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DEPARTMENT: PARACLINICAL SCIENCES

DISCIPLINE: PATHOLOGY
Course responsible teacher: Lecturer Teodoru Soare, DVM PhD

BIBLIOGRAPHY

1. ZACHARY JAMES F. (2017) Pathologic Basis of Veterinary Disease, sixth edition, ELSEVIER

    a. Chapter 1 - Mechanisms and Morphology of Cellular Injury, Adaptation, and Death (pg. 13 – 21) – 9 pages
    b. Chapter 2 – Vascular Disorders and Thrombosis (pg. 45) – 1 page
    c. Chapter 3 – Inflammation and Healing (pg 101- 129) – 29 pages
    d. Chapter 6 – Neoplasia and Tumor Biology (pg 286 – 290 and 306 – 309) – 8 pages
2. TEODORU SOARE, MILITARU MANUELLA, CIOBOTARU-PIRVU EMILIA, DINESCU GEORGETA (2020) Fundamental pathological processes in veterinary pathology, third edition, Editura Ex Terra Aurum, Bucuresti

    a. Chapter 3 – Morphology of Modification of the Blood Circulatory, Lymphatic and Interstitial Liquid System (pg 85-87) – 3 pages
    b. Chapter 5 – Morphology of Non-regenerative Processes (pg 140 – 143) – 4 pages
    c. Chapter 7 – Morphology of Inflammatory Processes (pg 175 – 185) – 11 pages
    d. Chapter 8 – Morphology of Neoplasic Processes (pg 201 – 205) – 5 pages

Total 70 pages

QUESTION
150 multiple choice questions, five answers with only one correct

SUBJECTS

1. In the case of an abundant eosinophilic infiltrate in the muscular tissue, the macroscopic colour change observed is:
a) black,
b) pearly white,
c) red-black,
d) reddish,
e) yellow,

2. Interstitial pneumonia can be expressed morphologically by:
a) The appearance of a multifocal lesion dominated by tissue necrosis,
b) Granuloma formation,
c) Hyperemia and massive fibrinous exudation,
d) The presence of perivascular and peribronchiolar or diffuse mononuclear infiltrate in the alveolar walls,
e) Purulent collection bounded by healthy tissue within a connective capsule,

3. The inflammatory process that gives the mucous the appearance of "sprinkled with bran" is:

a) catarrhal inflammation,
b) lympho-histiocytic inflammation,
c) localized dyphtheroid inflammation,
d) eosinophilic inflammation,
e) diffuse dyphtheroid inflammation,

4. The diffuse form of granulomatous inflammation in the intestine determines specifically
a) formation of dyphtheric buttons,
b) thickening of the mucosa, which becomes an aspect of the "cerebral circumvolutions",
c) formation of carbuncles,
d) thickening of the wall, which becomes gelatinous,
e) abscess formation,

5. Fibrin and fibrin degradation products are potent chemo-attractants for:
a) neutrophils,
b) basophils,
c) lymphocytes,
d) eosinophils,
e) plasma cells,

6. What type of myocarditis will be diagnosed in the cardiac form of canine parvovirus?
a) catarrhal,
b) hemorrhagic-necrotic,
c) fibrino- necrotic,
d) lympho-monocytic,
e) granulomatous,

7 The phenomenon of suppuration consists of:
a) The appearance of granulation tissue,
b) The appearance of a caseification necrosis,
c) The appearance of a liquefaction necrosis,
d) Cell proliferation,
e) The appearance of retention cysts,

8 The papilloma cannot be diagnosed
a) cutaneously,
b) in the bladder mucosa,
c) in the hepatic parenchyma,
d) in the mouth,
e) in the galactophore channel,

9 A benign tumour with multicentric growth, which originates from stratified epithelium and the fibroblast is called:
a) adenomatosis,
b) carcinomatosis,
c) fibromatosis,
d) papillomatosis,
e) mastocytosis,

10 Adenomatous polyp
a) Is of pericytic origin,
b) Its origin is the cubic or columnar epithelium of the mucous membranes,
c) It may have solid, medusoid, adenoid or a cystic pattern,
d) It produces invasion by the ability of the epithelium to cross the basement membrane,
e) It is located in the skin,

11 The adenoma can be differentiated from adenocarcinoma
a) only by the shape of the tumour
b) after location
c) after the cell of origin

d) by the position of the tumour cells with respect to the basal membrane
e) by the position in the mammary gland parenchyma

12 Scirrhous carcinoma is characterized by
a) pronounced desmoplasia/ fibrosis
b) absence of tumoral stroma
c) the presence of typical adipocytes
d) presence of anaplastic fibroblasts
e) presence of atypical osteoblasts

13 In a section of a sarcomatous mammary tumor, the most likely diagnosis is
a) adenoma
b) cystic adenocarcinoma
c) anaplastic carcinoma
d) extraskeletal osteosarcoma
e) papilloma

