Temple University School of Medicine
Department of Pathology and Laboratory Medicine
Pathology (D305) Lecture Examination IV
December 9, 2008

IMPORTANT: Read the following instructions.

1. Fill in your name and the last four digits of your Temple identification number on your answer sheet and darken the corresponding circles with a #2 pencil.

2. There are fifty (50) items (questions) on this examination. There is only one answer to each item. Choose the best correct answer to a question or response to finish the statement of each item.

3. Use a #2 pencil to mark your answers on your answer sheet. Mark your answer right after you chose one. There is no extra time at the end of the examination. The examination time is one hour.

4. Keep your eyes on your own examination paper and answer sheet. Place your own examination paper and answer sheet on your table top and prevent them from being exposed to others.

5. Students are not allowed to bring electronic devices or other miscellaneous items to the examination.

6. Proctors are not allowed to explain questions during examination.

1. Chronic bacterial gastritis predisposes to the development of which condition?

A. Pernicious anemia
B. Achalasia
C. Esophageal varices
D. Peptic ulcer
E. Acute gastritis

2. Which anatomic site is most frequently involved by peptic ulcer?

A. The fundus of the stomach
B. The first portion of the duodenum
C. The last portion of the ileum
D. The descending colon
E. The greater curvature of the stomach

3. Cancers can spread out by lymphatic channels, blood vessels, or by seeding through body cavities. Which of the following cancers can take all these three routes?

A. Oral squamous cell carcinoma
B. Fibrosarcoma of the right arm
C. Melanoma on the forehead
D. Osteosarcoma of the mandible
E. Adenocarcinoma of the stomach

4. What is the etiologic factor of celiac disease?

A. Helicobacter pylori
B. E. coli
C. Hypersensitivity reaction to gluten
D. Aspirin
E. Increased intraluminal pressure in the intestine

5. Which of the following often shows oral melanin hyperpigmentation?

A. Peutz-Jeghers syndrome
B. Sjogren syndrome
C. Gardner syndrome
D. Marfan syndrome
E. Li-Fraumeni syndrome

6. What is the main pathogenic mechanism of generalized edema in lipoid nephrosis?

A. Increased loss of sodium through the kidney
B. Decreased osmotic pressure of the blood
C. Absorption of lipids by podocytes
D. Decreased hydrostatic pressure of the blood
E. Increased capillary permeability of the entire body

7. What is the cause of acute poststreptococcal glomerulonephritis?

A. Hematogenous infection of glomeruli and renal tubules by oral streptococcus
B. Ascending infection of renal pelvis and tubules by streptococcus
C. Immune complex deposits due to immune reaction to streptococcal antigens
D. Thromboembolism by vegetations of bacterial endocarditis
E. Bacterial toxin injury of tubular cells following a strep throat

8. What term is applied to the morphologic changes of ischemic acute tubular necrosis in shock patients?

A. Lower nephron nephrosis
B. Acute glomerulonephritis
C. IgA nephropathy
D. Ascending shock necrosis
E. Acute pyelonephritis

9. Ascending infection of E. coli through the urinary tract most commonly causes which of the following?

A. Acute glomerulonephritis
B. Benign nephrosclerosis
C. Hydronephrosis
D. Acute pyelonephrosis
E. Policystic kidney disease

10. Which of the following is the most important predisposing factor for ascending infection of the kidney of elderly males?

A. Urinary stones
B. Vesicoureteral reflux
C. Diabetes mellitus
D. Benign prostate hypertrophy
E. Seminoma

11. Nodular hyperplasia of the prostate (benign prostate hypertrophy) results from which of the following?

A. Fibrous hyperplasia with formation of nodules
B. Smooth muscle cell hypertrophy
C. Glandular cell atrophy
D. Accumulation of glandular secretion
E. Hyperplasia and hypertrophy of all cellular elements

12. Serum levels of which of the following are elevated in patients with prostate adenocarcinoma?

A. EGF and EGF receptor
B. Troponins and CK-MB
C. Carcinoembryonic antigen alpha-fetoprotein
D. Bence Jones proteins and SAA protein
E. Acid phosphatase and PSA

13. Which of the following tumor is composed of both malignant epithelial and mesenchymal tissues and is therefore called a carcinosarcoma?

