

**COURSE - PATH 211 (1)**

**KING SAUD UNIVERSITY**  
**College of Medicine**  
**Department of Pathology**

**GENERAL PATHOLOGY**  
**Males/Females**  
**1<sup>ST</sup> Semester 1428-1429**

**TOPICS AND LECTURE TITLES**

- Lecture One** : **Introduction to pathology**
- \* Definition of pathology.
  - \* Subdivisions of pathology.
  - \* Characteristics of disease: incidence, aetiology, pathogenesis, morphological and clinical features.
  - \* Methods used in making diagnoses: biopsies-cytology.
  - \* Definition and role of autopsy.

**Inflammation, repair and regeneration**

- Lecture One** : Definition, aetiology and manifestations of inflammation.
- Lecture Two** : Cells involved in inflammation and their role (neutrophils, basophils, eosinophils, mast cells, macrophages and lymphocytes).
- Lecture Three and Four** : Chemical mediators of inflammation and the inflammatory response.
- Lecture Five** : Vascular and cellular phases of inflammation - chemotaxis.
- Lecture Six** : Types of inflammation: Acute-chronic. Wound healing and repair.
- Lecture Seven** : Factors inhibiting repair - healing of bone fracture.

**Cell injury**

- Lectures One and Two** : Cellular patterns of response to stress-reversible and irreversible cell injury.
- Morphological reactions to persistent stress injury and ultrastructural changes caused by cell injury.

**Lectures Three and Four** : Disorders of intracellular storage: fat, glycogen, iron, lipofuscin, melanin.

Abnormal calcification, necrosis, apoptosis, and ischaemic cell injury. Cell injury caused by oxygen radicals.

**Lectures Five and Six** : Disturbances of uric acid metabolism.

**Lecture Seven** : Amyloidosis.

### **Granulomatous diseases**

**Lecture One** : Definition and mechanism of granuloma formation.

Causes of granulomatous diseases.

**Lectures Two and Three** : Tuberculosis (general and systemic).

**Lecture Four** : Leprosy.

**Lecture Five** : Sarcoidosis.

**Lecture Six** : Schistosomiasis: life cycle of parasite and incidence. Pathology of urinary, hepatic and intestinal schistosomiasis.

### **Haemodynamic (circulatory) disorders**

**Lectures One and Two** : Haemorrhage: definition - causes and manifestations: haemothorax - haemopericardium, haemarthrosis, haematoma, purpura, ecchymosis and petechia.

Hyperemia (lung, liver, spleen) and oedema.

**Lectures Three and Four** : Thrombosis, embolism and infarction.

**Lecture Five and Six** : Shock: definition, pathogenesis and causes - pathological changes in various organs: heart, lung, liver and kidney.

### **Environmental and Nutritional pathology**

**Lecture One** : Alcoholism: pathological effects on liver, heart, pancreas, skeletal muscles, endocrine system, G.I. tract, blood, nervous system.

- Lecture Two** : Drug abuse (heroin and stimulants) -Iatrogenic drug injury (contraceptive pills).  
Environmental chemicals and metals.
- Lecture Three** : Thermal and physical injuries.
- Lecture Four** : Radiation injury.
- Lecture Five** : Nutritional disorders: obesity, marasmus, Kwashiorkor, vitamin deficiencies : vitamin A, thiamine, niacin, ascorbic acid and vitamin K.

### **Disorders of growth and neoplasia**

- Lecture One** : Atrophy, hypertrophy, hyperplasia, metaplasia, dysplasia and carcinoma in situ.
- Lectures Two and three** : Definition of neoplasia - characteristics of benign and malignant tumours. Epithelial and connective tissue tumours.  
Teratomas, embryonal tumours and hamartomas.
- Lecture Four** : Histological diagnosis of malignancy - invasion and metastasis. The grading and staging of cancers.
- Lectures Five, Six & Seven** : Aetiology of cancer: chemical and viral carcinogenesis - human tumor oncogenes - tumour suppressor genes (The Retinoblastoma (RB) gene and the P53 gene).
- Lectures Eight and Nine** : The systemic effects of cancer on the host -  
Diagnosis of cancer and tumour markers.

