

YR 2 PATHOLOGY UNIT EXAMINATION 2 -- November 16, 1998.

CHOOSE THE SINGLE BEST ANSWER FOR QUESTIONS 1 - 100.

1. Figure 1 shows an electron micrograph of a glomerular capillary loop (rbc=red blood cell, B=basement membrane, US=urinary space). Which of the following is most likely?
 - A. By light microscopy glomerulus would show complete replacement by hyalin
 - B. The patient has membranous glomerulonephritis
 - C. The glomerulus contains "wire loops"
 - D. The capillary loop shown is normal
 - E. The findings resulted from rheumatoid arthritis

2. Which of the following findings is most likely in the patient corresponding to the kidney biopsy shown in Figure 1?
 - A. Decreased serum C3
 - B. Acute rheumatic fever
 - C. Atherosclerosis
 - D. Destructive arthritis
 - E. Anti-centromere antibodies

3. Figure 2 shows a mitral valve at autopsy. Which of the following is most likely?
 - A. The patient died from acute rheumatic fever
 - B. The pulmonic valve is probably abnormal
 - C. The patient has Libman - Sacks endocarditis
 - D. The aortic valve may be abnormal
 - E. The function of the mitral valve would be normal

4. Which of the following is most likely to be present in histologic sections of the valve shown in Figure 2?
- A. Fibrinoid necrosis
 - B. Fibrin deposits
 - C. Bacterial antigens
 - D. Immune complexes
 - E. Hyalinized collagen
5. Which of the following statements is most likely correct about the glomerulus shown in Figure 3?
- A. It shows proliferative glomerulonephritis
 - B. It contains immune complex deposits
 - C. It shows a crescent
 - D. The patient has Wegener's granulomatosis
 - E. It shows fibrinoid necrosis
6. Clinical condition/problem most likely to be present in the patient corresponding to Fig 3:
- A. Crippling arthritis
 - B. Verrucous endocarditis and skin rash
 - C. Granulomatous inflammation of the lung
 - D. CREST syndrome
 - E. Malignant hypertension
7. Figure 4 (blood vessel at low magnification) shows which of the following?
- A. Histologic changes compatible with scleroderma
 - B. A fatty streak
 - C. Fibrinoid necrosis
 - D. A healed Aschoff body
 - E. A complicated atherosclerotic plaque

8. Least likely to be present in the patient corresponding to Figure 4:
- A. An auto-antibody
 - B. Arthritis
 - C. Ischemia involving a visceral organ
 - D. Immune complexes
 - E. Sclerodactyly with dermal collagen deposition, epidermal atrophy and loss of dermal appendages
9. Figure 5 shows an opened segment of the abdominal aorta (clamps at renal artery bifurcations). Which of the following is most likely to be correct?
- A. The abnormal findings may have been caused by polyarteritis nodosa
 - B. Aortic regurgitation could develop as a result of the lesion(s) shown
 - C. Circulating immune complexes were involved in the pathogenesis of the lesion(s)
 - D. Atrophy would be present in an abnormal area of this aorta
 - E. The disease(s) shown would be more prevalent in females
10. Least likely to be present on histologic examination of the aorta shown in Figure 5:
- A. Angiogenesis
 - B. Excess deposition of elastic fibers
 - C. Fibrosis
 - D. Thrombus
 - E. Lymphocytes

11. Figure 6 shows a prostate biopsy. Which of the following diagnoses is most likely to be correct?
- A. Leiomyosarcoma
 - B. Squamous cell carcinoma
 - C. Well differentiated adenocarcinoma
 - D. Poorly differentiated adenocarcinoma
 - E. Lymphoma
12. Which of the following is the most likely consequence of this neoplasm?
- A. Formation of an ulcerated mass involving the anterior bladder
 - B. Obstruction of the prostatic urethra
 - C. Obstruction of the ureter
 - D. Hematuria
 - E. Direct invasion of the seminal vesicles
13. Figure 7 shows a biopsy from a mucosal surface. Which of the following diagnoses is correct?
- A. Hyperplasia
 - B. Squamous metaplasia
 - C. Preinvasive neoplasia
 - D. Adenoma
 - E. Healing ulcer
14. Most likely etiology of the findings in Figure 7:
- A. Acute inflammation
 - B. Viral infection
 - C. Hormone imbalance
 - D. Ischemia
 - E. Inherited mutation of a tumor suppressor gene