A. Rathke's pouch tumor
B. Brown tumor
C. Wilms tumor
D. Ewing tumor
E. Krukenberg tumor

14. People expose to which of the following have a 50-fold increase in bladder carcinoma?

A. Cyclophosphamide
B. Beta-naphthylamine
C. Benzo(a)pyrene
D. Aflatoxin B1
E. Benz(a)anthracene

15. What is a serious complication of mumps in adult males?

A. Orchitis
B. Prostate hypertrophy
C. Seminoma
D. Prostate carcinoma
E. Urolithiasis

16. Gigantism and acromegaly are caused by which of the following?

A. Somatotroph adenoma
B. Hurtle cell adenoma
C. Prolactinoma
D. Craniopharyngioma
E. Pheochromocytoma

17. What is the oral manifestation of the multiple endocrine neoplasia syndrome MEN 2B?

A. Multiple neuromas
B. Peri-oral melanin pigmentation
C. Multiple osteomas in the mandible
D. Severe periodontitis
E. Mutiple embedded teeth

18. In which of the following the oral mucosa and skin reveal melanin hyperpigmentation?

A. Graves disease
B. Addison disease
C. Hashimoto disease
D. Virilism
E. Conn disease

19. Which of the following is an oral manifestation of pituitary dwarfism?

A. Macroglossia
B. Gingival hyperplasia
C. Microdontia
D. Multiple supernumerary teeth
E. Prognathism

20. Which tumor has histological features similar to that of an ameloblastoma?

A. Follicular adenocarcinoma
B. Brown tumor
C. Basophilic cell adenoma
D. Toxic adenoma
E. Craniopharyngioma

21. What is the etiology of Graves disease?

A. Infection by a retrovirus
B. A thyrotroph adenoma in the pituitary
C. Acidophil hyperplasia
D. Autoantibodies against TSH receptors
E. Ischemic necrosis of thyroid follicles

22. What is the principal clinical manifestation of Hashimoto disease?

A. Acromegaly
B. Diabetes insipidus
C. Heat intolerance
D. Melanin hyperpigmentation of the mouth
E. Myxedema

23. Microscopic examination of a radiolucent lesion in the mandible of a patient with chronic nephrosclerosis reveals a giant cell granuloma. The patient most likely has which of the following?

A. Hyperpituitarism
B. Hypothyroidism
C. Secondary hyperparathyroidism
D. Colloid goiter
E. Diabetes mellitus

24. Which of the following is a common oral manifestation of Cushing syndrome?

A. Epithelial dysplasia
B. Xerostomia
C. Multiple osteomas is the mandible
D. Candidiasis
E. Rampant dental caries

25. What is the pathogenesis of type 1 diabetes?

A. Idiopathic hyperplasia of beta cells in the islets of Langerhans
B. Autoimmune destruction of beta cells
C. An insulinoma in the pancreas
D. Resistance of body cells to insulin stimulation
E. Hypersensitivity of beta cells to glucose challenge

26. Which of the following is an extensive and febrile form of erythema multiforme?

A. Sjogren syndrome
B. Conn syndrome
C. Stevens-Johnson syndrome
D. Waterhouse-Friderichsen syndrome
E. Li-Fraumeni syndrome

27. What is the term for clinical manifestation of psoriasis that shows multiple hemorrhagic spots when the parakeratotic scale is removed?

A. Bitot spots
B. Auspitz sign
C. Port wine stains
D. Wickham striae
E. Sturge-Weber angiomatosis

28. Which of the following typically presents with intraepithelial blisters?

A. Seborrheic kertosis
B. Verruca planus
C. Bullous pemphigoid
D. Dermatitis herpetiformis
E. Pemphigus vulgaris

29. Which of the following is frequently associated with celiac disease?

A. Pemphigus vulgaris
B. Lichen planus
C. Bullous pemphigoid
D. Dermatitis herpetiformis
E. Erythema multiforme

30. What is the strongest causative agent for squamous cell carcinoma of the facial skin?

A. Cigarette smoking
B. Human papilloma virus types 16 and 18
C. Automobile exhaust
D. Epstein-Barr virus
E. Ultraviolet irradiation

31. What is the most common cause for meningitis of the endemic form in young adults?

A. Neisseria meningitides (meningococcus)
B. Streptococcus mutans
C. E. coli
D. Staphylococcus aureus
E. Mycobacterium tuberculosis

32. What are prion diseases?

A. Infection of the brain by infectious hepatitis B virus with cytolysis of neurons
B. Vacuolation of neurons due to abnormally folded membrane-associated proteins
C. Accumulation of foamy macrophages in the meninges due to hyperlipidemia
D. Hemorrhagic necrosis of the brain due to cerebral artery atherosclerosis and thrombosis
E. Spongiform degeneration of neurons caused by herpes virus type 2

33. What is the most characteristic clinical symptom of Alzheimer disease?

A. Diplopia
B. Myoclonus
C. Dementia
D. Tremor
E. Chorea

34. Which disease is characterized by degeneration of motor neurons and atrophy of muscles?

A. Lou Gehrig disease
B. Huntington disease
C. Parkinson disease
D. Alzheimer disease
E. Multiple sclerosis

35. Which disease is caused by CAG trinucleotide repeat mutation?

A. Fragile X syndrome
B. Multiple sclerosis
C. Parkinson disease
D. Huntington disease
E. Motor neuron disease

36. The most common form of vulvar cancer is:

A. adenocarcinoma.
B. rhabdomyosarcoma.
C. leiomyosarcoma.
D. melanoma.
E. squamous cell carcinoma.

37. Breast carcinoma:

A. most commonly occurs in conjunction with cervical carcinoma.
B. typically metastasizes via the blood stream to the regional lymph nodes.
C. occurs most commonly in the upper outer quadrant of the breast.
D. never occurs in men.
E. is most commonly a lobular carcinoma histopathologically.

