

TOP 100 CRACKADAT.COM PATHOLOGY SECRETS

1. **Cell volume** depends on function of cell membrane = semipermeable with proper amount of ATP
2. **Cell injury** increased $[Ca^{2+}]$ in the hyaloplasm (cytosol)
3. **Cell death** Nuclear changes a. **Pyknosis**: chromatin clumping and shrinking with increased basophilia b. **Karyolysis**: fading of chromatin material c. **Karyorrhexis**: fragmentation of chromatin
4. **Necrosis** (death of cells/tissues) is most often caused by ischemia or the action of toxic substances and infectious pathogens
5. **Apoptosis** (programmed cell death) can also be caused by exogenous factors (i.e., viruses, drugs)
6. **Hyperplasia**: increase in cell # increase in tissue/organ size; **Hypertrophy**: increase in cell size
7. **Inflammation** involves the following responses... a. Vascular b. Cellular c. Humoral
8. **Mediators of inflammation** are produced by *endothelial cells & inflammatory cells*, and the **liver** (*main source of plasma proteins*)
9. **Hageman factor (clotting factor XII)** activates the following systems... a. Kinin b. Complement c. Clotting d. Fibrinolytic system
10. **Cytokines**: are multifunctional polypeptides that modulate the function of other cells
11. **Polymorphonuclear leukocytes**: principal cells of *ACUTE INFLAMMATION* a. **Lymphocytes, macrophages, & plasma cells** are principal cell of *CHRONIC INFLAMMATION*
12. **Edema**: accumulation of fluid in the interstitial spaces and body cavities
13. **Thrombosis**: pathologic coagulation of circulating blood inside intact vascular spaces
14. **Virchow Triad**: 3 factors that promote thrombosis a. Changes in the vessel wall b. Changes in bloodflow c. Changes in the composition of blood
15. Most common form of embolism = **thromboembolism**
16. **Disseminated Intravascular Coagulation (DIC)**: a form of thrombosis and small blood vessels associated with uncontrollable bleeding caused by consumption of coagulation factors in the blood
17. **Infarct**: an area of *ischemic necrosis* that is usually caused by occlusion of vessels or hypoperfusion of tissues (w/ blood)
18. **Shock**: a condition caused by hypoperfusion of tissues (w/ blood); can be classified as... a. **Cardiogenic** b. **Hypovolemic** c. Distributive (related to vasodilation) d. **Septic** e. Neurogenic
19. **Hypersensitivity reactions**: involve cell and tissue injury caused by antibodies or products of activated T lymphocytes
20. **Autoimmune diseases**: are based on the immune reaction against self-antigens
21. **Acquired immunodeficiency syndrome (AIDS)**: an infectious disease caused by the **human immunodeficiency virus (HIV)** a. Characterized by profound suppression of the immune system and susceptibility to infections, neurologic disorders, and malignancies
22. **Cancer** = **malignant tumors**

