

PATHOLOGY EXAM # 6
May 4, 2001

Name:

(Please sign your exam if you wish it returned to you)

NOTE: There are 21 pages and 120 Questions to this exam. Please check your exam and make sure that it is complete.

Practical Questions:

1. A 35 year-old British man develops progressive behavioral disorders for two years, then dies. The only finding at autopsy is that shown. What is the MOST likely diagnosis?
 - A. Herpes simplex encephalitis
 - B. West Nile virus encephalitis
 - C. Multiple sclerosis
 - D. Progressive multifocal leukoencephalopathy
 - E. Variant Creutzfeldt-Jakob disease (vCJD)
2. Which of the following is TRUE regarding this infant?
 - A. The proboscis probably provides normal olfactory sensation
 - B. The child probably has trisomy 13 (Patau syndrome)
 - C. The child probably has mutations in the human Pknox1 gene
 - D. The brain is probably normal, without malformation
 - E. Preconception folate supplementation probably would have prevented this malformation
3. A 7 year-old male with a history of seizures is found to have a tumor on the superficial aspect of the left temporal lobe. The histology is shown. Which of the following diagnoses is MOST likely?
 - A. Glioblastoma multiforme
 - B. Anaplastic astrocytoma
 - C. Metastatic adenocarcinoma of lung
 - D. Pleomorphic xanthoastrocytoma
 - E. Progressive multifocal leukoencephalopathy
4. A 55 year-old male has a very large tumor in the left cerebral hemisphere and suddenly dies. What is MOST likely the etiology of the brainstem lesion shown?
 - A. Uncal herniation
 - B. Metastasis
 - C. Hypertensive hemorrhage
 - D. Ruptured berry aneurysm
 - E. Carbon monoxide toxicity

5. The tumor shown was removed from the right arm subcutaneous tissue adjacent to a large peripheral nerve in a 40 year-old female. Which of the following is TRUE regarding this tumor?
- A. Nerve axons are probably identifiable within the tumor
 - B. It commonly transforms to malignant peripheral nerve sheath tumor (MPNST)
 - C. It contains Verocay bodies
 - D. Patients with Neurofibromatosis type I are usually covered in thousands of these tumors
 - E. Within the cranial vault, the most common location for these tumors is the optic tracts
6. This young man was found dead in his apartment. When his clothing is removed for the autopsy examination, he is found to also be wearing a brassiere and panties. What is the MOST likely manner of death? NOTE: There are 2 slides to this question.
- A. Autoerotic asphyxia
 - B. Suicide
 - C. Accident
 - D. Homicide
7. This injury was caused by a bullet fired by a .45 Cal. Semi-automatic pistol. The injury is which one of the following?
- A. An entrance wound with the gun located approximately 60 inches away
 - B. An entrance wound with the gun located approximately 6 inches away
 - C. An exit wound
 - D. A shored exit wound

Extended Matching: Select best possible answer for Questions 8 and 9.

- A. Gout
- B. Gonococcal arthritis
- C. Osteoarthritis
- D. Pseudogout
- E. Pseudomonas arthritis
- F. Reiter's syndrome
- G. Rheumatoid arthritis
- H. Staphylococcal arthritis

8. A 75 year old man complains of left hip pain which has become progressively worse over a period of 4 years. You notice that he has "knobby" or bumpy DIP joints. An Xray of his hips confirms abnormalities on the left; his right hip appears normal. This is his resected left femoral head. Your diagnosis:
9. A 45 year old woman complains of bilateral knee pain becoming worse over the last 3 months., and radiograph abnormalities of "joint space loss" are reported for both knees. She also complains of bilateral wrist and MCP pain and swelling for eight to nine months. She eventually has a total knee replacement. The tibial plateau and femoral condyles are represented in this gross photo. Your diagnosis:

10. Match the X-ray and photomicrograph with the statement that MOST appropriately describes it:

Thin Bone

C

- ~~A.~~ Patient likely to have an adrenal cortical adenoma
- B. Patient likely to present with enlargement of the sella turcica on CT
- ~~C.~~ Patient likely to present with hypercalcemia and hypophosphatemia
- ~~D.~~ Patient likely to have a MEN II syndrome
- E. Patient likely to present with pulmonary lung metastasis

