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- 1) A 44-year-old woman notes a lump in her left breast while taking a shower. The nurse practitioner palpates a 3 cm firm, irregular, non-movable mass in the upper outer quadrant of her left breast on physical examination. A fine needle aspiration of this mass is performed, and cytologically the cells are consistent with infiltrating ductal carcinoma. The mass is removed with lumpectomy along with an axillary lymph node dissection. Which of the following findings will best predict a better prognosis for this patient?
- a) Tumor cells strongly estrogen receptor positive
  - b) No metastases in the sampled lymph nodes
  - c) Flow cytometric analysis with aneuploidy and a high S-phase
  - d) One relative who had a similar type of breast cancer
  - e) High cytologic tumor grade

(B) CORRECT.

- 2) A 48-year-old woman has a routine physical examination. A 4 cm diameter non-tender mass is palpated in her right breast. The mass appears fixed to the chest wall. Another 2 cm non-tender mass is palpable in the left axilla. A chest radiograph reveals multiple 0.5 to 2 cm nodules in both lungs. Which of the following TNM classifications best indicates the stage of her disease?
- a) T1 N1 M0
  - b) T1 N0 M1
  - c) T2 N1 M0
  - d) T3 N0 M0
  - e) T4 N1 M1

(E) CORRECT.

3) A study is performed to analyze characteristics of malignant neoplasms in biopsy specimens. The biopsies were performed on patients who had palpable mass lesions on digital rectal examination. Of the following microscopic findings, which is most likely to indicate that the neoplasm is malignant?

- a) Pleomorphism
- b) Atypia
- c) Invasion
- d) increased nuclear/cytoplasmic ratio
- e) Necrosis

(C) CORRECT

4) A child is born with a single functional allele of a tumor suppressor gene. At the age of five the remaining normal allele is lost through a point mutation. As a result, the ability to inhibit cell cycle progression until the cell is ready to divide is lost. Which of the following neoplasms is most likely to arise via this mechanism?

- a) Breast ductal carcinoma
- b) Pulmonary small cell anaplastic carcinoma
- c) Ocular retinoblastoma
- d) Cerebral astrocytoma
- e) Chronic myeloid leukemia

(C) CORRECT

5) A 50-year-old man has felt vague abdominal discomfort for the past 4 months. On physical examination he has no lymphadenopathy, and no abdominal masses or organomegaly can be palpated. Bowel sounds are present. An abdominal CT scan shows a 20 cm retroperitoneal soft tissue mass obscuring the left psoas muscle. A stool specimen tested for occult blood is negative. Which of the following neoplasms is this man most likely to have?

- a) Melanoma
- b) Hamartoma
- c) Adenocarcinoma
- d) Lymphoma
- e) Liposarcoma

(E) CORRECT.

- 6) which one of the following is not considered to be a distinctive pattern of non-neoplastic growth
- a) regeneration.
  - b) hypertrophy
  - c) hyperplasia.
  - d) Anaplasia
  - e) metaplasia

(D) CORRECT.

- 7) Inherited deficiency of GpIIb-IIIa?

*Glansmann thromasthenia*

- 8) Hematoma is :

*Hemorrhage or blood accumulation in tissues*

- 9) Which of the following inhibit platelet aggregation :

*NO, PGI<sub>2</sub>, adenosine diphosphatase*

- 10) A Type of embolism occurs mostly after fracture of long bones

*fat embolism*

- 11) Edematous fluid found in congestive heart failure is most likely due to:

- a) Lymphatic obstruction.
- b) Increase hydrostatic pressure.
- c) Arteriolar dilatation.
- d) Reduced plasma oncotic pressure.
- e) Endothelial injury

(B) CORRECT

- 12) The parasitic infection Filariasis result in edema of the external genitalia and lower limb is so extensive and extreme that is called:

*elephantiasis*

- 13) What is the most common site of origin of thrombotic pulmonary emboli ?
- a) Lumen of Left ventricle
  - b) Deep leg veins
  - c) Lumen of right ventricle
  - d) Mesenteric vein
  - e) Superficial leg veins

