

**Pathology of Nervous, Gastrointestinal and Genitourinary Systems Module**

**2015/16 Batch - Year 3 Semester 2**

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**Web Copy**

Topic/ Concept	Objectives	Time	Dept.	T/L Activity
<b>2015-SBM/MED3225/01</b>	<b>At the end of the module, student should be able to,</b>			
<b>Pathological processes and the effects of such processes on the central and peripheral nervous system (anatomical and functional)</b>	1. recall the principles of general pathological processes discussed in foundation in pathology in relation to the nervous system 2. Recall the anatomy of the central nervous system		Pathology	Recall
<b>Cerebrovascular diseases</b> a. ischaemia and infarction b. haemorrhage	1. describe the pathogenesis of cerebral ischaemia, infarction and haemorrhage and its effects	1hr	Pathology	Lecture
<b>2015-SBM/MED3225/02</b>				
<b>CNS Infections</b>	1. describe the etiopathogenesis, morphological changes and clinical effects of common infections of the central nervous system	1hr	Pathology	Lecture
<b>2015-SBM/MED3225/03</b>				
<b>Increased intra-cranial pressure</b> a. cerebral oedema b. Space occupying lesions	1. describe the causes of increased intra-cranial pressure 2. describe the pathogenesis of cerebral oedema and its effects 3. describe the morphological changes in the brain and the brain stem in increased intra-cranial pressure and their clinical effects	1hr	Pathology	Lecture
<b>2015-SBM/MED3225/04</b>				
<b>Intra-cranial tumours</b>	1. describe the pathology and clinical effects of neoplasms of the brain , spinal cord and peripheral nerves	1hr	Pathology	Lecture
<b>2015-SBM/MED3225/05</b>				
<b>Haematological manifestations in systemic diseases</b>	1. describe the neurological manifestations of common poisons and their pathological basis	1hr	Pathology	Lecture
<b>2015-SBM/MED3225/06</b>				
<b>Pathology of Dementia</b>	1. describe the basic pathological processes involved in demyelination and degenerative diseases of the brain and nerves	1hr	Pathology	Lecture
<b>2015-SBM/MED3225/07</b>				
<b>CNS infection, analysis, cerebrovascular diseases and tumours</b>	1. describe the morphological manifestations of different CNS diseases using mounted specimens 2. describe the changes in CSF in CNS infections and their pathological basis	3 hrs	Pathology	Guided SGL
<b>2015-SBM/MED3225/08</b>				
<b>Space occupying lesions and their effects</b>	discuss the clinicopathological correlations of space occupying lesions based on clinical scenario	1 hr	Pathology	SGD



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<b>2015-SBM/MED3225/09</b>				
<b>Alimentation in health</b>	<ol style="list-style-type: none"> <li>recall digestion, absorption and metabolism relating to, carbohydrates, proteins, fat, vitamins, minerals &amp; trace elements</li> <li>recall normal structure and functions of the liver, gut, pancreas and biliary tract</li> <li>recall the neural and hormonal control of the alimentation</li> <li>recall the principles of general pathological processes discussed in foundation in pathology in relation to the gastro intestinal and hepato-biliary systems and pancreas</li> </ol>			recall
<b>2015-SBM/MED3225/10</b>				
<b>Introduction to GI pathology</b>	<ol style="list-style-type: none"> <li>apply principles of general pathology to the diseases of the gastrointestinal system (acute and chronic inflammation, metaplasia, dysplasia, neoplasia)</li> </ol>		Pathology	recall
<b>2015-SBM/MED3225/11</b>				
<b>Infective disease in relation to alimentation</b>	<ol style="list-style-type: none"> <li>describe the pathogenesis, morphological changes and complications of infections in the oesophagus, stomach, duodenum, small intestine, colon and anus.</li> <li>List the opportunistic infections in the gastrointestinal system in immunocompromised hosts.</li> </ol>	1hr	Pathology	Lecture
<b>2015-SBM/MED3225/12</b>				
<b>Oesophagus</b> <ol style="list-style-type: none"> <li><b>Gastro-oesophageal reflux disease</b></li> <li><b>Other non neoplastic oesophageal diseases</b></li> <li><b>Tumours</b></li> </ol>	<ol style="list-style-type: none"> <li>describe the oesopathogenesis, clinical manifestations and complications of gastro-oesophageal reflux disease</li> <li>describe the oesopathogenesis, clinical manifestations and complications of other common non neoplastic diseases such as achasia of the cardia, oesophagitis</li> <li>describe the morphology and clinical manifestations of oesophageal tumours</li> </ol>	2hrs	Pathology	Lecture
<b>2015-SBM/MED3225/13</b>				
<b>Stomach</b> <ol style="list-style-type: none"> <li><b>Gastritis and gastric ulcers</b></li> <li><b>Other non neoplastic gastric diseases</b></li> <li><b>Tumours</b></li> </ol>	<ol style="list-style-type: none"> <li>discuss the causes, morphology and complications of acute gastritis</li> <li>discuss the causes, morphology and complications of chronic gastritis</li> <li>describe the aetiopathogenesis, morphology, clinical manifestations and complications of peptic ulcer disease</li> <li>list the causes of gastropathies and their clinical manifestations</li> <li>describe the morphology and clinical manifestations of gastric tumours</li> </ol>	2hrs	Pathology	Lecture
<b>2015-SBM/MED3225/14</b>				
<b>Diseases of small intestine and appendix</b> <ol style="list-style-type: none"> <li><b>Malabsorption</b></li> </ol>	<p>Malabsorption:</p> <ol style="list-style-type: none"> <li>recall the physiology of digestion and absorption</li> <li>discuss the outcomes in failure in each step in digestion and absorption.</li> </ol>	3hrs	Pathology	Lecture