11. Match the gross photograph with the statement that MOST appropriately describes it:

A

- A. Patient likely to have an adrenal cortical adenoma
- B. Patient likely to present with enlargement of the sella turcica on CT
- C. Patient likely to present with hypercalcemia and hypophosphatemia
- D. Patient likely to have a MEN II syndrome
- E. Patient likely to present with pulmonary lung metastasis

Cushing's

12. Match the photomicrograph with the statement that MOST appropriately describes it:

~~A.~~
~~B.~~
~~C.~~
 D
~~E.~~

- ~~A.~~ Patient likely to have an adrenal cortical adenoma
- ~~B.~~ Patient likely to present with enlargement of the sella turcica on CT
- ~~C.~~ Patient likely to present with hypercalcemia and hypophosphatemia
- D. Patient likely to have a MEN II syndrome
- ~~E.~~ Patient likely to present with pulmonary lung metastasis

Thyroid -

13. Match the photomicrograph with the statement that MOST appropriately describes it:

~~A.~~
~~B.~~
~~C.~~
~~D.~~
 E

- ~~A.~~ Patient likely to have an adrenal cortical adenoma
- ~~B.~~ Patient likely to present with enlargement of the sella turcica on CT
- ~~C.~~ Patient likely to present with hypercalcemia and hypophosphatemia
- ~~D.~~ Patient likely to have a MEN II syndrome
- E. Patient likely to present with pulmonary lung metastasis

*papillary ?
pleomorphic*

14. Match the photomicrograph with the statement that MOST appropriately describes it:

B

~~A.~~
~~B.~~
 C
~~D.~~
~~E.~~

- ~~A.~~ Patient likely to have an adrenal cortical adenoma
- ~~B.~~ Patient likely to present with enlargement of the sella turcica on CT
- C. Patient likely to present with hypercalcemia and hypophosphatemia
- ~~D.~~ Patient likely to have a MEN II syndrome
- ~~E.~~ Patient likely to present with pulmonary lung metastasis

NOTE: The peripheral blood photomicrograph, case history and CBC results apply to Questions 15-20.

Your patient is a 60 year old male with insulin dependent diabetes mellitus and atherosclerotic coronary artery disease. He has been admitted to the hospital for an elective surgical procedure. He is afebrile and complains of a dragging sensation in the left upper abdomen. On physical examination you find massive splenomegaly. His CBC results are as follows (normal ranges in parentheses):

WBC = 70,000/ μ l³ (4,500-11,000)
RBC = 3.0X10⁶/mm³ (4.1-5.1)
HGB = 9.0g/dl (12.0-16.0)
HCT = 27.0% (36-46)
MCV = 60 fl (80-100)
MCH = 24 pg (26-34)
MCHC = 26% (30-36)
RDW = 23% (<15)
PLT = 830,000/mm³ (150,000-450,000)

Segmented neutrophils = 50%
Neutrophilic bands = 20%
Lymphocytes = 1%
Basophils = 5%
Metamyelocytes = 15%
Myelocytes = 5%
Blasts = 4%

Results of supplemental laboratory tests (normal ranges in parentheses):

Serum iron = 20 ug/dl (60-150)
Serum ferritin = 7 ng/ml (12-150)

15. Of the following diagnoses, the MOST likely is:

WBC 70

- A. Acute myeloblastic leukemia
- B. Acute lymphoblastic leukemia
- C. Chronic myelogenous leukemia
- D. Chronic lymphocytic leukemia

16. The cytogenetic abnormality characteristic of this disorder is:

- A. t(9;22)
- B. t(15;17)
- C. t(14;18)
- D. Hyperdiploidy

17. The leukocyte alkaline phosphatase score is typically:

- A. Increased
- B. Decreased
- C. Normal
- D. Noncontributory

18. This disorder is classified as a:

- A
- A. Leukemia and a myeloproliferative disorder
 - B. Leukemia and a myelodysplastic syndrome
 - C. Leukemia and a lymphoma
 - D. Reactive process