14 Multinucleated tumoral cells can be observed in
a) fibroma
b) fibrosarcoma
c) leiomyoma
d) lipoma
e) adenoma

15 Malignant tumour, which produces local invasion but does not lead to metastases
a) chondrosarcoma
b) transmissible venereal tumour
c) fibrosarcoma
d) squamous cell carcinoma
e) basal cell carcinoma

16 “Large, round or polyhedral cells, isolated or grouped, with anisokaryosis; basophilic cytoplasm may have vacuoles; large number of atypical mitoses; nuclear chromatin arranged in the form of coarse bulges” is the characteristic cytological aspect for
a) well differentiated mastocytoma
b) liposarcoma
c) chondroma
d) transmissible venereal tumour
e) basal cell carcinoma

17 The diagnosis of which tumors can be determined by aspiration, as they have a specific cytological aspect?
a) haemangiopericytoma
b) basal cell carcinoma
c) mastocytoma
d) synovial sarcoma
e) ulcerated basal cell tumor

18The tumor whose cell origin is a fibroblast and has a macroscopic gelatinous appearance is
a) carcinoma
b) fibrosarcoma
c) lymphoma
d) lipoma
e) myxoma

19 Multinucleated giant tumoral cells are characteristic of
a) osteoblastic osteosarcoma
b) chondroblastic osteosarcoma
c) osteoclastic osteosarcoma
d) teleangiectatic osteosarcoma

e) fibroblastic osteosarcoma

20 In which situation the aspiration biopsy is achieved only by correlating with the radiological aspect of tumor formation?
a) in suspicion of osteosarcoma
b) in suspicion of adenoma
c) in suspicion of papillomatosis
d) in suspicion of leiomyosarcoma
e) in suspicion of lipoma

21 Which type of tumors may appear with associated lesions, such as fibrinoid necrosis of the vascular walls, eosinophilic vasculitis and collagen fiber degeneration
a) hemangiopericytoma
b) mastocytoma
c) hemangioma
d) hemangiosarcoma
e) fibropapiloma

22 Splenic tumour, single, cherry red, friable, weakly delimited, developed in the area of the splenic hylus. Due to the macroscopic appearance the tumour may be
a) lymphoma
b) cutaneous histiocytoma
c) meningioma
d) synovioma
e) hemangiosarcoma

23 Choose the variant that shows the correct correlation between the tumour type and the cell of origin
a) mastocytoma --- dendritic cell
b) histiocytic sarcoma --- melanocyte
c) hemangiopericitoma --- endothelial cell
d) histiocytic sarcoma --- dendritic cell
e) mastocytoma --- endothelial cell

24 What is the most common location of synovial sarcoma?
a) skin
b) periarticular
c) peritoneal
d) splenic
e) lymphonodal

25 What is the diagnosis for a malignant tumour found in the bucal cavity, which is characterized cytologically by isolated, elongated cells, with oval, euchromatic nuclei, pronounced anisokaryosis and nucleoli, occasional multinucleated cells and atypical divisions.
a) fibrosarcoma
b) fibroma
c) hemangioma
d) transmissible venereal tumour
e) rhabdomyoma

26 Choose the correct statement.
a) in mesothelioma the cytopathological diagnosis does not need to be confirmed by histological examination
b) malignant schwannoma rarely reoccurs and does not metastasize
c) multinucleated giant cells can appear in both benign and malignant
synovial tumors
d) reticulin and collagen fibers arranged in waves or swirls in the tumor structure is characteristic of squamous cell carcinoma
e) "keratotic pearls" (concentrically arranged keratin) from the tumour mass are
characteristic of fibrosarcoma

27 What is the diagnosis for a skin tumor with ulcerated plaque appearance, which is characterized histologically by the "meduzoid" arrangement of dermal epithelial tumour cells.
a) Papillary cystic adenocarcinoma of the sweat gland
b) basal cell carcinoma
c) haemangiopericytoma
d) cutaneous histiocytoma
e) melanoma

28 What is the diagnosis for a nodular skin tumour, accompanied by alopecia and characterized histologically by infiltration of the epidermis and superficial dermis with the tumor cells possesing cleaved, reniform nuclei.
a) mastocytoma
b) papilloma
c) lipoma
d) canine cutaneous histiocytoma
e) leiomyoma

29 Specify the tumor that is at risk of metastasis
a) osteoma
b) chondroma
c) carcinoma
d) fibroma
e) adenoma

30 Specify the benign tumor that is at risk of recurrence
a) melanoma
b) infiltrating lipoma
c) transmissible venereal tumour
d) lymphoma
e) osteosarcoma

31 Specify the benign tumour that is at risk of recurrence
a) squamous cell carcinoma
b) fibrosarcoma
c) mammary adenocarcinoma
d) lymphangiosarcoma
e) cell rich fibroma

32 Psammomatous meningioma is characterized by:
a) tumor cells arranged in palisade formation or "fish bones"
b) formation of "keratotic pearls"
c) concentric cell proliferation around the blood vessels
d) arrangement of spiral tumour cells and mineralization of the hyaline deposits in the tumour structure
e) presence of stellate cells, which are separated by a large amount of mucinous material (fundamental substance)