15. Best interpretation for the findings in Figure 8:
- A. Dysplasia
 - B. Fibrosarcoma
 - C. Neurofibroma
 - D. Adenoma
 - E. Squamous carcinoma
16. Most likely primary organ/site of origin for the lesion depicted in Figure 8:
- A. Epidermis
 - B. Colon
 - C. Breast duct
 - D. Subcutaneous fibrous connective tissue
 - E. Peripheral nerve
17. Most likely presenting signs/symptoms for the neoplasm shown in Figure 9:
- A. Abnormal mammogram
 - B. Enlarging mass in leg muscles
 - C. Enlarging lymph node
 - D. Paraneoplastic hypercalcemia
 - E. Polypoid mass in colon
18. Best criterion to employ in order to determine whether the neoplasm in Fig 9 is malignant:
- A. Presence of nodal metastasis
 - B. Mitotic rate
 - C. Invasion of the epithelial basal lamina
 - D. Size of the lesion
 - E. Presence of a genetic alteration

19. Most likely diagnosis for figure 10:
- A. Squamous dysplasia
 - B. Sarcoma
 - C. Lymphoma
 - D. Adenocarcinoma
 - E. Squamous carcinoma
20. Most likely clinical presentation/history of this patient:
- A. Positive test for occult fecal blood
 - B. EBV infection in immunosuppressed host
 - C. Abnormal squamous cells detected on Pap smear
 - D. Invasion of periosteum noted on x-ray
 - E. Lightly pigmented Caucasian with unprotected sun exposure
21. Which of the following is most likely to be paraneoplastic syndrome?
- A. Pneumonia in a patient with lung cancer
 - B. Anemia in a patient with colorectal carcinoma
 - C. Hypercalcemia in a patient with osseous breast carcinoma metastases
 - D. Thromboembolism in a patient with pancreatic carcinoma
 - E. Bleeding tendency in a leukemic patient
22. Incorrect statement about colorectal adenocarcinoma:
- A. May be associated with inherited gene mutation
 - B. It is common for cases to occur without familial predilection
 - C. Most hematogenous metastases involve the liver
 - D. Disease recurrence may be associated with elevation of a serum tumor marker
 - E. Most tumors evolve from polyps comprised of metaplastic epithelium

23. Feature which is not necessarily attributable to invasive growth in epithelial neoplasia:
- A. Atrophy of parenchymal tissue surrounding the neoplasm
 - B. Irregular or ill-defined interface between neoplasm and host
 - C. Desmoplasia
 - D. Neoplastic cells disposed individually or in small nests
 - E. Interruption of the epithelial basal lamina
24. Not observed with invasive epithelial neoplasia:
- A. Angiogenesis
 - B. Partially differentiated cells
 - C. Inflammatory cell infiltrates
 - D. Differentiation of neoplastic cells into fibroblasts
 - E. Remodeling of extracellular matrix
25. Which of the following is most likely to be observed in a pannus?
- A. Anitschkow's cells
 - B. Angiogenesis
 - C. Hyperplasia of cartilage
 - D. Liquefactive necrosis
 - E. Atrophic synovium

26. Which of the following statements concerning neoplasia epidemiology/pathogenesis is correct:
- A. Most malignancies arising in adults are associated with inherited mutation of a known tumor suppressor gene
 - B. Neoplasia accounts for less than 1% of mortality in the pediatric age group
 - C. The incidence of a given type of neoplasm within a population may vary as a function of time
 - D. Inheritance of Rb-1 is associated with development of retinoblastoma but not with occurrence of other forms of neoplasia
 - E. Retinoblastomas do not occur when there is not an inherited mutation of Rb-1
27. Correct statement about human papilloma virus (HPV):
- A. Genotype of the virus determines degree of infectivity but not degree of oncogenicity
 - B. Evidence of HPV infection may be observed in Pap smears
 - C. Infected cells demonstrate eosinophilic viral inclusions
 - D. Infection in a normal host usually results in squamous carcinoma of the uterine cervix
 - E. Virus encoded proteins disable the myc gene product via binding interaction
28. Correct statement about p53:
- A. It acts as an oncogene
 - B. In order to function properly, the wild type gene product must accumulate and remain in the cytoplasm of a damaged cell
 - C. Cells with p53 mutation fail to express any gene product
 - D. Normally, p53 expression would antagonize the activity of bcl-2
 - E. Physiologic expression is greatest in normal, terminally differentiated cells