(B) CORRECT

- 14) Nutmeg Liver' is seen in:
- a) Liver cirrhosis.
  - b) Chronic passive congestion.
  - c) Thrombosis of the portal veins.
  - d) Hemorrhage due to liver trauma

(B) CORRECT

- 15) Wound strength after removing sutures (after 7 days)
- 10% of unwound flesh*

- 16) At what day does a surgical wound acquires 70% the strength of normal unwounded flesh,
- a) After 3 months
  - b) After 7 days
  - c) After 1 month
  - d) After 4 months

(A)CORRECT

- 17) Cervical SC carcinoma
- hpv 16,18,31*

- 18) Benign genital warts
- hpv 6,11*

- 19) RNA oncogenic virus
- Human t-cell leukemia virus type 1*

20) Congenital anomaly consisting of a heterotopic nest of cells:  
*Choristoma*

21) Play major role in angiogenesis  
*endothelial*

22) Metaplasia seen in one of the following :  
*Burette esophagus*

23) Angiogenesis:  
*vegfr-2*

24) Deficiency in which of the following lead to thrombosis  
*XII deficiency lead to thrombosis since its fibrinolytic activity of plasmin depend on xii and t-pa*

25) Which one of the following neoplasms is highly invasive but seldom spread by metastasis?  
a) papillomas  
b) squamous cell carcinomas of the skin.  
c) adenocarcinomas .  
d) basal cell carcinomas of the skin.  
e) osteogenic sarcomas

**(D) CORRECT**

26) EC damage plays a role in the formation of thrombosis in which of the following:  
*Atherosclerotic plaque in an artery*

27) Lymphatic spread, which is most typically of :  
*Carcinoma*

28) Hematogenous spread favored by:  
*Sarcoma*

- 29) Which of the following irreversible injury:  
*leakage of lysosomal enzyme*
- 30) The benign tumor that are not encapsulated nor demarcated:  
*Angioma*
- 31) Capsule consist of ECM that is deposited by stromal cells such as fibroblast:  
*fibroblasts are activated by hypoxic damage to parenchymal cells resulting from compression by expanding tumor*
- 32) Which of the following statements about benign tumors is most accurate :  
*Benign Tumors are MOSTLY either demarcated or encapsulated*
- 33) Metastasis is exception than rule in:  
*Basal cell carcinoma*
- 34) The origin of epithelioid in granulation tissue:  
*Activated macrophages*
- 35) One of the following is true about the complement system:  
*The critical step in complement activation is c3 activation*
- 36) Concerning mural thrombi ,it is best defined as :  
a) Thrombi of heart valve.  
b) Venous thrombi of the legs.  
c) Thrombi of atherosclerotic coronary arteries.  
d) Thrombi occurring in the heart chambers

**(D) CORRECT**

- 37) Dystrophic Calcification:  
*microcrystal of Ca and P*

38) Why tumor cells make angiogenesis:  
*since maximal distance across which oxygen and nutrient can diffuse from blood vessels 1-2mm*

- 39) Petechiae is best defined as:
- a) Subcutaneous hemorrhage measuring 1-2 cm.
  - b) Skin hemorrhages appearing as minute spots measuring 1-2 mm.
  - c) Subcutaneous edema in association with heart failure.
  - d) Hemorrhage into the thoracic cavity.
  - e) Bleeding inside the pericardial cavity

(B)CORRECT

40) Which of the following is false concerning ulcer of diabetic patient:  
*acute inflammatory response is slow, delay healing*

- 41) Endothelial cell injury is the principal mechanism for production of thrombosis in case of:
- a) Thrombosis occurring in post-partum women.
  - b) Thrombosis associated with pancreatic cancer.
  - c) Protein C deficiency.
  - d) Thrombosis of atherosclerotic coronary arteries

(D) CORRECT

- 42) Nodular benign growth (of hepatocytes, blood vessels, adipocytes) in the liver is consistent:
- a) hamartoma
  - b) Hepatoma
  - c) nodular hyperplasia