33 The medullogram shall be performed in case of suspicion of:
a) hemangiosarcoma
b) hemangiopericytoma
c) lymphangiosarcoma
d) haemangioma
e) leukemia

34 In order to differentiate _____ from _____ it is necessary to perform a medullogram. Choose the variant that contains the information that correctly completes the statement.
a) cell rich fibroma //// fibrosarcoma
b) canine cutaneous histiocytoma //// cutaneous mastocytoma
c) lymphoma with peripheral blood discharge //// leukemia
d) mesothelioma //// peritoneal carcinomatosis

e) adenoma //// adenocarcinoma

35 Choose the variant that best corresponds to the biological behaviour of the canine cutaneous histiocytoma
a) tumour with benign behaviour, which can exhibit spontaneous and frequent regression, affecting young dogs (under 2 years)
b) tumour with a high degree of malignancy and especially affects old animals (over 10 years)
c) tumour with a pronounced familial character and mainly affects boxer females
d) constantly metastasizes to the lung
e) is transmitted by venereal route

36 Indicate which tumour lesions correspond to the following description: formation with vaginal location observed in a 5-year-old bitch, with conopidiform, friable appearance, white-pink-red colour, sessile:
a) haemangiosarcoma
b) fibroleiomyoma
c) histiocytic sarcoma
d) myxoma
e) Sticker sarcoma

37 What lesions associated or overlapping with the tumour process may make macroscopic and cytopathological diagnosis difficult?
a) ulceration
b) inflammatory process
c) necrosis
d) bleeding
e) apoptosis

38 Choose the correct variant that refers to the myxoma
a) neuroectodermal tumour, composed of a mixed cell population represented by fibroblasts and histiocytes
b) tumour of the connective tissue, which is abundant in ground substance, giving it a gelatinous appearance macroscopically
c) epithelial tumour, composed of a mixed cell population represented by squamous and basal cells
d) mesenchymal tumour composed of epithelial cells and pericytes
e) malignant mixed tumour, composed of epithelial cells and mesenchymal cells

39 The tumour whose macroscopic appearance is influenced by histamine release is:
a) meningioma
b) mesothelioma
c) mastocytoma
d) melanocytoma
e) lymphangioma

40 Tumour cells with "tadpole like" appearance are described as being found in smears made from:
a) multiple myeloma
b) rhabdomyosarcoma
c) meningiosarcoma
d) schwannoma
e) lymphangioma

41 A cat presents with an ulcerative lesion of the pinna, with no tendency to heal. Histopathological examination shows epithelial cells arranged in sheets or islands, surrounded by stroma. In the tumour mass appears ..... What is missing from the context to establish the diagnosis of squamous cell carcinoma?
a) lobes of hyaline cartilage
b) multinucleated giant cells
c) phenomena of bone metaplasia
d) psamomatous bodies
e) lamellar deposits of keratin with concentric arrangement "like onion skin"

42 Haemangiosarcoma is a malignant tumour with a pronounced infiltrative character. Mention histological elements that facilitate the diagnosis of this type of tumour
a) abundance of collagen fibers and fibrocytes arranged in strips
b) digitiform or branched epithelial projections to the vascular lumen
c) carcinomatous pattern and presence of blood cells
d) vascular pattern and the presence of red cells in the lumens of the spaces delimited by malignant endothelium cells
e) numerous mitosis and the constant presence of tumour cells with striations in the cytoplasm

43 Depending on the structural histopathological features, different types of adenomas can be diagnosed. Choose the correct correlation between the histopathological type and the description
a) trabecular adenoma - digitiform or branched epithelial projections to the lumen of the cyst
b) papillar adenoma - the epithelium arranged in cords
c) papillar cystic adenoma - digitiform or branched epithelial projections to the lumen cyst
d) papillar adenoma - the epithelium arranged in the form of tubes
e) trabecular adenoma - the epithelium arranged in the form of tubes

44 Tumour developed on the costal wall, hard, spherical, with slow growth, delimited by a discrete connective capsule, characterized histologically by the formation of hyaline cartilage lobes without atypical cells is the description for:
a) chondroma
b) chondrosarcoma
c) osteoma
d) osteosarcoma
e) malignant fibrous histiocytoma

45 What type of necrosis can be diagnosed in the case of acute haemorrhagic pancreatitis?
a) waxy necrosis affecting the pectoral muscles in birds
b) casein necrosis of tuberculous granulomas with pulmonary localization
c) liquifactive necrosis of the central nervous system
d) fibrinoid necrosis of the blood vessel walls
e) cytosteatonecrosis of fatty tissue from the omentum

46 Which tumour has high invasion capacity, causing joint destruction by
erosion of the joint edges, subsequently affecting the subchondral bone?
a) lipoma
b) synoviosarcoma
c) lymphoma
d) mesothelioma
e) adenoma