19. The accompanying anemia is MOST likely:

mic hypod

- C
- A. Related to the patient's "chronic disease"
 - B. Due to Sickle Cell disease
 - C. Due to chronic blood loss secondary to platelet dysfunction
 - D. Due to a Thalassemia syndrome

20. Splenomegaly in this disorder is caused by:

- A. Splenic infarction.
- B. Splenic fibrosis.
- C. Splenic extramedullary hematopoiesis
- D. Splenic lymphoma

Written Questions:

21. Ordinarily, what is the manner of death for someone dying from Anorexia Nervosa?

- A. Suicide
- B. Natural
- C. Accident
- D. Undetermined

22. Which one of the following conditions is generally associated with a cherry-red livor mortis (lividity) of the skin?

- A. Heatstroke
- B. Stab wounds of the chest
- C. Carbon monoxide intoxication
- D. Heart disease

23. An injury extends five inches into the body and measures one inch in length on the skin surface. The injury is MOST likely which one of the following?
- A. An incised wound
 - B. A chop wound
 - C. A laceration
 - D. A stab wound
24. Dicing, which may be useful in determining who was driving a motor vehicle, is a pattern injury that is caused by which one of the following?
- A. Laminated glass
 - B. Windshield glass
 - C. Plate glass
 - D. Tempered glass
25. Hesitation wounds are consistent with which one of the following manners of death?
- A. Homicide
 - B. Accident
 - C. Natural
 - D. Suicide
26. Which one of the following characteristics separate a laceration from a cutting wound?
- A. Tissue bridging ✓
 - B. Depth of the injury in the body
 - C. Length of the wound on the surface of the body
 - D. An abrasion adjacent to the wound
27. Temporary cavity formation would be expected from a bullet fired by which one of the following firearms?
- A. A .45 Cal. Semi-automatic pistol
 - B. A .357 Cal. Revolver
 - C. A .223 Cal. Rifle
 - D. A .40 Cal. Derringer
28. A shored exit wound may be difficult to distinguish from which one of the following?
- A. A gunshot wound of entrance, short range
 - B. A gunshot wound of entrance, distant range
 - C. A gunshot wound of entrance, contact range
 - D. A gunshot wound of entrance, intermediate range
29. Which of the following astrocytomas would likely have the WORST prognosis?
- A. Low-grade diffuse (fibrillary) astrocytoma
 - B. Juvenile pilocytic astrocytoma ✓
 - C. Pleomorphic xanthoastrocytoma ✓
 - D. Subependymal giant cell astrocytoma ✓

30. Alzheimer type II astrocytes are MOST likely to be seen in which of the following?
- A. Alzheimer disease
 - B. Pleomorphic xanthoastrocytoma
 - C. Huntington disease
 - D. Cerebral infarct
 - E. Hepatic encephalopathy
31. Which of the following would likely be found at autopsy in a patient with a history of striatonigral degeneration?
- A. Loss of pigmented neurons in the substantia nigra
 - B. Lewy bodies
 - C. Both
 - D. Neither
32. Autopsy of a stillborn 30-week gestational age infant reveals periventricular calcifications and viral inclusions. Which is the MOST likely diagnosis?
- A. Congenital herpes simplex encephalitis
 - B. Congenital CMV encephalitis
 - C. Congenital toxoplasmosis
 - D. Progressive multifocal leukoencephalopathy
 - E. Subacute sclerosing panencephalitis
33. A 65 year-old man develops seizures and right-sided weakness. A CT scan reveals a large contrast ring-enhancing lesion in the cerebral white matter. He dies before the tumor can be resected, and a large partially necrotic mass is noted at autopsy spanning the midline across the corpus callosum. Which of the following histologic findings is MOST likely?
- A. Rosenthal fibers
 - B. Verocay bodies
 - C. Perivascular pseudorosettes POS
 - D. Vascular endothelial proliferation
 - E. Psammoma bodies
34. All of the following are TRUE of meningiomas EXCEPT:
- A. They are usually intra-axial
 - B. Microscopic examination often reveals psammoma bodies
 - C. They may occur within the ventricular system
 - D. Multiple meningiomas are often associated with Neurofibromatosis type II
 - E. The papillary variant often has more aggressive behavior than typical meningiomas