(A)CORRECT

- 43) Regarding the difference between the post mortem clot and the thrombus , which of the following is true :
- a) Thrombus is attached to the wall and have layers of fibrin.
  - b) Thrombus is friable and gelatinous, the clot is firm.
  - c) Thrombus is red in color and surrounded by film of yellow chicken-fat cover.
  - d) Thrombus is mainly composed of gram-negative bacteria

(A)CORRECT

44) Main mechanism for vascular leakage in acute inflammation:  
*Endothelial cell retraction*

45) Which of the following isn't benign tumor:  
*Hematoma*

46) Chylous ascites caused by:  
*Obstruction in lymphatic system*

47) Which of the following is correct :  
*Necrosis is always pathogenic*

48) Case about a woman that had no cough or fever but chest x-ray showed a 2.5cm mass and the question was how to differentiate lung granuloma from neoplasm (or what best differentiates it)

- a) uncontrollable (autonomous) growth
- a) Rapid growth
- b) sensitivity to radiation and chemo therapy
- c) reoccurrence after excision

**(A)CORRECT**

49) A 45-year-old woman has noted a lump on her left shoulder that has enlarged over the past 4 months. On physical examination there is a palpable non-tender supraclavicular lymph node. A biopsy of the node is performed and on microscopic examination there is a metastatic neoplasm. Which of the following is the most likely primary for this neoplasm:

- a) Cerebral glioma
- b) Adenocarcinoma of the stomach
- c) Fibroadenoma of the breast
- d) Liposarcoma of the retroperitoneum
- e) Laryngeal papilloma

**(B) CORRECT.**

50) Which one is the most correct ?  
*TNF causes cachexia*  
PAF causes vasodilation at low concentration



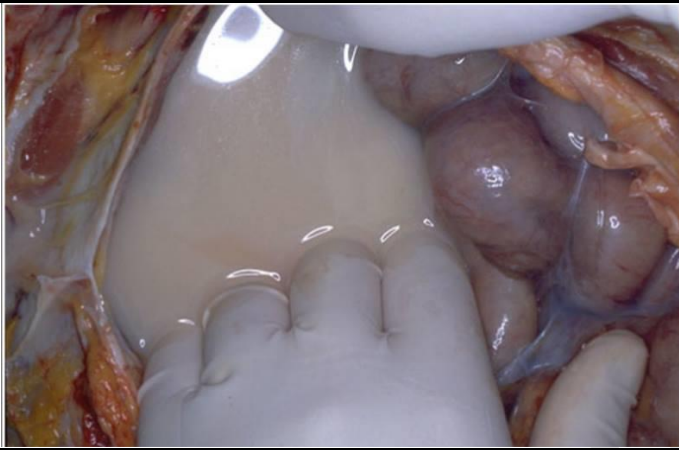
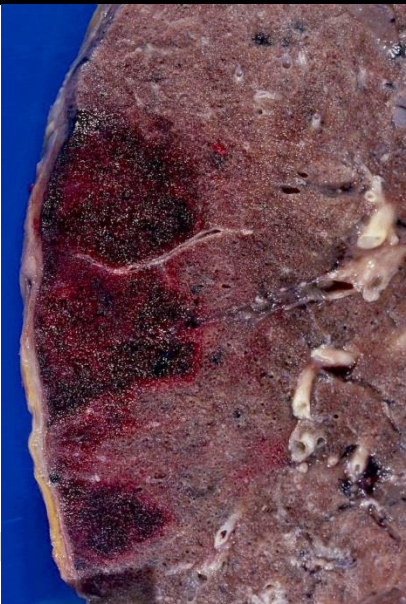
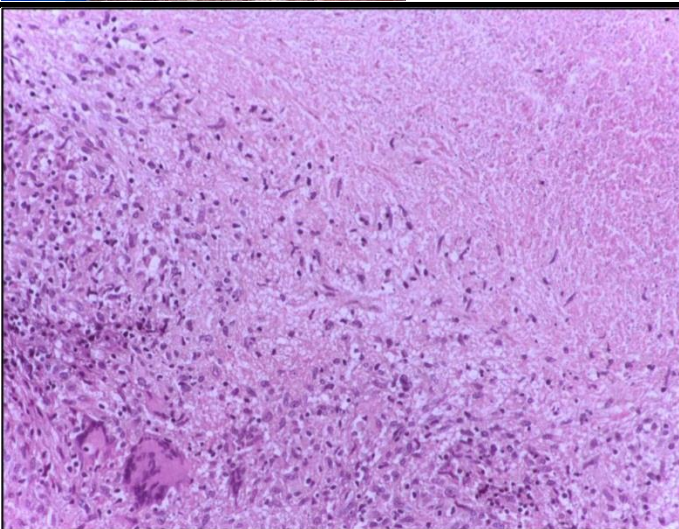
51) A 55-year-old man has had malaise and a 4 kg weight loss over the past 6 months. On physical examination his stool is positive for occult blood. An abdominal CT scan shows his liver contains multiple tumor masses from 2 to 5 cm in size with central necrosis. The surrounding hepatic parenchyma appears normal. Which of the following characteristics of neoplasia is best illustrated by these findings?