23. **Main groups of malignant tumors** are: a. Carcinomas b. Sarcomas c. Lymphomas d. Gliomas
24. **Carcinogens:** are cancer-inducing factors that include physical forces, chemicals, viruses, and endogenous oncogenes
25. **Reactions of the host to the tumor** can be *LOCAL* or *SYSTEMIC*, and include various inflammatory, and immune, hormonal, circulatory, and neural processes
26. **Teratogens:** are chemical, physical, or biological agents capable of inducing developmental abnormalities and a fetus
27. **Down syndrome:** the most common autosomal chromosome abnormality a. Characterized by *mental deficiency* and characteristic facial and somatic features
28. **Laws of Mendelian Genetics:** states that single gene defects are inherited as... a. Autosomal dominant, b. Autosomal recessive, c. Sex-linked dominant, or d. Sex-linked recessive
29. **Atherosclerosis:** a multi-factorial disease that predominately affects older people, but it can be accelerated by... a. Hypertension b. Hyperlipidemia c. Smoking
30. **Arterial hypertension:** any mobile factorial disease of unknown etiology, but it can also be secondary to renal, endocrine, vascular, and neurologic diseases
31. **Vasculitis:** an inflammation of vessels, is most often immunologically mediated
32. **Aneurysms:** localized dilations of the arteries *most often caused by atherosclerosis and hypertension*
33. **Cardiac failure** may be caused by... a. Inherited heart disease b. Extracardiac causes i. **Pressure overload** (in hypertension) ii. **Volume overload** (in renal water retention)
34. **Coronary heart disease:** a. Most common *cause of cardiac failure* b. Most common *cause of death in the U.S.*
35. **Myocardial Infarction (MI):** "heart attack" - represents an area of myocardial cell necrosis caused by ischemia
36. Most common *complication of an MI* = **Arrhythmia**
37. Most common *cause of Endocarditis* = *bacteria*
38. **Cardiomyopathy:** (3 forms) a. Dilated b. Hypertrophic c. Restrictive
39. **Ventricular Septal Defect (VSD):** most common *noncyanotic congenital heart disease* a. Characterized by a L→R shunt
40. **Tetralogy of Fallot:** most common *cyanotic congenital heart disease* a. *Includes 4 pathologic findings:* i. VSD ii. **Overriding dextraposed aorta** iii. **Pulmonary artery stenosis** iv. **Right ventricular hypertrophy**
41. **Hypochromic microcytic anemia:** is most often caused by **iron deficiency** and **chronic blood loss**
42. **Sickle cell anemia:** is a hereditary hemoglobinopathy caused by a mutation of the α -globin gene
43. **Lymphomas:** malignant tumors of lymphoid cells – are most often of **B-cell origin**
44. **Leukemia:** a malignancy of hematopoietic and lymphoid cells a. Characterized by the appearance of malignant cells in the circulation
45. **Multiple Myeloma:** a malignancy of plasma cells a. Associated w/ **lytic bone lesions** and **monoclonal gammopathy**
46. **Hodgkin Disease (HD):** a form of lymph node malignancy a. Characterized by the presence of **REED-STERMBERG CELLS** b. Several histologic forms of Hodgkin Lymphoma (HL): i. Lymphocyte-predominance ii. Lymphocyte-rich iii. Mixed cellularity

- iv. Lymphocyte depletion (has the worst prognosis of the forms of HLs) v. Nodular sclerosis (most common form of HL)
- 47. **Atelectasis**: is incomplete expansion of the lungs or collapse of a previously inflated lung parenchyma ("**collapsed lung**") a. **Collapsed lungs**: (*4 categories of atelectasis*) i. **Resorption** – a blockage preventing new air from getting in ii. **Compressive** – a **potential space** in the pleural cavity gets filled and causes compression on the lung (fluid, blood, air) - **Pneumothorax** iii. **Contraction** – the lungs contract generally, not readily curable, a lung that is becoming fibrotic iv. **Microatelectasis** – the inability of the lungs to fully expand - Alveolar level - Usually caused by surfactants - Surfactants – keeps the wet thin membranes from sticking to each other
- 48. **Adult Respiratory Distress Syndrome (ARDS)**: is caused by **Diffuse Alveolar Damage (DAD)** resulting from injury of endothelial cells or pneumocytes forming the alveolar—capillary units
- 49. **Chronic Obstructive Pulmonary Disease (COPD)**: includes several diseases, but the most important are **EMPHYSEMA** and **CHRONIC BRONCHITIS**
- 50. **Bronchial Asthma**: a chronic relapsing inflammatory **OBSTRUCTIVE lung disease**, presenting w/ hyperreactivity of airways and periodic bronchospasm
- 51. **Acute pneumonia**: an inflammation of lungs usually caused by viruses or bacteria
- 52. **Pneumoconioses**: are interstitial lung diseases caused by inhaled particles such as coal, silica, or asbestos
- 53. Most **lung cancers** originate from the *epithelium of the bronchi* and are related to *smoking*
- 54. **Esophagitis** is most often caused by **Gastroesophageal Reflux Disease (GERD)**
- 55. **Atrophic Gastritis**: (the most common form of gastritis) is most often caused by **Helicobacter pylori**
- 56. **Peptic ulcers** are prone to bleeding.
- 57. **Carcinomas** of the **esophagus** and **stomach** = **poor prognosis**.
- 58. **Diarrhea** can be classified as... a. Osmotic b. Secretory c. Exudative d. Malabsorptive e. Mixed
- 59. **Malabsorption syndrome** is characterized by **steatorrhea** and **deficiency of fat-soluble vitamins**.
- 60. **Inflammatory bowel disease (Crohn disease and ulcerative colitis)** they share some features but differ in many aspects.