38. An important risk factor in causing the most common cancer of the female reproductive tract in Western countries is:

A. repeated infections of the vagina with *Trichomonas vaginalis.*
B. development of vulvar lichen sclerosus.
C. endometrial hyperplasia.
D. ectopic pregnancy.
E. repeated infections of the cervix with *Chlamydia trachomatis.*

39. The most common form of vaginal disease is:

A. adenocarcinoma of mucous glands.
B. inflammation typically caused by microorganisms.
C. squamous cell carcinoma.
D. fibrosarcoma.
E. condyloma acuminatum.

40. Salpingitis:

A. is most commonly associated with pelvic inflammatory disease brought on by infection.
B. is inflammation of the ovarian capsule.
C. is most commonly caused by ectopic pregnancy.
D. is inflammation of the uterus.
E. is most commonly caused by leiomyomas developing in the connective tissue of the fallopian tube.

41. A complete hydatidiform mole:

A. is typically triploid.
B. gives rise to some fetal development.
C. is extremely common, occurring in 1 of 10 pregnancies.
D. is treated by thorough curettage, then monitored via serum HCG levels to rule out recurrence.
E. is a common complication and is of little concern.

42. Ovarian carcinoma:

A. is most commonly caused by infection of the ovary by HPV 16 or 18.
B. is usually squamous cell carcinoma histopathologically.
C. is limited to women over 75 years of age.
D. is usually detected at an early stage because it forms a large palpable mass quickly.
E. has a relatively high death rate because it is usually detected at a late stage.

43. A 43-year-old woman has symptomatic intraperitoneal adhesions and a biopsy of an intraperitoneal lymph node reveals normal endometrial tissue. The woman most likely has:

A. dysfunctional uterine bleeding.
B. endometriosis.
C. metastatic endometrial carcinoma.
D. an immature teratoma.
E. endometrial leiomyomas.

44. Teratomas:

A. arise from the multipotential surface epithelium of the ovary.
B. arise from the germ cells of the ovary.
C. usually arise after the age of 55 in postmenopausal women.
D. are more likely to be malignant than benign.
E. occur more commonly in older women with HPV 16 infection.

45. The underlying cause of preeclampsia/eclampsia is:

A. the muscle walls of the spiral arteries are not replaced by fibrinous material.
B. the formation of a partial hydatidiform mole.
C. hypertension.
D. glomerulonephritis.
E. disseminated intravascular coagulation.

46. Rickets:

A. is an inherited disease that inhibits normal proliferation of cartilage.
B. is an inherited disease of collagen formation.
C. is a defect in osteoclastic activity resulting in sclerotic brittle bone.
D. is a disease of childhood caused by a deficiency of vitamin D.
E. is a disease of adult males in which bone is replaced by large amounts of nonfunctional bone.

47. An aggressive malignancy that occurs in bone, is of neural origin and demonstrates gene translocations in the EWS gene is the:

A. osteosarcoma that occurs in young males.
B. osteosarcoma that occurs in patients with Paget's disease.
C. fibrosarcoma of bone.
D. Ewing sarcoma.
E. chondrosarcoma.

48. The disease characterized by the presence of a tophus is:

A. osteomalacia.
B. osteoarthritis.
C. gout.
D. hyperparathyroidism.
E. osteomyelitis of the jaw secondary to jaw fracture.

49. A 43-year-old woman, with a thymoma, has muscle weakness that is particularly noticeable later in the day, when she develops double vision and slurred speech. This patient most likely suffers from:

A. Paget's disease.
B. Becker muscular dystrophy.
C. myasthenia gravis.
D. hyperparathyroidism.
E. Duchenne muscular dystrophy.

50. (On the next page)

50. A 51-year-old male has enlargement and deformity of his ribcage, sternum, head and pelvis. He has recently had a fracture of his femur and also has impingement of cranial and spinal nerves due to bone enlargement. His serum alkaline phosphatase levels are very high. A biopsy reveals bone exhibiting many reversal lines. The patient is most likely suffering from:

A. Paget's disease.
B. osteogenesis imperfecta, autosomal dominant inheritance.
C. achondroplasia.
D. osteomalacia.
E. pyogenic osteomyelitis.