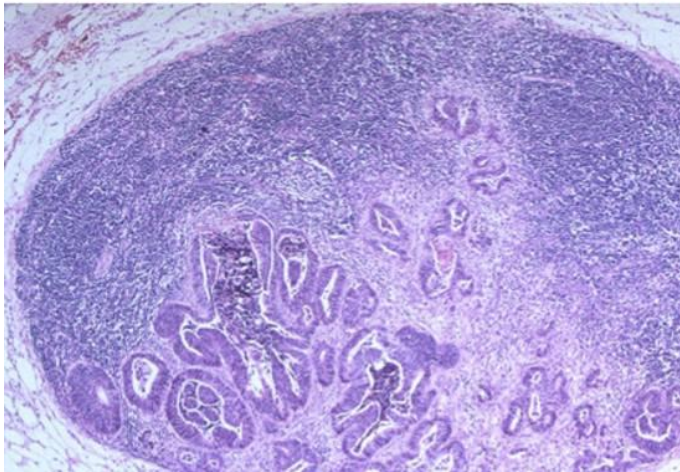
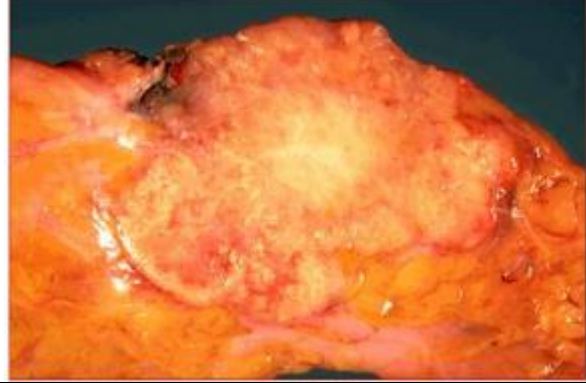
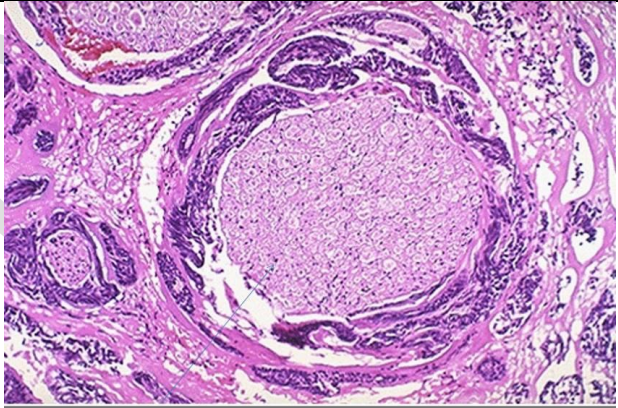
- a) Multicentric origin
- b) High tumor grade
- c) Primary neoplasm in the stomach
- d) Exposure to a carcinogen
- e) Advanced stage

(E) CORRECT.