29. Correct statement about ras:
- A. It may act as a participant in autocrine growth stimulation pathways
 - B. It is most commonly altered in neoplasms via a chromosomal translocation
 - C. When activated, it translocates to the cell nucleus
 - D. It is commonly altered in animal, but not human, neoplasms.
 - E. The inactive form binds to extracellular growth factors
30. A forty-five year old woman presents with Raynaud's phenomenon, cough, finger ulcerations and autoantibodies directed against DNA topoisomerase I. Which of the following disease complications is most likely?
- A. Crippling arthritis
 - B. Glomerulonephritis
 - C. Cardiac valve deformities
 - D. Thrombocytopenia
 - E. Difficulty with swallowing
31. Incorrect statement about oncogene amplification:
- A. It may be observed in epithelial neoplasia
 - B. It results in increased expression of the gene product
 - C. It has been observed to involve growth factor receptor genes in human neoplasms
 - D. It may be caused by point mutation
 - E. It may be associated with abnormalities present on a karyotype

32. Incorrect statement about angiogenesis in neoplasia:
- A. It requires interaction between neoplastic and host cell populations
 - B. It facilitates growth of the primary tumor but not metastasis
 - C. It is facilitated by host macrophages and/or fibroblasts
 - D. It is mediated by growth factors which are active in physiologic angiogenesis
 - E. It is required for supply of oxygen and nutrients to the growing neoplastic population
33. Neoplasm which is most strongly associated with exposure to a chemical carcinogen:
- A. Prostate carcinoma
 - B. T cell lymphoma
 - C. Thyroid carcinoma
 - D. Transitional carcinoma
 - E. Fibrosarcoma
34. Incorrect statement about dysplasias (i.e. preinvasive epithelial neoplasia):
- A. They are premalignant
 - B. They may be precursors in neoplasms associated with chronic/persistent inflammatory states
 - C. They may form glands
 - D. They contain cells with DNA mutations
 - E. It is not possible to predict which dysplastic lesions would be most likely to become invasive carcinomas

35. Least likely to be a critical event in the etiology or pathogenesis of a lymphoma:
- A. Viral infection
 - B. Preinvasive growth phase
 - C. Chromosomal translocation
 - D. Increased myc expression
 - E. Increased expression of bcl-2
36. Least likely to occur with prostate carcinoma:
- A. Positive serum tumor marker
 - B. Nodal metastasis
 - C. Metastases to bone
 - D. Squamous differentiation
 - E. Grade dependent prognosis
37. A patient of yours presents with ascites and multiple serosal implants comprised of neoplastic cells. Which of the following is most likely?
- A. The patient has a cystic pelvic mass
 - B. The neoplasm is HPV - associated
 - C. The patient probably has hematuria also
 - D. The patient has a positive PSA
 - E. The patient has a Stage I pancreatic carcinoma
38. A patient of yours has a neoplasm which exhibits a doubling time of 30 days. Which of the following is most likely?
- A. Breast carcinoma
 - B. Colon carcinoma
 - C. Embryonal carcinoma
 - D. Thyroid carcinoma
 - E. Low grade lymphoma

39. Least likely to be a progression-related event for an invasive carcinoma:
- A. Clonal heterogeneity
 - B. Ulceration
 - C. Clonal expansion
 - D. Cooperative intercellular interactions between neoplastic and sub-populations
 - E. Cooperative intercellular interactions between neoplastic and host populations
40. Correct statement about chemical carcinogenesis:
- A. Initiation, once completed, may be reversed
 - B. Tumor promoters act via oxidative DNA injury
 - C. Cells with DNA alterations are considered to be initiated
 - D. Transformation may occur if there is a lengthy interval between initiation and promotion
 - E. In some cases, initiation may follow promotion in the transformation process
41. Correct statement about virus-associated neoplasia/ carcinogenesis in humans:
- A. Viral infection alone is sufficient to result in malignancy
 - B. It requires completion of the viral life cycle
 - C. It occurs only with retroviruses
 - D. It occurs without altering the host cell DNA
 - E. Virus encoded proteins may disable apoptosis in host cells