47 The smell of "rancid butter" is specific to:
a) dry gangrene
b) encephalomalacia
c) gaseous gangrene
d) coagulation necrosis
e) cerebral necrosis

48 In lymphoma, what is used to establish a definitive diagnosis and prognosis
a) clinical examination
b) macroscopic examination
c) use of monoclonal antibodies for immunophenotyping of tumour cells
d) performing the medullogram
e) the cytological examination of the haematogenous bone marrow

49 In what type of tumour with junctional activity, are the tumour cells near the epidermis usually ovoid (epithelioid), and as they enter the dermis they become elongated and fusiform?
a) canine cutaneous histiocytoma
b) melanoma

c) mastocytoma
d) lymphoma
e) lipoma

50 The clinical diagnosis of melanoma is based on:
a) only on the skin location
b) only on the tumour size
c) only on the plaque aspect of the tumour
d) only on the tendency of ulceration of the tumour
e) no criterion is sufficient to establish the diagnosis of clinical melanoma

51 A well-delimited nodular tumour with cutaneous localization, having cells of vascular endothelium origin. Specify the diagnosis:
a) haemangioma
b) haemangiopericytoma
c) lymphangiosarcoma
d) haemangiosarcoma
e) angiosarcoma

52 A cytological examination of a smear made from the sediment of a liquid sample collected from the peritoneal cavity showed numerous large mononucleate and multinucleate cells, with anisokaryosis, basophilic cytoplasm and atypical divisions. State which diagnosis corresponds to the description:
a) peritoneal tuberculosis
b) mastocytoma
c) multicentric lymphoma
d) mesothelioma
e) melanoma

53 Which peritoneal tumour requires differential diagnosis with peritoneal carcinomatosis?
a) Serous peritonitis
b) fibrinous peritonitis
c) mesothelioma
d) purulent peritonitis
e) granulomatous peritonitis

54 What characteristics can influence the prognosis of a tumour?
a) the prognosis differs depending on the location of the tumour
b) the prognosis differs according to the histological pattern (histological type)
c) the prognosis differs depending on the degree of cellular anaplasia
d) the prognosis differs depending on the histological degree of malignancy
e) the prognosis has a multifactorial cause

55 Metastasis occurs preferentially via:
a) lymphatic in fibropapiloma
b) haematogenous in fibrosarcoma
c) lymph in osteosarcoma
d) haematogenous in the leiomyoma
e) lymphatic in the adenoma

56 A unique cutaneous formation located in the area of the head in a 2-year-old dog.
Histologically, Langerhans tumour cells were detected, infiltrating the epidermis and superficial dermis.
Choose the correct diagnosis:
a) granulomatous dermatitis
b) canine cutaneous histiocytoma
c) pustule
d) rhabdomyoma
e) epidermoid cyst

57 Formation localized at the level of the digit, ulcerated and pigmented on section. Histological analysis revealed nests of cells located in the epidermis and at the level of the dermoepidermal

junction. By special techniques (immunohistochemistry) the neuro-ectodermal origin was established of the tumour cells. Choose the correct diagnosis:
a) foreign body granuloma
b) squamous cell carcinoma
c) synovioma
d) chondrosarcoma
e) melanoma

58 Necrotic inflammation:
a) is an inflammation that always evolves chronically
b) is expressed macroscopically as gray-yellow-whitish
c) it is a specific inflammation, its diagnosis allowing to establish an etiological diagnosis
d) is the prototype of exudative inflammation
e) regardless of location, it cannot be associated with ulceration

59 Diagnosis of muco-purulent rhinitis:
a) it is established clinically based on granulomas that deform the nasal plane
b) It can only be established post-mortem
c) It is established cytologically only on the basis of the hollow epithelial cells
d) It is established cytologically based on the mucus and the active or degenerated neutrophils
e) It is established histopathologically based on the hyperplasia of the lymph nodes in the nasal mucosa and of eosinophilic infiltrate

60 The possible progression / termination of necrotic inflammation may result in:
a) transformation into follicular inflammation
b) transformation into parenchymatous inflammation
c) scar formation
d) accumulation of serous exudate
e) accumulation of mucous catarrh

61 A serous exudate was collected from the peritoneal cavity of a cat. Cytological examination revealed:
a) numerous leukocytes, mesothelial cells of irritation and protein precipitate
b) numerous mesothelial cells with anisocytosis and anisokaryosis
c) numerous red blood cells and lymphocytes
d) numerous neutrophils and mucus
e) lymphocytes and multinucleated giant cells

62 In which situation the lesion is not macroscopically evident and microscopic examination is required?
a) necrotic hepatitis from avian histomonosis
b) serous pericarditis from avian cholera
c) Serous inflammation / blisters in case of burns
d) serous hepatitis from avian mycoplasmosis
e) fibrinous pericarditis from dietary microangiopathy