FEATURES THAT DIFFER BETWEEN CROHN DISEASE AND ULCERATIVE COLITIS

FEATURE	CROHN DISEASE	ULCERATIVE COLITIS
MACROSCOPIC:		
BOWEL REGION	ILEUM ± COLON (Terminal ileum, ileocecal valve, & cecum)	COLON ONLY
DISTRIBUTION	SKIP LESIONS (earliest lesion = <i>aphthous ulcer</i>)	DIFFUSE (<i>Pancolitis</i> = entire colon) (Left-sided disease = no further than the transverse colon) (Ulcerative proctitis/ulcerative proctosigmoiditis = limited distal disease)
STRICTURE	YES " <i>Creeping Fat</i> "	RARE
WALL APPEARANCE	THICK " <i>Cobblestone</i> " / Fissures	THIN (mucosal atrophy)
MICROSCOPIC:		
INFLAMMATION	TRANSMURAL Crypt abscesses / distortion of mucosal architecture	LIMITED TO MUCOSA (diffuse) (+ <i>Backwash ileitis</i>)
PSEUDOPOLYPS	MODERATE	MARKED (mucosal bridges = fused tips of polyps)
ULCERS	DEEP, KNIFE-LIKE	SUPERFICIAL, BROAD-BASED
LYMPHOID REACTION	MARKED	MODERATE
FIBROSIS	MARKED	MILD TO NONE
SEROSITIS	MARKED	MILD TO NONE
GRANULOMAS	YES (~35%) (<i>Noncaseating</i> = <i>Hallmark of CD</i>)*	NO
FISTULAE/SINUSES	YES	NO
CLINICAL:		
PERIANAL FISTULA	YES (IN COLONIC DISEASE)	NO
FAT/VITAMIN MALABSORPTION	YES	NO
MALIGNANT POTENTIAL	WITH COLONIC INVOLVEMENT (<i>Paneth cell metaplasia</i>)	YES