<p><b>b. Diseases of small intestine</b></p>	<p>3. list causes of malabsorption.  4. discuss the eatiopathogenesis, morphology, clinical symptoms and complications of coeliac disease.  5. outlines the eatiopathogenesis, morphology, clinical symptoms and complications of Whipples disease and tropical sprue</p> <p>Other diseases of small intestine:</p> <p>1. outline the congenital diseases of small intestine  2. outline the causes of duodenitis  3. outline the causes of ulcers in the 1<sup>st</sup> part and the rest of the duodenum separately.  4. describe the eatiopathogenesis, complications and clinical manifestations of obstructive diseases of the small intestine (eg: Stragulation, Volvulus, Intussusception)  5. describe the morphology and clinical effects of small intestinal tumours</p>			
<p><b>c. Diseases of appendix</b></p>	<p>Appendix:</p> <p>1. discuss the aetiopathogenesis, morphology, complications and clinical outcomes of acute appendicitis.  2. list the other causes of inflammation of appendix  3. describe the morphology and clinical effects of appendiceal Tumours</p>			
<p><b>2015-SBM/MED3225/15</b></p>				
<p><b>Inflammatory bowel disease</b></p>	<p>1. recall chronic inflammation.  2. describe the pathogenesis, morphological changes, clinical outcomes and complications of ulcerative colitis and Crohn's disease.  3. compare and contrast the features of ulcerative colitis and Crohn's disease  4. List extra intestinal manifestations of the above</p>	<p>2hrs</p>	<p>Pathology</p>	<p>Lecture</p>
<p><b>2015-SBM/MED3225/16</b></p>				
<p><b>Anal and peri anal disease</b></p>	<p>1. recall acute and chronic inflammation and carcinogenesis.  2. describe the aetiopathogenesis, morphological appearances and complications of -fissures, fistulae, ulcers, aemorrhoids, and tumours.</p>	<p>1hr</p>	<p>Pathology</p>	<p>Lecture</p>
<p><b>2015-SBM/MED3225/17</b></p>				
<p><b>Neoplasms of the colon</b></p>	<p>1.list the common neoplasms (benign and malignant) in colon.  2. discuss the aetiopathogenesis (emphasising the premalignant lesions), morphology, modes of spread and clinical outcomes of colonic tumours.  3. outlines the polyposis syndromes in the gastrointestinal tract</p>	<p>1hr</p>	<p>Pathology</p>	<p>Lecture</p>