42. Which of the following features would distinguish invasive carcinoma from dysplasia with the greatest degree of specificity?
- A. Degree of nuclear hyperchromasia
 - B. Mitotic rate
 - C. Nuclear to cytoplasmic ratio of neoplastic cells
 - D. Degree of differentiation
 - E. Presence of vascular invasion by neoplastic cells
43. Most likely to be a criterion for stage in a lung carcinoma:
- A. Mitotic count
 - B. Presence of hypercalcemia
 - C. Invasion of pleura
 - D. Coughing up blood
 - E. Length of time the patient has been symptomatic
44. Correct statement about tumor grade:
- A. The difference in survival between a well and a poorly differentiated colon carcinoma is 80-90%
 - B. It is a better predictor of outcome than stage
 - C. It is inversely correlated with stage
 - D. Clinical significance of grade depends on the tumor type or primary organ
 - E. In colon carcinoma, the depth of invasion is a grading criterion
45. Most likely to be a feature of malignancy in a breast lump:
- A. Cystic character
 - B. Liquefactive necrosis
 - C. Mushy consistency on palpation
 - D. Biphasic differentiation
 - E. White-grey firm, gritty surface on cut section

46. A male patient of yours presents with a "poker spine", aortitis and uveitis. Which of the following is most likely in this patient?
- A. Sacroiliitis
 - B. The patient has HLA-D4
 - C. The serum is positive for rheumatoid factor
 - D. Sjogren's syndrome
 - E. Circulating immune complexes
47. Correct statement about the natural history of a breast carcinoma:
- A. The interval from tumor inception to clinical presentation averages about one year
 - B. Hematogenous metastasis does not occur until the tumor reaches a palpable size
 - C. The time interval from inception to presentation is generally longer than the time interval from presentation to recurrence
 - D. Presence of angiolymphatic emboli implies that metastasis has occurred
 - E. Mammography lessens the interval from tumor inception to diagnosis by 80%
48. A benign neoplasm comprised of gland forming epithelial cells is called:
- A. Adenoma
 - B. Leiomyoma
 - C. Choristoma
 - D. Hamartoma
 - E. Squamous papilloma

49. Most common histologic type of neoplasm which causes mortality in Americans who are greater than 50 yrs of age:
- A. Malignant melanoma
 - B. Adenocarcinoma
 - C. Sarcoma
 - D. Transitional carcinoma
 - E. Lymphoma
50. Least likely to be observed in a pleomorphic adenoma:
- A. Epithelial basal lamina
 - B. Genetic alterations
 - C. Neoplastic population less mature than corresponding normal cell population
 - D. Neoplastic cells present in lymphatic vessels
 - E. Neoplastic cells which exhibit differentiation toward stromal (connective tissue) elements
51. Correct statement about metastasis:
- A. Nodal metastasis is required for distant metastasis to occur
 - B. Nodal metastasis implies incurable disease
 - C. Nodal metastases are more frequent with sarcomas than carcinoma
 - D. The spleen is one of the most common sites for hematogenous metastases
 - E. A small percentage of tumor cells which intravasate form metastases

52. Not a factor that impacts the organ which is involved by hematogenous metastases:
- A. Type of vasculature in the secondary organ
 - B. Cardiac output to secondary organ
 - C. Tumor cell - host cell interaction at secondary organ
 - D. Anatomy of lymphatic drainage from the primary organ
 - E. Anatomy of venous drainage from the primary organ
53. Not a feature of sarcomas:
- A. Angiogenesis
 - B. Nuclear hyperchromatism
 - C. Invasion through basal lamina by neoplastic cells
 - D. Greater incidence in pediatric (vs adult) age group
 - E. Origin from non-invasive precursor lesion
54. Best definition for neoplasia:
- A. Loss of maturity among existing functionally differentiated cells
 - B. Incomplete maturation of stem cell progeny
 - C. Over-proliferation of mature cells
 - D. Lack of recognizable cellular differentiation
 - E. Inappropriate tissue organization
55. A patient of yours, as a child, experienced acute rheumatic fever and now presents with heart disease many years later. Which of the following lesions/findings would be least likely in this patient (i.e. at the present time):
- A. Thromboembolism
 - B. Myocardial scarring
 - C. Calcification in valve leaflets
 - D. Pericardial adhesions
 - E. Tricuspid valve fibrosis

56. You examine a lung mass which is comprised of mature columnar epithelium with normal stromal cells and fully differentiated cartilage. The most likely diagnosis is:
- A. Choristoma
 - B. Hamartoma
 - C. Pleomorphic adenoma
 - D. Chondroma
 - E. Fibroadenoma
57. Which of the following is not more likely/more frequent in a poorly differentiated (vs a well differentiated) adenocarcinoma?
- A. Mitotic figures
 - B. Angiolymphatic tumor cell emboli
 - C. Nodal metastases
 - D. Genetic alterations
 - E. Gland formation by tumor cells
58. A female patient of yours presents with chest pain, a fever, purpura and painful, swollen joints. Splenomegaly and pleural friction rub are noted on physical exam. Which of the following tests is most likely to reveal a functionally and diagnostically significant abnormality?
- A. Serum rheumatoid factor determination
 - B. Urinalysis
 - C. HLA - DR3 test
 - D. Joint fluid analysis
 - E. Serum ASO titre