63 In which acute inflammation the exudative phenomenom predominate with the severe alteration of the walls vascular and pronounced increase in vascular permeability?
a) Toxic-acute inflammation
b) catarrhal inflammation
c) fibrous inflammation
d) lympho-histiocytic inflammation
e) fibrinous inflammation

64 Serous inflammation located in the serous cavities can evolve into:
a) granulomatous inflammation
b) sero-fibrinous inflammation
c) parenchymal inflammation
d) peritoneal carcinomatosis
e) vitelline peritonitis

65 Choose the variant that shows the correct correlation between macroscopic appearance and pathological diagnosis
a) hyperemic mucosa, covered by whitish-yellow films or fine deposits and easily removable granulation - is the description for serous/ oedematous inflammation
b) Hyperemic mucosa, covered by an opalescent, viscous liquid, with a high content of mucus - is the description for superficial fibrino-necrotic inflammation
c) Strongly thickened gastric wall with a gelatinous appearance on section - is the description for serous / oedematous inflammation
d) Hyperemic mucosa, covered by an opalescent, viscous liquid, with a high content of mucus - is the description for hemorrhagic inflammation
e) Hyperemic mucosa, covered by whitish-yellow films or fine deposits and easily removed granulation - is the description for gangrenous inflammation

66 The “organ block” aspect
a) Is a form of chronic fibrinous inflammation, a process dominated by proliferation of connective tissue
b) Represents a terminal form of fibrinous inflammation, in which the exudate is removed by fibrinolysis and phagocytosis by microphages and macrophages
c) Is a consequence of lymphatic drainage and healing through "restitutio ad integrum"
d) Is a terminal form of toxic-acute inflammation
e) Represents a form of chronicization of the "eosinophilic ulcer" in the cat

67 Choose the option to find items that correctly fill in the missing spaces in the following statement: "The granulation tissue consists of ..... and is found in the structure of ..... "
a) capillaries of neoformation and mixed cellularity (lymphocytes, plasmocytes, macrophages, fibroblasts) //// regions of necrotic miliary inflammation
b) territories of wet necrosis and polymorphonuclear neutrophils //// abscess
c) fibrin deposits //// granulomatous inflammation
d) capillaries of neoformation and mixed cellularity (lymphocytes, plasmocytes, macrophages, fibroblasts) //// abscess
e) territories of wet necrosis and neutrophil polymorphonuclear //// lymphomonocytic myocarditis

68 Guturolites are the consequence of:
a) the phenomenon of fistulization of subcutaneous abscesses in pigs
b) dehydration of purulent exudate and impregnation with mineral salts in empyema of the guttural pouch in the horse
c) dehydration of the purulent exudate and impregnation with mineral salts in pyometra in the bitch
d) dehydration of purulent exudate and impregnation with mineral salts in pyelonephritis in horses
e) spontaneous resorption of purulent exudate, the removal being achieved by neutrophils and macrophages in tempyema of the guttural pouch in the horse

69 What type of inflammation is diagnosed in acute conditions of: avian infectious bursitis, viral haemorrhage disease of rabbits and eimeriosis of chickens?
a) granulomatous inflammation
b) lympho-histiocytic inflammation
c) haemorrhagic inflammation
d) purulent inflammation
e) gangrenous inflammation

70 Diffuse hemorrhagic-necrotic splenitis is a lesion that:
a) is macroscopically expressed by splenomegaly
b) is expressed macroscopically as carbuncles
c) is expressed microscopically by eosinophilic exudation
d) it is expressed microscopically by fibroblast proliferation
e) is macroscopically expressed in a whitish-gray colour

71 Choose the variant that shows the correct correlation between the histopathological appearance and the type inflammation.

a) In the intestinal mucosa, extensive epithelial peeling, superficial necrosis and formation of a fibrin network over the mucosa. Hyperemia and leukocyte exudation are pronounced. The description corresponds to the granulomatous inflammation.
b) Perivascular cuffs are observed in the brain formed predominantly from mononuclear cells. The description corresponds to eosinocytic inflammation.
c) In the liver capsule there is abundance of connective tissue, with numerous fibroblasts, neoformed capillaries and mononuclear cell infiltration.
The description corresponds to fibrous inflammation.
d) Perivascular cuffs are observed in the brain formed predominantly from mononuclear cells. The description corresponds to fibrous inflammation.
e) In the intestinal mucosa, extensive epithelial peeling, superficial necrosis and formation of a fibrin network over the mucosa. Hyperemia and leukocyte exudation are pronounced. The description corresponds to eosinocytic inflammation.