35. Which of the following is TRUE of Alzheimer disease?
- A. Early symptoms are usually detectable by age 35-40
 - B. Neuritic plaques are specific for Alzheimer disease, and are not seen in brains of non-demented elderly patients
 - C. Most patients with Down syndrome (trisomy 21) who live long enough will develop neuropathologic changes consistent with Alzheimer disease
 - D. Alzheimer disease is a normal part of the aging process
 - E. Neurofibrillary tangles are specific for Alzheimer disease, and are not seen in brains of non-demented elderly patients
36. Which of the following patients is MOST likely to have Creutzfeldt-Jakob disease?
- A. A 25 year-old female with a new onset of seizures
 - B. An 80 year-old female with a 10 year history of slowly progressive dementia
 - C. A 35 year-old male with AIDS who is infected with the JC virus
 - D. A 65 year-old female with a 6 month history of rapidly progressive dementia and startle myoclonus
 - E. A 70 year-old male with a sudden onset of right-sided weakness
37. A 55 year-old male alcoholic has profound hyponatremia, and is hospitalized. His electrolyte balance is rapidly restored, but he subsequently develops rapidly progressive quadriplegia. Which of the following is the MOST likely diagnosis?
- A. Wernicke-Korsakoff syndrome
 - B. Central pontine myelinolysis
 - C. Cerebellar atrophy
 - D. Hepatic encephalopathy
 - E. Delirium tremens
38. All of the following are TRUE of primary CNS lymphoma EXCEPT?
- A. It is usually of T-cell origin
 - B. It is often associated with HIV infection
 - C. It is usually of high grade
 - D. It is often multicentric
 - E. Perivascular lymphocytes are characteristic
39. Which of the following is TRUE of tuberous sclerosis?
- A. The inheritance is typically autosomal recessive
 - B. It is strongly associated with subependymal giant cell astrocytoma
 - C. It is strongly associated with cerebellar hemangioblastoma
 - D. It is strongly associated with multiple meningiomas
 - E. Patients are at greatly increased risk of developing renal cell carcinoma

40. Which of the following primarily affects anterior horn motor neurons of the spinal cord?

- A. Poliomyelitis
- B. Amyotrophic lateral sclerosis
- C. Both
- D. Neither

41. All of the following are TRUE of Tay-Sachs disease EXCEPT:

- A. It is an example of a lysosomal storage disorder
- B. It results from a deficiency of hexosaminidase
- C. Patients of Ashkenazi Jewish heritage are at increased risk
- D. A cherry red macula is often seen on ophthalmoscopic examination
- E. The abnormal storage product is sphingomyelin

42. Hypertensive intraparenchymal hemorrhages occur MOST frequently at which neuroanatomical site?

- A. Cerebellum
- B. Basal ganglia and thalamus
- C. Cerebral cortex
- D. Pons
- E. Corpus callosum

43. All of the following are TRUE of anencephaly EXCEPT:

- A. The forebrain remnant is known as the area cerebrovasculosa
- B. Preconception folate deficiency is an important risk factor
- C. The diagnosis may be suggested antenatally by decreased levels of maternal serum alpha-fetoprotein
- D. The posterior fossa structures often develop normally
- E. The cranial vault is usually open

44. Hydrocephalus ex vacuo would be MOST likely in which of the following patients?

- A. A 10 year-old male with a choroid plexus papilloma
- B. A 70 year-old male with Alzheimer disease
- C. A 45 year-old female with a myxopapillary ependymoma
- D. A 50 year-old male with a tumor obstructing the cerebral aqueduct
- E. A 5 year-old female with acute meningitis