59. A neoplasm with desmoplasia would be:
- A. Soft
 - B. Bloody
 - C. Very firm
 - D. Necrotic
 - E. Preinvasive
60. Correct statement about growth rate for breast carcinomas:
- A. It is dependent on tumor grade
 - B. For a given tumor, it routinely fluctuates markedly on a daily basis
 - C. It would be more rapid, on average, than an acute leukemia
 - D. It is essentially similar between individual cases
 - E. It increases after clinical diagnosis
61. A skin biopsy shows mononuclear cell infiltrates around dermal appendages with liquefactive degeneration of the basal layer of epidermis and immunoglobulin deposits at the dermal-epidermal junction. Which of the following is the most likely diagnosis?
- A. Generalized scleroderma
 - B. Rheumatoid nodule
 - C. Ankylosing spondylitis
 - D. Systemic lupus erythematosus(SLE)
 - E. Scleroderma, limited form

62. Correct statement about the natural history of an adeno-carcinoma:
- A. Genetic structure of the neoplastic cells remains stable once invasion has occurred
 - B. Most evolve from histologically completely benign neoplasms
 - C. They are comprised of multiple unrelated and functionally independent clones
 - D. Selection pressures imposed by the host or by therapy contribute to progression-related events
 - E. Genetic alterations occur, but do not affect the behavior of the tumor cells
63. A patient of yours has abnormal blood levels of lipoprotein Lp(a). Which of the following is most likely correct?
- A. The patient has SLE
 - B. The patient is at increased risk for developing a myocardial infarct
 - C. The patient has a neoplasm
 - D. The patient has a history of rheumatic fever
 - E. The patient has polyarteritis nodosa
64. Antibody virtually diagnostic of systemic lupus erythematosus:
- A. Rheumatoid factor
 - B. Anticentromere
 - C. Anti-Smith (Sm)
 - D. P-ANCA (perinuclear antineutrophil cytoplasmic auto-antibody)
 - E. JO-1 antibody (t RNA synthetase)

65. Antibody present in more than 95% of patients with drug-induced lupus erythematosus:
- A. Anticentromere
 - B. Antiphospholipid
 - C. C-ANCA (cytoplasmic antineutrophil cytoplasmic autoantibody)
 - D. Rheumatoid factor
 - E. Antihistone
66. Disabling of joint function is not found in:
- A. Rheumatoid arthritis
 - B. Generalized (diffuse) scleroderma
 - C. Mixed connective tissue disease
 - D. Rheumatic fever
 - E. Ankylosing spondylitis
67. Important mediator of both the inflammatory process and acute coronary syndromes:
- A. Platelet activating factor (PAF)
 - B. Leukotriene B₄ (LTB₄)
 - C. Basic fibroblast growth factor (bFGF)
 - D. Nitric oxide
 - E. Histamine

68. Oxidized LDL contributes to atherogenesis by all of the following except:
- A. Being readily ingested by macrophages through the scavenger receptor.
 - B. By increasing monocyte adhesion
 - C. By stimulating release of growth factors and cytokines
 - D. By being cytotoxic to both endothelial and smooth muscle cells
 - E. By increasing the motility of macrophages in the lesions
69. The currently favored and modified response-to-injury hypothesis of atherogenesis includes all of the following except:
- A. The development of focal areas of chronic endothelial injury and/or dysfunction
 - B. Increased accumulation of lipoproteins into the vessel wall, especially oxidatively modified LDL and VLDL.
 - C. Cellular interactions in the foci of injury involving endothelial and smooth muscle cells, monocytes/ macrophages and T lymphocytes
 - D. Repeated episodes of thrombosis and organization as the initiating event
 - E. Intimal smooth muscle cell proliferation with formation of extracellular matrix
70. Which of the following is not considered a manifestation of complicated atherosclerotic plaques?
- A. Development of a necrotic lipid pool
 - B. Surface ulceration
 - C. Dystrophic calcification
 - D. Thrombosis overlying the plaque
 - E. Hemorrhage into the plaque