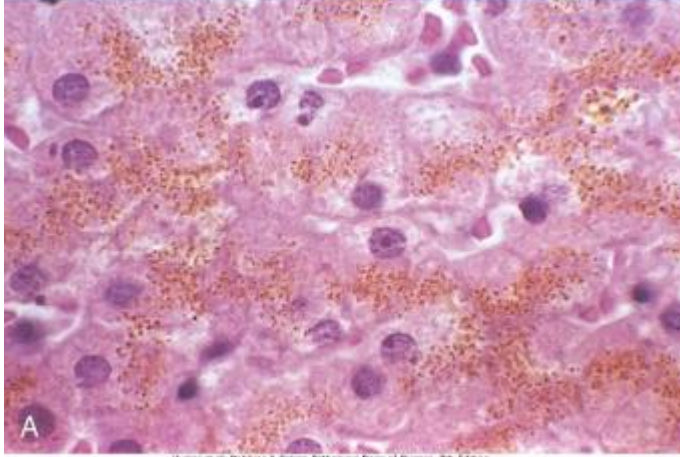
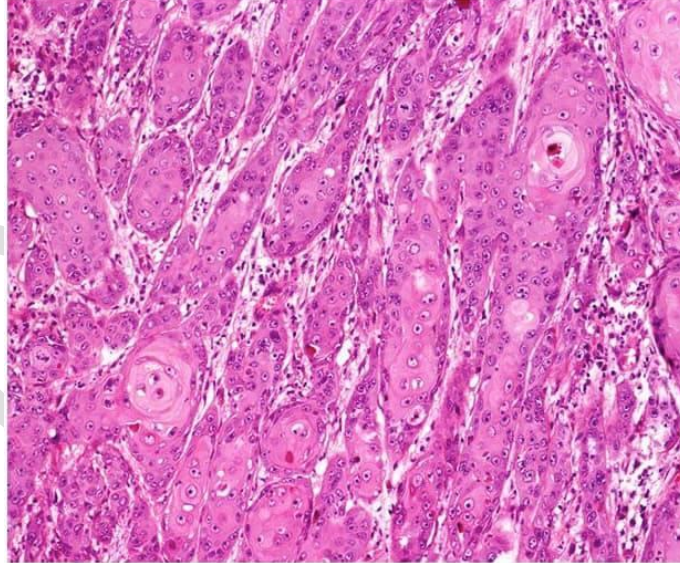
Overdose