### **Immunopathology**

- Lecture One** : Immune complete diseases (with special reference To glomerulonephritis).
- Lecture Two and Three** : Auto-immune diseases.
- Lecture Four and Five** : Immunodeficiency diseases.

## TUTORIALS

Tutorials on relevant topics will be given.

### HISTOPATHOLOGY PRACTICAL AND SLIDE NUMBERS

#### *Inflammation, repair and regeneration*

1. Fibrinous pericarditis.
2. Acute suppurative appendicitis.
3. Foreign body reaction (pilonidal sinus).
4. Granulation tissue.

#### *Cell injury*

5. Fatty change of the liver.
6. Amyloidosis of the liver.
7. Amyloidosis of the kidney.  
Electron micrograph of amyloid fibrils.
8. Dystrophic calcification.

#### *Haemodynamic (circulatory) disorders*

9. Chronic venous congestion of the liver.
10. Chronic venous congestion of the lung.
11. Organizing thrombus.
12. Recent myocardial infarction.
13. Infarction of the kidney.

#### *Granulomatous diseases*

14. Tuberculous lymphadenitis.
15. Miliary tuberculosis of the lung.
16. Leprosy of the skin.  
Lepra bacilli (ZN stain).
17. Bilharziasis of the rectum.
18. Bilharziasis of the liver.

#### *Disorders of growth*

19. Cystic hyperplasia of the endometrium.
20. Fibrocystic changes and epithelial hyperplasia of the breast

#### *Neoplasia - benign tumors*

21. Intradermal naevus.
22. Leiomyoma.
23. Chondroma.
24. Hemangioma.
25. Fibroadenoma of the breast.

***Neoplasia - malignant tumors***

26. Basal cell carcinoma of the skin.
27. Squamous cell carcinoma of the skin.
28. Adenocarcinoma of the large intestine.
29. Mucoïd carcinoma of the large intestine.
30. Fibrosarcoma.

**NOTE:** *Other slides representing similar conditions may be added for examination purposes.*

**PATHOLOGY MUSEUM*****Inflammation, repair and regeneration***

- CVS Fibrinous pericarditis.
- RS Bronchiectasis.
- RS Empyema between lobes of the lung.
- GB Chronic cholecystitis with stone.
- GB Acute cholecystitis with stone.
- US Pyonephrosis.
- US Pyemic abscesses of the kidney.
- CNS Brain abscess.
- GUT Acute suppurative appendicitis.
- Skin pilonidal sinus.

***Cell injury***

- H Amyloidosis of the liver.
- SP Amyloidosis of the spleen.

***Haemodynamic - circulatory disorders***

- H Chronic venous congestion of the liver.
- H Infarction of the liver.
- CVS Myocardial infarction with mural thrombus.
- GUT Infarction of the small intestine.
  
- US Infarction of the kidney.
- SP Congestive splenomegaly.
- SP Infarction of the spleen.
- RS Pulmonary embolus with infarction.

***Granulomatous diseases***

- RS Tuberculosis of the lung.
- LN Tuberculous lymphadenitis.
- US Tuberculosis of the kidney.

***Growth disorders and neoplasia***

- US Renal carcinoma.
- US Prostatic hyperplasia.
- GUT Carcinoma of the esophagus.
- GUT Carcinoma of the stomach.
- GUT Lipoma of the small intestine.
- GUT Papillary tumor of rectum and colon.
- FGS Teratoma, dermoid cyst.
- FGS Multiple leiomyomata.
- BR Carcinoma of the breast.
- BR Fibroadenoma of the breast.

**NOTE:** *Students are asked to study the gross pathology of all specimens related to lecture topics.*

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