72 Which cellular elements predominate in a smear made from a liver, to indicate a hepatitis due to parasitic migration?
a) Mononuclear cells will dominate
b) neutrophils will dominate
c) red blood cells will dominate
d) eosinophils will dominate
e) fibroblasts will dominate

73 Choose the variant that refers to a localized proliferative inflammatory process
a) pyloric node
b) carbuncle
c) a diphtheroid button
d) empyema
e) vesicle

74 Analyze the statements and choose a single variant:
a) a differential diagnosis between haemorrhagic inflammation and haemorrhage is required
b) a differential diagnosis is required between acute lympho-monocytic myocarditis and degenerative cardiomyopathy
c) all answers are correct
d) a differential diagnosis between the serous exudate and transudate is required
e) a differential diagnosis between necrotic miliary inflammation and granulomatous miliary inflammation is required

75 The cell with central role in granulomatous inflammation is represented by:
a) the multinucleated giant cell
b) macrophage
c) neutrophil
d) fibroblast
e) plasmocyte

76. The presence of a non-self phagocytic resistant and a T-cell mediated immune reaction will generate:
a) development of chronic inflammation
b) development of predominantly exudative inflammation
c) the development of a superacute inflammation
d) development of acute inflammation
e) development of hemorhhage

77 Multinucleated giant cells in the structure of a pyogranuloma originate from:
a) epithelial cells
b) neutrophils
c) bone marrow
d) spinal cord
e) lymphocytes

78 Which cellular elements will be observed in a smear made by aspiration puncture of one the skin node in the dog to establish the diagnosis of foreign body granuloma?
a) smear rich in mononuclear cells, mostly macrophages, occasional multinuclear giant cells with uniform nuclei, arranged under the plasma membrane of the cell in the form of a "crown" or "horseshoe"
b) smear rich in leukocytes, over 75% being active or partially degenerated neutrophils
c) smear rich in ground substance
d) smear rich in mononuclear cells, mostly macrophages, occasional multinuclear giant cells with uniform nuclei, usually arranged eccentrically at one pole of the cell
e) smear rich in keratin deposits

79 Which cellular and humoral elements are involved in the transition from the pregranuloma phase to that of the young granuloma (epithelioid) in tubular granulomatous inflammation?
a) neutrophils and interferon γ
b) macrophages, lymphokines and some components of the bacterial wall structure (lipids and tuberculoprotein)
c) multinucleated giant cells, lymphokines and some components of the bacterial wall structure (lipids and tuberculoproteins)
d) multinucleated giant cells and interferon γ
e) neutrophils ans histamine

80 Which histopathological aspect is characteristic of a mature tubular granuloma in birds? Choose the most complete response
a) central area of necrosis, with foci of calcification; layer of multinucleated giant cells
b) central area of multinucleated giant cells; epithelioid cell layer; conjunctival capsule
c) central area of necrosis; layer of multinucleated giant cells; layer of epithelioid cells, granulation tissue; conjunctival capsule
d) central area of necrosis; leukocyte infiltrate layer; conjunctival capsule
e) central area of liquifactive necrosis; layer of multinucleated giant cells; layer of epithelioid cells

81 What histopathological aspect is characteristic of a mature tuberculous granuloma in mammals? Choose the most complete response.
a) central area of casein necrosis with or without foci of calcification; layer of multinucleate giant cells; layer of epithelioid cells
b) central area of casein necrosis with or without foci of calcification; conjunctival capsule
c) central area of liquifactive necrosis; mixed zone of mononuclear cells and regions of Langhans-type multinucleated giant and epithelioid cells
d) central area of casein necrosis without calcification outbreaks; granulation tissue; layer of multinucleated giant cells (appearance of foreign body giant cells)
e) central area of casein necrosis with or without calcification foci; mixed zone of mononuclear cells and regions of Langhans-type multinucleated giant and epithelioid cells; connective capsule developed on the substrate of a specific granulation tissue

82 Choose the variant that shows the correct correlation between a particular type of granuloma / pyogranuloma and the specific colouring
a) Aspergillus granuloma - silver impregnation
b) granuloma / pyogranuloma in Glanders - Giemsa-sulphate
c) tuberculous granuloma in the bird - Giemsa-sulphate
d) Glanders granuloma / pyogranuloma - silver impregnation
e) aspergillary granuloma - modified Ziehl-Neelsen staining

83 Specific inflammations are associated with
a) a certain etiological agent
b) with the location in a certain organ
c) with a certain type of evolution
d) with the tissue particularities of the affected organs
e) with the structure of the exudate

84 Specify the correct variant that corresponds to the description of necrotic miliary inflammation in the spleen in birds
a) Miliary foci, blackish, associated with lime -white deposits on the splenic capsule
b) outbreaks of small size, white-yellow-gray, delimited by a band of hyperemia
c) foci of different sizes, delimited by a connective capsule, with a creamy or filamentous white-grey centre
d) outbreaks of variable dimensions, whitish, compact and greasy on section
e) small, yellowish-gray, coarse foci, delimited by collagenic reaction, sometimes with tendency to confluence

85 Specify the correct statement that corresponds to lympho-histiocytic inflammation of the liver in the bird
a) red-black miliary outbreaks, associated with greasy-white deposits on the liver capsule
b) small size foci, white-yellow-gray, weakly delimited by a belt of hyperemia
c) nodules of different sizes, delimited by a connective capsule, with a grey white creamy or filamentous centre,
d) white, compact nodule appearing greasy on cross section
e) small, yellowish-grey, coarse foci, delimited by collagenic reaction, sometimes with tendency of confluence