<b>2015-SBM/MED3225/18</b>				
<b>Diseases of the gastro-intestinal system</b>	discuss the morphological changes in different GI tract diseases using mounted specimens	4 hrs	Pathology	Museum class
<b>2015-SBM/MED3225/19</b>				
<b>Introduction to liver Pathology</b>	1. recall anatomy and histology of liver 2. apply the principles of general pathology to the liver diseases		Pathology	recall
<b>2015-SBM/MED3225/20</b>				
<b>a. Hepatitis</b>	1. list the aetiological agents for a) acute hepatitis b) chronic hepatitis 2. describe the pathogenesis, morphological changes, clinical manifestations and complications of acute hepatitis. 3. describe the pathogenesis, morphological changes, clinical manifestations and complications of chronic hepatitis. 4. outline the investigations performed in suspected acute hepatitis and chronic hepatitis. 5. describe the aetiopathogenesis, morphological changes, clinical manifestations and complications of non alcoholic fatty liver disease (NAFLD)	2hrs	Pathology	Lecture
<b>b. Cirrhosis</b>	6. outline the diseases that can give rise to cirrhosis 7. describe the pathogenesis and complications of cirrhosis 8. describe the clinical manifestations of cirrhosis and their pathological basis 9. describe the clinical manifestations of decompensated cirrhosis 10. outline the investigations performed in cirrhosis with expected results.			
<b>2015-SBM/MED3225/21</b>				
<b>a. Alcoholic liver disease</b> <b>I. Hepatic Steatosis (fatty liver )</b> <b>II. Alcoholic steatohepatitis</b> <b>III. Cirrhosis</b>	1. name the different forms of alcoholic liver disease 2. describe the pathogenesis, morphological changes and clinical manifestations of hepatic steatosis and alcoholic steatohepatitis 3. describe the complications of alcoholic liver disease and their clinical manifestations.	2 hrs	Pathology	Lecture
<b>b. Inborn errors of metabolism</b>	4. list the common liver diseases caused by inborn errors of metabolism 5. outline the pathogenesis, morphological changes, clinical manifestations, complications and investigations for each disease mentioned.			



<b>2015-SBM/MED3225/22</b>				
<b>Liver tumours</b>	<ol style="list-style-type: none"> <li>1. name common benign and malignant tumours of the liver</li> <li>2. outline the morphology of each</li> <li>3. describe the aetiology of hepatocellular carcinoma</li> <li>4. outline the modes of spread, clinical manifestations and complications of malignant liver tumours.</li> <li>5. outline the investigations performed in suspected liver tumors</li> </ol>	1hr	Pathology	Lecture
<b>2015-SBM/MED3225/23</b>				
<b>Clinico-pathological correlation of liver diseases</b> <b>a. Jaundice</b> <b>b. Other clinical manifestations</b>	<ol style="list-style-type: none"> <li>1. list the types of jaundice caused by liver diseases giving examples.</li> <li>2. describe the aetiopathogenesis of obstructive jaundice</li> <li>3. describe the clinical manifestations and their pathological basis in obstructive jaundice.</li> <li>4. outline the investigations performed in jaundice</li> <li>5. list the extra hepatic causes of jaundice</li> <li>6. describe the Pathological basis of other clinical manifestations of liver diseases.</li> </ol>	1hr	Pathology	Lecture
<b>2015-SBM/MED3225/24</b>				
<b>Interpretation of investigations in liver diseases</b>	<ol style="list-style-type: none"> <li>1. outline, with interpretations, serum markers of acute and chronic hepatitis.</li> <li>2. outline the principles and interpretation of investigations of common liver diseases such as acute and chronic hepatitis, cirrhosis, portal hypertension, ascites, NAFLD, alcoholic liver disease and tumours.</li> </ol>	1hr	Pathology	Lecture
<b>2015-SBM/MED3225/25</b>				
<b>Diseases of the gall bladder and biliary system</b>	<ol style="list-style-type: none"> <li>1. describe the aetiopathogenesis, morphological changes, complications and clinical outcomes acute and chronic cholecystitis.</li> <li>2. describe the aetiopathogenesis, complications and clinical manifestations of biliary stone disease.</li> <li>3. outline the tumours of the biliary system and discuss their modes of spread</li> </ol>	1hr	Pathology	Lecture
<b>2015-SBM/MED3225/26</b>				
<b>Pancreatic diseases</b> <b>a. Pancreatitis</b> <b>b. Pancreatic tumours</b>	<ol style="list-style-type: none"> <li>1. describe the aetiopathogenesis, morphology, complications and clinical outcomes of acute and chronic pancreatitis.</li> <li>2. outline the biochemical investigations in acute and chronic pancreatitis</li> <li>3. outline the tumours of pancreas emphasising the modes of spread and clinical outcomes.</li> </ol>	1hr	Pathology	Lecture