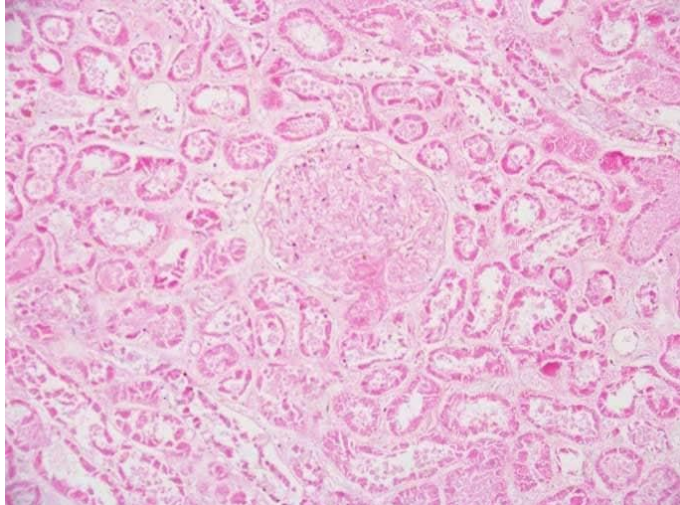
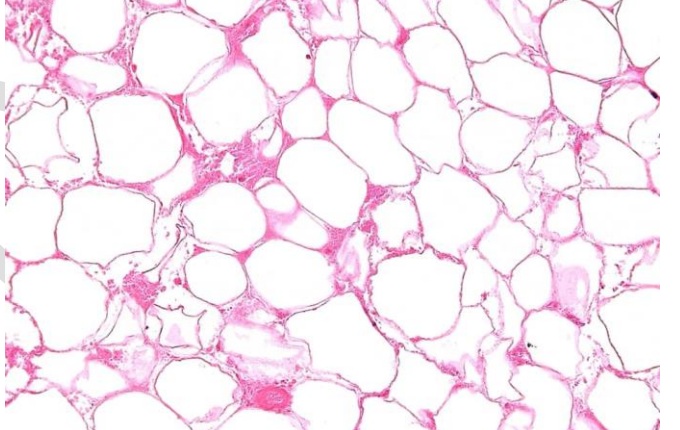
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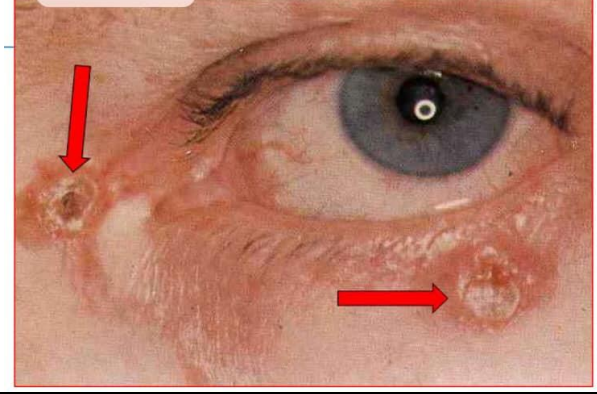


1		The following is mainly due to : <i>Blockage of lymphatic drainage .</i>
2		<i>Red infarct</i>
3		<i>Caseous necrosis</i>

4	 <p>www.thundershare.net</p>	<p><i>Verruca vulgaris</i></p>
5		<p><i>Lymph node adenocarcinoma + adenocarcinoma metastasis</i></p>
6		<p><i>Infiltrating ductal carcinoma of the breast</i></p>
7		<p><i>Perineural</i></p>



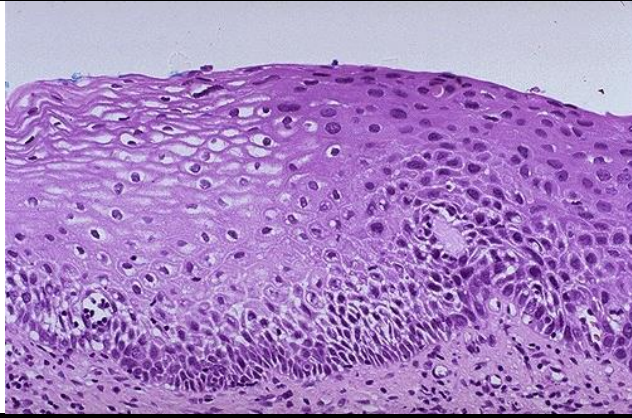
8		Benign mole
9	 <p><small>Rumar et al. Robbins &amp; Cotran Pathologic Basis of Disease, 8th edition. Copyright © 2009 by Saunders, an imprint of Elsevier, Inc. All rights reserved.</small></p>	<p>hemosiderin granules in liver hematoxylin eosin stained section</p>
10	 <p>Moderately differentiated (grade 2) usual SCC: almost all neoplastic cells show evident nuclear atypia with pleomorphism, coarse chromatin, prominent nucleoli and irregular nuclear membranes, but squamous maturation and keratin pearl formation are retained</p>	Moderately differentiated SCC

11		Fibrinous exudate
12		Ischemia in renal artery cause : Coagulative necrosis
13		Fat necrosis

14			Basal cell carcinoma
15			Basal cell carcinoma
16			Basal cell carcinoma
17			Features : pus , edema, hyperemia



18



*Squamous  
dysplasia /  
carcinoma in  
situ*

Overdose