86 Indicate which lesions correspond to the following description: Hyperemic, oedematous nasal mucosa, covered with a serous liquid, giving it a glassy appearance
a) purulent rhinitis
b) fibrino-necrotic rhinitis
c) catarrhal rhinitis
d) nasal carcinoma
e) haemorrhagic rhinitis

87 A cytological examination of a smear made from the sediment of a citrus yellow liquid sample from the peritoneal cavity showed numerous reactive mesothelial cells, a large number of leukocytes and large amount of precipitated protein. What diagnosis corresponds to the description made?
a) catarrhal inflammation
b) granulomatous inflammation
c) fibrin-necrotic inflammation
d) mesothelioma
e) Serious inflammation

88 Crupal inflammation is synonymous with
a) desquamative inflammation
b) pseudomembranous inflammation
c) apostematous inflammation
d) non-suppurative inflammation
e) oedematous inflammation

89 Choose the variant that best matches the microscopic location and description of eosinophilic ulcer in cats
a) acute lingual lesion, characterized by an inflammatory reaction rich in neutrophils towards the centre of the ulcer and plasmocytes towards its periphery, inconsistent presence of eosinophils.
b) chronic disease, with localization at the skin-mucosal junction of the lips, characterized by inflammatory reaction rich in neutrophils towards the centre of the ulcer and plasmocytes and mast cells toward its periphery and an inconsistent presence of eosinophils.
c) chronic lesion, with gingival localization, characterized by the presence of a polymorphic cellular population, dominated by eosinophils and multinucleated giant cells
d) acute gingival lesion, characterized by an inflammatory reaction rich in eosinophils towards the centre of the ulcer and neutrophils to its periphery, in addition multinucleated epithelioids and giant cells can be found
e) inflammatory lesion, with gingival or lingual localization, characterized by the presence of a monomorphic cell population, represented by atypical eosinophils

90 An example of specific inflammation is:
a) fibrinous inflammation
b) necrotic inflammation
c) Serous inflammation
d) mature tuberculous granuloma
e) fibrous inflammation

91 Multinucleated giant cells with foamy cytoplasm containing vacuoles appear specifically in which type of granuloma:
a) tuberculous
b) Glanders granuloma
c) actinobacillary
d) foreign body
e) coligranulomatous

92 Multinucleated giant cells with the appearance of foreign body giant cells appear in:
a) macrophagic granuloma
b) young granuloma (epithelioid) in mammals
c) old tuberculous granuloma in mammals
d) mature tuberculous granuloma in birds
e) tuberculous granuloma in mammals

93 Choose the statement that has the correct meaning for the stated term.
a) pustule - accumulation of purulent exudate in the cavities
b) empyem - multifocal purulent folliculitis
c) furunculosis - accumulation of purulent exudate in the cavities
d) empyem - intraepithelial abscess
e) pustule - intraepithelial abscess

94 Inflammation that cannot be expressed morphologically both focal / multifocal (localized) and diffuse is:
a) haemorrhagic inflammation
b) granulomatous inflammation
c) aposteomatous inflammation
d) hemorrhagic-necrotic inflammation
e) lympho-histiocytic inflammation

95 Ulcer is a compulsory part of which type of inflammation:
a) Sero-fibrinous
b) localized diphtheroid
c) parenchymatous
d) lympho-monocyte
e) fibrous

96 The multinucleated giant cells of granulomatous inflammation are formed by sinctialisation of:
a) epithelial cells
b) neutrophils
c) lymphocytes
d) epithelioid cells
e) plasmocytes

97 Which is the most probable etiology of a lesion characterized in the initial stages by a haemorrhagic-necrotic inflammation, and characterized in subsequent stages by eosinophilic exudation and healing by scaring.
a) viral
b) bacterial
c) parasitic
d) irritants
e) powders

98 Choose the correct response. Catarrhal inflammation can be found in the following locations:
a) nasal mucosa, lung, mammary gland, bone tissue
b) myocardium, lung, mammary gland, mucosa of the oral cavity
c) brain, uterine mucosa, lung
d) conjunctival mucosa, lung, mammary gland
e) lymph node, lung, cartilaginous tissue, spleen

99 Choose the correct response. Fibrinous inflammation can be found in the following locations:
a) meninges, pleura, pericardium, renal glomerulus
b) conjunctival mucosa, lung, mammary gland
c) lymph node, lung, cartilaginous tissue, spleen
d) myocardium, lung, mammary gland, mucosa of the oral cavity
e) nasal mucosa, lung, mammary gland, bone tissue

100 "The filling phase, the red consolidation phase and the gray consolidation phase" is the evolution the following type of pulmonary inflammation:
a) pulmonary abscess
b) croupal bronchopneumonia
c) inflammatory pulmonary edema
d) hemorrhagic-necrotic pneumonia
e) granulomatous pneumonia