45. A 50 year-old female has an episode of acute necrotizing pneumonia and subsequently develops seizures and focal neurologic signs. A brain abscess is detected on CT scan, surgical debridement of which reveals branching filamentous bacteria which are positive on tissue Gram stain and modified acid-fast stain. Which of the following is TRUE regarding this infection?
- Nocardia* →
- A. The organism is most likely Actinomyces sp.
 B. The organism is most likely Mycobacterium tuberculosis
 C. Approximately one third of patients with pulmonary infections by this organism develop brain abscesses
 D. The abscess probably occurred via lymphatic spread to the brain
 E. The organism is most likely Treponema pallidum
46. Which of the following is NOT a characteristic feature of the Arnold-Chiari malformation (the Chiari type II malformation discussed in class and in Robbins)?
- A. Extension of the cerebellar vermis through the foramen magnum
 B. An enlarged posterior cranial fossa
 C. An S-shaped kink in the medulla
 D. Hydrocephalus
 E. Lumbar meningocele
47. Sites of extramedullary hematopoiesis in the fetus include:
- A. Bone marrow and liver
 B. Spleen and bone marrow
 C. Liver and spleen
 D. Lymph nodes and bone marrow
48. Bone marrow storage iron is referred to as:
- A. Erythropoietin
 B. Transferrin
 C. Hemosiderin
 D. Ferrochelatase
49. Red (hematopoietic) marrow is:
- A. Normally present throughout the newborn and adult skeleton.
 B. Normally present in the adult liver and spleen.
 C. Restricted to the liver and spleen in the fetus.
 D. Normally present throughout the newborn skeleton, but is restricted to the axial skeleton in adults.
50. Non-hematopoietic bone marrow elements include:
- A. Eosinophils and basophils
 B. Osteoblasts and osteoclasts
 C. Sideroblasts and reticulocytes
 D. Megakaryocytes and platelets

51. Paroxysmal nocturnal hemoglobinuria is due to:
- A. A monoclonal antibody of cold-agglutinin type
 - B. Decreased globin chain synthesis
 - C. An unusual sensitivity of red blood cells to complement mediated lysis
 - D. Enuresis
52. Thalassemia syndromes are due to:
- A. Defective incorporation of iron into the heme molecule
 - B. Substitution of a single amino acid at the sixth position of the beta globin chain
 - C. Deficient globin chain synthesis
 - D. Deficiency of the RBC structural protein Spectrin
53. Which of the following is the MOST useful in separating iron deficiency from the anemia of "chronic disease" in a patient with microcytic/hypochromic anemia:
- A. Serum lead level
 - B. Serum iron level
 - C. Total iron binding capacity of transferrin
 - D. Serum ferritin
 - E. RBC folate level
54. Reactive changes of neutrophils include all of the following, EXCEPT:
- A. Auer rods
 - B. Toxic granulation
 - C. Toxic vacuolization
 - D. Dohle bodies
55. Neutropenia may be best defined as:
- A. A decreased percentage of neutrophils
 - B. An increased percentage of lymphocytes
 - C. A decrease in absolute numbers of neutrophils
 - D. An increase in absolute numbers of lymphocytes
56. In normal lymph nodes, T-lymphocytes are primarily found in:
- A. The medullary cords
 - B. The parafollicular zones
 - C. The follicles
 - D. The subcapsular sinus
57. In chronic nonspecific lymphadenitis, follicular hyperplasia represents:
- A. Antigenic stimulation of sinus histiocytes
 - B. Antigenic stimulation of T-lymphocytes
 - C. Antigenic stimulation of B-lymphocytes
 - D. Antigenic stimulation of neutrophils