FEATURE	CROHN DISEASE	ULCERATIVE COLITIS
RECURRENCE AFTER SURGERY	COMMON	NO
TOXIC MEGACOLON	NO	YES

61. **Carcinoma of the large intestine** is the **third** most common *form of cancer* and the **third** most common *cancer-related cause of death in the U.S.* a. It occurs most often in the **rectosigmoid area**.
62. **Jaundice** can be classified as... a. prehepatic (hemolytic) b. hepatic c. posthepatic (obstructive).
63. **Cirrhosis** is equivalent to **end-stage liver disease** a. characterized by... i. loss of normal hepatic architecture ii. fibrosis iii. the formation of regenerating nodules
64. **Hepatitis** is most often caused by viruses, drugs, or immune mechanisms
65. **Chronic alcoholism** may cause three pathologic changes in the liver: a. fatty liver b. alcoholic hepatitis c. cirrhosis
66. **Alcohol** and **biliary disease** account for 80% of all causes of **acute pancreatitis**.
67. **Diabetes mellitus:** (a disease characterized by hyperglycemia) is caused by... a. Insulin deficiency (TYPE 1) b. Tissue resistance to insulin (TYPE 2)
68. **Uremia** is a set of clinical and laboratory findings found in patients with **end-stage kidney disease**
69. **Glomerulonephritis** is *immunologically mediated* in most instances.
70. **Pyelonephritis** is a *bacterial kidney infection*.
71. The **most important tumors of the kidneys and the urinary tract** are... a. Renal cell carcinoma b. Transitional cell carcinoma c. Wilms tumor
72. **Testicular tumors** are derived from germ cells in 90% of cases and belong to two groups: a. Seminomas (most common testicular tumor) b. Nonseminomatous germ cell tumors (NSGCTs)
73. **Prostate carcinoma** is the most common malignant tumor in males
74. **Carcinomas of the vulva, vagina, and cervix** are linked to **human papillomavirus (HPV)** infection a. Most common types of HPV related to carcinomas: i. HPV 16 ii. HPV 18 b. Most common type of HPV that cause genital warts (condylomata acuminata) i. HPV 6 ii. HPV 11 iii. (and HPV 16)
75. **Endometrial adenocarcinoma** is linked to **hyperestrinism**
76. **Leiomyomas** are the most common benign tumors of the uterus
77. **Breast carcinoma** is the most common (non-skin) malignant tumor in females
78. **Hyperthyroidism** may be caused by... a. Autoimmune mechanisms (e.g., in Graves disease) b. Tumors (e.g., follicular adenomas) c. Hyperfunctioning goiters
79. **Hyperparathyroidism**, most often caused by **parathyroid adenoma** a. Characterized by **hypercalcemia**
80. **Hypofunction of adrenal glands** is the cause of **Addison disease**, whereas **hyperfunction** causes **Cushing syndrome**
81. The **three most important skin diseases caused by bacteria** are... a. Impetigo b. Folliculitis c. Acne
82. **Warts** are caused by **HPV** infection.

83. **Psoriasis** is a common chronic skin disease of unknown etiology affecting 1% to 2% of the population
84. **Skin cancer** is related to **sun exposure**
85. **Basal cell carcinoma** of the skin, the most common malignant tumor, is only locally invasive and rarely metastasizes
86. **Pigmented skin lesions** may be *benign* (such as **freckles**, **lentigo**, and **nevus**) or *malignant* (such as **malignant melanoma**)
87. **Osteoporosis** is a form of **osteopenia** characterized by a loss of both calcium salts and organic matrix of the bones (osteoid)
88. The **two most important diseases of the joints** are **rheumatoid arthritis** and **osteoarthritis**
89. **Osteosarcoma** occurs most often in *children and young people*, whereas **chondrosarcoma** has its peak incidence in *adults*
90. **Duchenne muscular dystrophy** is the most common *genetic muscle disease*
91. The **most important immunologic diseases of the muscle** are **polymyositis** and **myasthenia gravis**
92. **Rhabdomyosarcoma** is a malignant tumor of *striated muscle*
93. The **most important forms of intracranial bleeding** are... a. Intracerebral hemorrhage in hypertension b. Subdural hematoma c. Subarachnoid hematoma d. Epidural hematoma
94. **Infection of the brain and the meninges** can occur through four main routes: a. Vascular spread b. Direct extension c. Ascending neural route d. Penetrating wounds
95. **Tabes dorsalis** is a *spinal cord lesion* caused by **sypilis**.
96. **Multiple sclerosis** is a demyelinating autoimmune disease characterized by a chronic relapsing and remitting course a. MS is the most common **demyelinating disease**
97. **Alzheimer's disease** (an old-age neurodegenerative disease of unknown etiology) is the most common cause of **dementia**
98. Most **brain tumors** are malignant
99. **Gliomas** are malignant tumors of the **CNS** originating from... a. Astrocytes b. Oligodendroglia cells c. Ependymal cells.
100. **Diabetic neuropathy** is the most common peripheral nerve disease encountered in general practice