71. Which of the following is least likely to be a location of an atherosclerotic plaque?
- A. Circle of Willis
 - B. Near the ostia of vessels which branch from the thoracic aorta
 - C. Internal carotid artery
 - D. Aortic arch
 - E. Proximal coronary arteries
72. Which of the following events is most closely related to the conversion of a fatty streak into an atheromatous plaque?
- A. Injury to the endothelium
 - B. Occlusion of more than 80% of the vessel's lumen
 - C. Proliferation of smooth muscle cells
 - D. Phagocytosis of lipids by macrophages
 - E. Phagocytosis of lipids by smooth muscle cells
73. Which of the following is a major risk factor for the development of atherosclerosis?
- A. Elevated HDL level
 - B. Hyperuricemia
 - C. Insufficient physical activity
 - D. High dietary carbohydrate intake
 - E. Hypertension

74. Correct statement about fatty streaks:
- A. They contain large cholesterol crystals which result in clear "clefts" in tissue sections
 - B. Some undergo regression
 - C. They have the same anatomical distribution as atherosclerotic plaques
 - D. They may be associated with decreased blood flow through the affected vessel
 - E. They contain abundant extracellular lipid

75. The following list contains events which may, or may not, be involved in the pathogenesis of rheumatoid arthritis.

Choose the answer (A-E) which orders events in the most correct pathogenetic sequence.

- 1 - synovial cell proliferation
- 2 - cartilage destruction
- 3 - activation of CD4+ cells
- 4 - development of auto-antibodies to complement
- 5 - activation of macrophages

- A. 4 to 5 to 1 to 2
- B. 3 to 5 to 1 to 2
- C. 5 to 3 to 4 to 1
- D. 5 to 3 to 2 to 1
- E. 2 to 1 to 3 to 5

DIRECTIONS: Match the neoplasm (76-80) to the etiologic factor (A-E below). Use each choice once only:

- A. Basal cell carcinoma
- B. Small cell carcinoma
- C. Lymphoma
- D. Thyroid carcinoma
- E. Gastric adenocarcinoma

- 76. Carcinogen exposure
- 77. Ultraviolet light exposure
- 78. Persistent inflammation
- 79. Viral infection
- 80. Ionizing radiation

DIRECTIONS: Match the gene (81 - 85) to the most appropriate direct function (A-E below):

- A. Growth factor binding tyrosine kinase activity
- B. Up-regulates transcription of cyclins
- C. Deactivation of ras
- D. Induces apoptosis
- E. Down regulation of cyclin-cdk complex activity

- 81. bax
- 82. NF-1
- 83. p21
- 84. ERBB-2
- 85. myc

DIRECTIONS: Match each option (86-90) with the best alternative listed (A-G below). Each alternative may be used once, more than once or not at all.

- A. Rheumatic fever
- B. Ankylosing spondylitis
- C. Mixed connective tissue disease
- D. Polyarteritis nodosa
- E. Generalized (diffuse) scleroderma
- F. Polymyositis/dermatomyositis
- G. Inclusion body myositis

- 86. Pulmonary disease mediated by endothelin-1
- 87. Association with a malignant tumor
- 88. Pancarditis
- 89. HLA-B27 serotype
- 90. Migratory polyarthrititis

DIRECTIONS: Match each option (91-95) with the best alternative listed (A-G below). Each alternative may be used once, more than once or not at all.

- A. Systemic lupus erythematosus
- B. Polymyositis/dermatomyositis
- C. Ankylosing spondylitis
- D. Rheumatoid arthritis
- E. Wegener's granulomatosis
- F. Generalized (diffuse) scleroderma
- G. Rheumatic fever

- 91. "Heliotrope" skin rash
- 92. C-ANCA (perinuclear antineutrophil cytoplasmic autoantibody)
- 93. Necrotizing lesions of upper respiratory tract
- 94. Immune complex nephritis
- 95. Malignant hypertension-like small vessel disease

DIRECTIONS: Match each cell (96-100) with its appropriate product listed (A-E below). Each alternative may be used once only.

- A. Thromboxane A₂ (TX A₂)
- B. Prostacyclin (PG I₂)
- C. Oxidatively modified LDL
- D. Interferon-gamma (IFN-gamma)
- E. Extracellular matrix

- 96. Lymphocyte
- 97. Endothelial cell
- 98. Smooth muscle cell
- 99. Monocyte/macrophage
- 100. Platelet