58. Although nonspecific, an increase in morphologically heterogeneous "transformed" lymphocytes is frequently associated with:
- A. ALL-L2
 - B. Chronic lymphocytic leukemia
 - C. Viral infection
 - D. Multiple myeloma
59. Of the following, the MOST common splenic tumor is:
- A. Hemangioma
 - B. Osteoma
 - C. Lymphangioma
 - D. Metastatic carcinoma
60. In a patient with thrombocytopenia, peripheral smear examination demonstrating an increase in average platelet size is consistent with which of the following etiologies:
- A. Dilutional thrombocytopenia
 - B. Decreased platelet survival
 - C. Vitamin C deficiency (Scurvy)
 - D. Decreased platelet production
61. In patients with idiopathic thrombocytopenia purpura (ITP),
- A. The bleeding tendency and bleeding time prolongation are often greater than would be expected for the degree of thrombocytopenia.
 - B. The bleeding tendency and bleeding time prolongation are often less than would be expected for the degree of thrombocytopenia.
 - C. The bleeding tendency and bleeding time prolongation are proportional to the degree of thrombocytopenia.
 - D. There is no bleeding tendency
62. Hemolytic uremic syndrome (HUS) and thrombotic thrombocytopenia purpura (TTP) have in common all of the following EXCEPT:
- A. Thrombocytopenia
 - B. Microangiopathic hemolysis
 - C. Central nervous system symptoms
 - D. Renal dysfunction
63. Aspirin ingestion may result in a coagulation abnormality which is characterized by:
- A. Prolonged aPTT due to decreased factor VIII
 - B. Prolonged bleeding time due to thrombocytopenia
 - C. Prolonged PT due to factor VII deficiency
 - D. Prolonged bleeding time due to platelet dysfunction

64. Prolongation of BOTH the activated partial thromboplastin time (aPTT) and Ivey bleeding time is typical of:
- A. Hemophilia A
 - B. Hemophilia B
 - C. Von Willebrand's disease
 - D. Thrombocytopenia
65. Disorders associated with microangiopathic hemolysis include all of the following EXCEPT:
- A. DIC
 - B. ITP
 - C. TTP
 - D. HUS
66. Hemarthroses with resultant joint damage are a frequent finding in:
- A. Uremia
 - B. Hemophilia A
 - C. Von Willebrand's disease
 - D. Protein C deficiency
67. Chronic lymphocytic leukemia is typically associated with all of the following, EXCEPT:
- A. A persistent increase in absolute numbers of lymphocytes
 - B. Age of 50 years or more
 - C. Progression to prolymphocytic leukemia
 - D. Transformation to acute leukemia with-blast crisis
68. Myelodysplastic syndromes are:
- A. Seen with equal frequency in children and adults
 - B. Usually associated with peripheral cytopenia(s) in the face of a normocellular or hypercellular bone marrow
 - C. Associated with increased risk of transformation into acute lymphoblastic leukemia
 - D. Unique in their association with dysmyelopoietic maturation
69. Malignant ("non-Hodgkin's") lymphomas classified as "low grade" by the NCI Working Formulation:
- A. Tend to be localized at time of diagnosis
 - B. Respond well to chemotherapy
 - C. Are poorly responsive to therapy
 - D. Do not transform to higher grade

70. Which of the following statements is TRUE about adenohypophysis:
- A. Represents 60% of the entire hypophysis gland.
 - B. Is a derivative of the first branchial pouch.
 - C. Prolactin, oxytocin and luteinizing hormone are some its products.
 - D. It is supplied by a portal hypothalamic-pituitary venous system.

71. All the following is TRUE about the neurohypophysis EXCEPT:
- A. It is a derivative of the Rathke's pouch.
 - B. It is the storage of hormones produced in the hypothalamus.
 - C. The pituicytes are the component cells.
 - D. It is supplied by an artery and a vein system.

72. The adult pituitary gland weighs:

- known*
out
- A. 5 gr
 - B. 10gr
 - C. 0.5gr
 - D. 1gr

73. Malignant pituitary tumors are better characterized by:

- A. Presence of mitotic figures
- B. Local invasion
- C. Necrosis
- D. Metastasis

74. Craniopharyngioma is a tumor which takes origin from:

- A. Anterior pituitary
- B. Posterior pituitary
- C. Rathke's pouch remnants
- D. Hypothalamus

75. Aldosterone is characteristically produced in the:

- A. Zona glomerulosa
- B. Zona fasciculata
- C. Zona reticularis
- D. Adrenal medulla

G Salt
F sup
R sup

76. In exogenous Cushing Syndrome the adrenal gland usually exhibits:

- A. Adrenal cortical hyperplasia
- B. Adrenal cortical atrophy
- C. Normal adrenal cortex
- D. Adrenal medullary hyperplasia.

