anaemia according to the morphology and red cell indices 2. to describe the common clinical manifestations of anaemia 3. to identify the laboratory errors in the reports issued (problems in collection of the specimen (collection into the incorrect container, haemolized sample, delayed separation of plasma, exposure of the sample to sunlight, specimen collection from drip arm, etc. 4. list the tests included in a full blood count 5. list the commonly requested haematological investigations	6h	Pathology	Lecture



	<ol style="list-style-type: none"> 6. state the physiological changes of haemoglobin value in neonate, infant, childhood, adult male & female & in pregnancy 7. state the changes in the red cell count (e.g. polycythaemia, anaemia) 8. describe the physiological changes of WBC/DC in a neonate, infant, child below 6 yrs, adult & pregnancy 9. describe the clinical significance and common causes of leucopenia, neutropenia, neutrophil leucocytosis, lymphocytosis (absolute and relative) 10. describe the clinical significance of platelet count and causes of abnormally high and low platelet counts 11. describe the clinical significance of erythrocyte sedimentation rate (ESR) and causes of high ESR 12. list the tests included in a coagulation profile i.e. bleeding time (BT), clotting time (CT), prothrombin time (PT), activated partial thromboplastin time (APTT) & platelet count 13. state the importance of reticulocyte count 14. list the basic laboratory tests necessary for investigation of haemolytic anaemia 			
2015-3/PATH-SBM-1/21				
Specimen collection and transport in Histology, Cytology and Frozen section	<ol style="list-style-type: none"> 1. describe the proper collection and transport method specimen for histological, cytological and frozen section investigations 	1h	Pathology	Lecture
2015-3/PATH-SBM-1/22				
Clinical Pathology				
a. Clinical enzymology and investigation of liver diseases	<ol style="list-style-type: none"> 1. explain the enzyme kinetics, isoenzymes and causes of increased enzyme levels 2. describe the use of enzymes in the diagnosis of various diseases 3. outline the component of liver function tests and their interpretation 			
b. Body fluid analysis and markers of inflammation				
(i). Urine analysis	<ol style="list-style-type: none"> 1. to know the commonly requested urine tests (urine sugar, urine albumin, urine deposit, urine full report, creatinine clearance, urine for specific gravity, 24 hour urinary protein excretion, creatinine clearance, urine for micro albuminuria) 2. state the advice given to the patients and importance of preparation of the patients for these investigations 3. describe the basic procedure for performing urine ward tests 4. describe the importance of abnormalities of urine deposit (different types of cells and casts) 5. describe how to relate the urine biochemical tests with the urine deposit and the causes for likely incompatibilities 6. describe the common special urine tests (urine for Bence Jones proteins, urine for haemosiderinuria, urinary protein electrophoresis) 	4h	Pathology	Lectures
(ii). CSF examination	<ol style="list-style-type: none"> 7. describe the normal function and composition of CSF 8. describe the alteration in CSF in different clinical conditions 9. describe how to send CSF specimens to the laboratory for CSF 			



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(iii). Markers of inflammation	analysis 10. outline the components of peritoneal/ plural fluid analysis 11. describe an acute phase response 12. outline the biochemical and serological markers of inflammation 13. outline the biochemical and haematological indicators of inflammation and discuss their relationship to acute phase response			
c. Investigations for diabetes, lipid disorders and renal diseases	1. to outline the basic investigations done in diagnosis and management of diabetes mellitus, dyslipidemia and renal diseases			
d. Specimen collection for biochemical investigations and collection errors	1. to outline the common errors in specimen collection and transportation for biochemical investigations and how to identify such errors			
SGD				
a. Acute and chronic inflammation b. Thrombosis and Embolism c. Ischemic and Infraction d. Congestion and Oedema e. Neoplasia	1. to discuss the clinical correlations of the mentioned general pathological processes	5 hrs	Pathology	SGD
Museum Classes				
a. Acute and chronic inflammation b. Thrombosis and Embolism c. Ischemic and Infraction d. Congestion and Oedema e. Neoplasia	1. to identify the macroscopic changes due to mentioned general pathological processes	9 hours	Pathology	Guided SGL
Histology Practicals				
a. Acute and chronic inflammation b. Thrombosis and Embolism c. Ischemic and Infraction d. Congestion and Oedema e. Neoplasia	1. to identify the microscopic changes due to mentioned general pathological processes.	8 hours	Pathology	Practical