<b>2015-SBM/MED3225/27</b>				
<b>Imaging of GI diseases</b>	<ol style="list-style-type: none"> <li>1. radiological, pathological correlation of gastrointestinal diseases discussed in this module</li> <li>2. radiological pathological correlation of hepatobiliary and pancreatic diseases</li> </ol>	1hr	Radiology	Lecture
<b>2015-SBM/MED3225/28</b>				
<b>b. Bleeding per rectum</b> <b>c. Jaundice and hepatomegaly</b>	<ol style="list-style-type: none"> <li>1. discuss the causes, clinical manifestations and diagnostic approach in hepatomegaly.</li> <li>2. discuss the causes and diagnostic approach in bleeding per rectum.</li> <li>3. discuss the causes, clinical manifestations, complications and investigations in ulcers of the oesophagus, stomach, duodenum, small intestine, colon, rectum and anus.</li> </ol>	2hrs	Pathology	SGD
<b>2015-SBM/MED3225/29</b>				
<b>a. Diseases of the hepato-biliary system and pancreas</b>	discuss the morphological changes in different diseases of the hepato-biliary system and pancreas	2 hrs	Pathology	Guided SGL
<b>2014-3/PATH- SBM-4/30</b>				
<b>Kidneys and the urinary tract</b>				
<b>a. Auto regulation of renal blood flow</b>	recall		recall	
<b>b. The basic functional unit of the kidney (nephron) - structural and functional aspects</b>				
<b>c. Role of the kidney in regulation of ECF volume &amp; tonicity</b>				
<b>d. Role of the kidney in the maintenance of blood pH</b>				
<b>2015-SBM/MED3225/31</b>				
<b>Mechanisms of dysfunction of the kidneys and the urinary tract</b>				
<b>a. Renal excretory function</b>	recall		recall	
<b>(i). with reduced nephron mass - GFR, Tubular functions, Constituents of urine</b>				
<b>(ii). in disturbed functions of other systems (Circulation, respiration ect.)</b>				
<b>(iii). in disturbed renal blood flow and autoregulation of blood flow</b>				



<b>(iv). in anomalous urine flow &amp; obstruction to the urine flow</b>				
<b>2015-SBM/MED3225/32</b>				
<b>Introduction to GU pathology</b>	1. Apply principles of general pathology to the Genito Urinary tract. (acute and chronic inflammation, necrosis, metaplasia, dysplasia, neoplasia)		recall	Pathology
<b>2015-SBM/MED3225/33</b>				
<b>Pathology of kidney and urinary tract</b>				
<b>a. Infections</b>	1. describe the pathology and pathogenesis of infections in the urinary tract to include a) Acute and chronic pyelonephritis b) Urinary Tuberculosis	1h	Lecture	Pathology
<b>b. Glomerular diseases</b>	2. describe the pathology (macro & micro) & pathogenesis of glomerular nephritis with special reference to immune complex mediated disease 3. describe the glomerular pathology associated with systemic vasculitides and other systemic diseases. SLE and Goodpasture's syndrome etc 4. describe the pathology and pathogenesis of diabetic nephropathy renal amyloidosis 5. describe the features of the nephritic syndrome and nephrotic syndrome and correlate with the above topics	2 hrs	Lecture	Pathology
<b>c. Tubular and interstitial diseases</b>	6. describe the pathology and pathogenesis of tubulo interstitial disease including tubular necrosis, cortical necrosis, papillary necrosis and interstitial nephritis	1 hr		
<b>d. Urolithiasis</b>	7. Urolithiasis, complications and clinical features	1 hr		
<b>e. Tumours of the kidney and bladder</b>	8. tumours of the kidney and bladder. Be able to describe the macroscopy, microscopy, and clinical features of the common tumours, including spread and metastasis. -Be able to discuss carcinogenic agents associated with these tumours.	1 hr	Lecture	Pathology
<b>f. Renal manifestations of systemic diseases</b>	9. describe the glomerular tubulo interstitial and vascular manifestations of essential hypertension, malignant hypertension, diabetes mellitus, vasculitis, SLE and multiple myeloma	1 hr	Lecture	Pathology