77. The MOST common cause of Cushing Syndrome is:

- A. Nodular hyperplasia of adrenal cortex
- B. Adrenal cortical adenoma
- C. Adrenal cortical carcinoma
- D. Exogenous glucocorticoids

78. Ectopic ACTH Cushing Syndrome is characterized by:

- A. Low levels of ACTH
- B. Elevated ACTH responsive to high dose but no to low dose of dexamethasone
- C. Elevated ACTH not responsive to low or high dose of dexamethasone
- D. Elevated ACTH responsive to both low and high dose of dexamethasone

79. The MOST common cause of hyperaldosteronism is:

- A. Adrenal cortical hyperplasia
- B. Adrenal cortical adenoma
- C. Adrenal cortical carcinoma
- D. Pheochromocytoma

80. Hyperaldosteronism clinical presentation usually include:

- A. Hypotension, hyperkalemia, hypernatremia
 - B. Hypertension, hyperkalemia, hyponatremia
 - C. Hypotension, hypokalemia, hypernatremia
 - D. Hypertension, hypokalemia, hypernatremia
- ↑ H₂O + Na

81. 21 hydroxylase deficiency is the major cause of:

- A. Cushing disease
- B. Conn syndrome
- C. Addison disease
- D. Adrenogenital syndrome

82. The Waterhouse-Friderichsen syndrome clinical presentation include all of the following EXCEPT:

- A. Acute adrenal insufficiency ✓
- B. Massive adrenal hemorrhage ✓
- C. Septicemia
- D. Hypertension

83. All the following are TRUE about Addison disease EXCEPT:

- A. The most common cause is autoimmune adrenalitis
- B. Clinical evidence of disease present only when at least 15 % of the adrenal cortex has been lost.
- C. Hyperpigmentation is seen only in primary adrenal disease
- D. Patients present with progressive weakness, fatigability, diarrhea and weight loss.

84. All of the following are TRUE about Pheochromocytoma EXCEPT:

- A. Is most commonly seen as sporadic form.
- B. Familial cases are seen as part of the MEN I syndrome
- C. Secrete and release catecholamines
- D. Up to 0.3 % of hypertensive patients have a pheochromocytoma

85. All of the following are part of MEN II syndromes EXCEPT:

- A. Medullary thyroid carcinoma
- B. Parathyroid hyperplasia
- C. Adrenal cortical hyperplasia
- D. Pituitary adenoma

86. The MOST common cause of hyperthyroidism is:

- A. Toxic multinodular hyperplasia
- B. Toxic diffuse hyperplasia
- C. Toxic adenoma
- D. Iatrogenic hyperthyroidism

87. All of the following are TRUE about Follicular adenoma EXCEPT:

- A. Architectural classification has no clinical significance
- B. It is not a premalignant lesion.
- C. Only vascular and/or capsular invasion can differentiate adenoma from carcinoma
- D. Fine needle aspiration cytology is an effective diagnostic test to differentiate follicular adenomas from carcinomas.

88. All of the following are TRUE about papillary thyroid carcinoma EXCEPT:

- A. Is the most common thyroid cancer
- B. Radiation is a risk factor for the development of papillary thyroid cancer
- C. Papillary carcinomas of follicular type disseminate rapidly by the hematogenous route.
- D. Papillary carcinomas of Hurthle cells present most frequently with lymph node metastasis.

89. The average weight of a parathyroid gland is about:

- A. 10 mgr
- B. 30 mgr
- C. 50 mgr
- D. 100 mgr

Matching: The following pertain to questions 90 through 92. Match the peripheral blood cell type with the corresponding normal circulating life span. Each answer may be used once, more than once, or not at all.

- A. 6-12 hours
- B. 7-10 days
- C. 20 days
- D. 120 days
- E. 200 days

- D 90. Red blood cell.
- A 91. Circulating neutrophilic granulocyte.
- B 92. Platelet.

Matching: The following pertain to questions 93 through 97. Match the type of anemia with the TYPICAL associated RBC changes. Each answer may be used once, more than once, or not at all.