  
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<b>g. Acute and chronic renal failure RPGN Other common conditions Investigations</b>	10. describe the clinical manifestations and clinico-pathological correlations of mentioned diseases	3hrs	Lecture	Medicine/ Pathology
<b>2014-3/ PATH-SBM-4/34</b>				
<b>Haematuria</b>	describe the clinico-pathological correlations of haematuria based on clinical scenarios	1 hr	SGD	Pathology
<b>2014-3/ PATH-SBM-4/35</b>				
<b>Common renal diseases</b>	describe the morphology of different renal diseases using mounted specimens	2 hrs	Guided SGLA/Museum class	Pathology
<b>Skills</b>				
<b>Collection of urine samples for urinalysis &amp; microbiology</b>	During clinical appointment			
<b>Identification of abnormal constituents of urine</b>	During clinical appointment			
<b>Examination of the abdomen and external genitalia</b>	During clinical appointment			
<b>Giving instructions to the patients on how to collect a 24 hour urine sample</b>	During clinical appointment			
<b>Interpretation of X-rays (Normal/Abnormal)</b>	During clinical appointment			
<b>2015-SBM/MED3225/36</b>				
<b>Female genital tract</b>				
<b>a. Vulva &amp; vagina b. Uterus c. Fallopian tubes d. Ovaries</b>	1. describe the pathogenesis and pathology of skin lesions, Bartholian cyst and abscess, vulval dystrophy, vaginitis, pre malignant and malignant tumours of the vagina 2. describe the pathogenesis and pathology of cervicitis, pre malignant lesion, malignant tumours and other tumours of cervix	1hr	Lecture	Pathology
	3. describe the pathogenesis and pathology of endometrial hyperplasia, pre malignant lesions and malignant tumours of the endometrium, leiomyoma, adenomyosis, endometriosis and tumours associated with gestation.	1 hr	Lecture	Pathology
	4. describe the pathology of non neoplastic and neoplastic diseases of the ovary and fallopian tubes. 5. describe the pathogenesis and pathology of pelvic inflammatory disease.	2 hrs	Lecture	Pathology



<b>2015-SBM/MED3225/37</b>				
<b>Common pathological lesions in male genital tract</b> a. Penis b. Prostate c. Testis/epididymis	<ol style="list-style-type: none"> <li>1. describe the etiopathogenesis and morphology and complications of Xerotica Balanitis Obliterans, balanitis, condylomata acuminata and penile carcinoma</li> <li>2. describe the etiopathogenesis and morphology and complications of benign prostatic hyperplasia, prostatitis, abscess, prostatic carcinoma and prostatic tumour markers.</li> <li>3. describe the etiopathogenesis and morphology of epididymoorchitis and testicular tumours</li> <li>4. describe the pathology of a scrotal lump.</li> </ol>	2 hrs	Lecture	Pathology
<b>2015-SBM/MED3225/38</b>				
<b>Common skin diseases</b>	<ol style="list-style-type: none"> <li>1. outline the pathology of common skin diseases Eg: leprosy, leishmaniasis. verrucus vulgaris, seborrheic keratosis, psoriasis, pemphigus vulgaris, bullous pemphigoid, leukocytoclastic vasculitis, benign and malignant melanocytic neoplasms, squamous cell carcinoma, basal cell carcinoma and mycosis fungoides</li> </ol>	1 hr	Lecture	Pathology
<b>2015-SBM/MED3225/39</b>				
a. Subfertility b. Bleeding per vagina c. Nipple discharge and breast lump	describe the clinico-pathological correlations of subfertility, bleeding per vagina, nipple discharge and breast lump based on clinical scenario	3 hrs	SGD	Pathology
<b>2015-SBM/MED3225/40</b>				
a. Diseases of uterus, cervix and breast b. Ovarian and testicular diseases	describe the morphology of diseases of female and male genital systems and breast using mounted specimens	6 hrs	Guided SGL/ Museum class	Pathology
<b>2015-SBM/MED3225/41</b>				
<b>Breast</b>	<ol style="list-style-type: none"> <li>1. describe the pathology of common non neoplastic breast lesions eg. abscess, mastitis, duct ectasia, hyperpalstic disease</li> <li>2. describe the pathology of benign breast tumours eg: fibroadenoma, duct papilloma</li> <li>3. outline the pre malignant lesions of the breast</li> <li>4. describe the etiopathogenesis, morphology, spread and clinico-pathological correlations of breast carcinoma.</li> <li>5. outline the other tumours of breast eg: phylloides tumour</li> </ol>	2 hrs	Lecture	Pathology