- A. hypochromic, microcytic
- B. normochromic, normocytic
- C. macrocytic
- D. hyperchromic, microcytic

- A 93. Iron deficiency anemia
- B 94. Anemia of "chronic disease"
- C 95. B12 and/or folate deficiency
- A 96. Thalassemias
- C 97. Myelodysplastic syndromes

Matching: The following pertain to questions 98 through 101. Match the confirmatory laboratory test with the clinical diagnosis. You may use an answer once, more than once, or not at all.

- A. Heinz body stain
- B. Osmotic fragility test
- C. Hemoglobin electrophoresis
- D. Iron stain

- D** 98. Sideroblastic anemia
- B** 99. RBC spherocytosis
- C** 100. Sickle cell anemia
- A** 101. Glucose-6-phosphate dehydrogenase (G6PD) deficiency.

Matching: The following pertain to questions 102-106. You may use an answer once, more than once, or not at all.

- A. CLL
- B. CLL, plasmacytoid - *wald*
- C. T-cell ALL - *LL*
- D. ALL-L3 - *Burk*
- E. Sezary syndrome *MF*

- C** 102. The leukemic counterpart to lymphoblastic lymphoma - *T-cell*
- E** 103. The leukemic counterpart to mycosis fungoides - *E*
- A** 104. The leukemic counterpart to small lymphocytic lymphoma *CLL*
- D** 105. The leukemic counterpart to Burkitt's lymphoma
- B** 106. The leukemic counterpart to Waldenstrom's macroglobulinemia

Matching: The following pertain to questions 107 through 112. Match the following diseases with the characteristic morphologic findings. Answers may be used once, more than once, or not at all.

- A. Negri bodies *Rabies*
- B. Cowdry A intranuclear inclusions - *HSV*
- C. Globose neurofibrillary tangles - *PSNP*
- D. Multinucleated giant cells -
- E. Michaelis-Gutmann bodies -
- F. Kuru plaques - *Kuru*
- G. Hirano bodies - *Park*
- H. Pick bodies - *Pick*
- I. Lewy bodies - *Park*
- J. Gitter cells -

- D* 107. Primary HIV encephalitis
- F* - 108. Creutzfeldt-Jakob disease
- C* 109. Progressive supranuclear palsy
- D* 110. Tuberculoma
- A* 111. Rabies,
- J* 112. Multiple sclerosis

Extended Matching: The following pertain to questions 113-116. You may use an answer once, more than once, or not at all.

- A. Gout
- B. Gonococcal arthritis
- C. Osteoarthritis
- D. Pseudogout
- E. Pseudomonas arthritis
- F. Reiter's syndrome
- G. Rheumatoid arthritis
- H. Staphylococcal arthritis

- A 113. 73 year old man presents with exquisitely tender right great toe MTP joint. Negatively birefringent needle shaped crystals are found on a joint aspiration.
- E 114. 29 year old female intravenous drug addict presents with a palpably tender, red right sternoclavicular joint; gram negative organisms are reported on the preliminary culture results.
115. 39 year old man with hemochromatosis is found to have linear calcifications on the surface of the hyaline cartilage of his knees. Two months later he complains of severe pain in his now slightly swollen left knee. Rhomboidal weakly positively birefringent crystals are identified on joint aspiration.
- D
- G 116. 35 year old woman with bilateral PIP and MCP joint swelling and tenderness developing over the last 3 months.

Extended Matching: The following pertain to questions 117-120. You may use an answer once, more than once, or not at all.

- A. Angiosarcoma
- B. Dupuytren's contracture (superficial fibromatosis)
- C. Ganglion cyst
- D. Hemangioma
- E. Lipoma
- F. Liposarcoma
- G. Malignant fibrous histiocyoma (MFH)
- H. Rhabdomyosarcoma
- I. Synovial sarcoma

- D 117. 35 year old man with 4 cm mass of his left ankle made up of cellular fascicles of spindle and epithelioid cells (biphasic)
- F 118. 64 year old man with 19 cm mass of deep thigh made up of markedly pleomorphic cells with vacuolated cytoplasm. The vacuoles stain red on Oil Red O stains
- H 119. 4 year old girl treated with chemotherapy for a large orbital mass made up of sheets of "small blue cells".
- E 120. 35 year old woman with spongy uniformly yellow well encapsulated 4 cm mass removed from her back.