101 Multinucleated neoplastic giant cells are not observed in:
a) fibrosarcoma
b) malignant fibrous histiocytoma
c) mezothelioma
d) achantomatous epulis
e) Adenoma

102 Choose the necrotic type that is non specific for Pasteurella spp. and neither for deficiency disorders:
a) cerous necrosis
b) brain necrosis
c) encephalomalacia
d) miliary necrosis
e) caseous necrosis

103 Which detail in gross description is not specific for dry necrosis?
a) pergamentous aspect
b) the involved area is well delineated by the healthy tissue
c) crepitant consistency
d) brown-black discoloration
e) frequent involve extremities

104 Which tissue/organ is the wet gangrene predisposed?
a) lung
b) uterus
c) small intestine
d) large intestine
e) brain

105 Which element is not found in necrotic inflammation?
a) cellular detritus
b) necrotic area well delineated by a fibrous capsule
c) hyperemia at the periphery of necrotic area
d) leucocytic infiltrate at the periphery of necrotic area
e) liquefaction necrosis

106 Round lesion well delineated by a fibrous capsule filled with clear fluid arising from lung surface is specific for:
a) abscess
b) morvous granuloma
c) cystic parasitary granuloma
d) metastatic fibrosarcoma
e) hematoma

107 Which type of intestinal inflammation is characterized by flattened or bulged nodules (buttons)?
a) catarrhal
b) gangrenous
c) diphteroid
d) hemorrhagic
e) Serous

108 Choose the false response:
a) you can have calcification foci within chronic tuberculous granuloma
b) lesions from avian tuberculous granuloma is full of bacilli
c) gangrenous pericarditis has favorable prognosis
d) hemorrhagico-necrotic inflammation is specific for Anthrax
e) hemorrhagic inflammation can has infectious and parasitary etiology

109 For neoplastic lesions diagnosis it's important to:
a) know just localization and number of tumors
b) know the age of animal and the time when the neoplasm appearance
c) don't know the case history
d) to have the size of tumor
e) to have a good collaboration between owner, clinician and pathologist

110 In case of anaplastic nodiferentiated tumors as well in lymphoma for certain diagnosis is asking for:
a) gross appearance
b) image diagnosis
c) cytology
d) histopathology
e) immunohistochemistry

111 Choose the correct answer:
a) renal amyloidosis causes renal insufficiency by altering the structure of the glomerular capillary and the glomerular filtration function,
b) hepatosteatosis may be complicated by the appearance of hyaline necrosis (Zenker type)
c) hyaline cannot be located intracellular
d) the amyloid is associated with the evolution of the thymus or with senescence
e) hyaline degeneration occurs only extracellular

112. Russell bodies:
a) are hyaline accumulation in hepatocyte cytoplasm
b) are gross visible
c) are hyaline accumulation in sarcoplasm
d) are characteristic for Mott cells
e) are granules from neutrophils

113. Choose the degeneration with the microscopic appearance represented by the following description: Intra- or extracellular metabolite, positive PAS, refractory in polarized light:
a) jaundice
b) lipidosis
c) colesteatosis
d) hyalinosis
e) glucocerebrozidosis

114. Choose the most likely correlation between the hyaline location and the function of the organ/tissue:
a) muscle tissue — disturbance of immunoglobulin synthesis
b) plasma cells — loss of capacity for locomotion and fagocitosis
c) hepatocite – altering the capacity of the contraction
d) enterocite – involution of the organ
e) renal tube epithelium - alteration of the glomerular filtration barrier

115. Choose the correlation between disease and hyaline location in different tissues/organs/cells:
a) hypovitaminosis A - muscle tissue
b) hyposelenosis and hypovitaminosis E - heart
c) classical swine fever - liver
d) multiple myeloma - cartilaginous tissue
e) disseminated intravascular coagulation - plasma cells

116. In which situation does hyaline not affect vascular territory (walls and lumen of blood vessels)?
a) in splenic infestations of classical swine fever
b) in muscle hyalinosis
c) in hyaline type arteriosclerosis
d) affecting the media and vascular privacy with lumen reduction
e) in the formation of hyaline microthrombs

117. Which of the above-mentioned degeneration is strictly affecting the extracellular territory
a) hyalinosis
b) lipidosis
c) elastosis
d) sfingomielinosis
e) cholestatosis

118. Choose the metabolite that histopathology is slightly PAS positive and shows metachromasia in methyl violet:
a) triglycerides
b) cholesterol
c) mucoid
d) hyaline
e) amyloid

119. Choose the degeneration that does not necessarily presents liver hepatomegaly / volume enlargement:
a) glucocerebrozidosis
b) sfingomielinosis
c) steatosis
d) hyalinosis
e) amyloidosis

120. Choose the macroscopic description for amiloidosis hepatic on palmipeds:
a) non-characteristic aspect
b) large, yellow, friable liver
c) large, yellow, breakable liver
d) large, red and turgescent liver
e) nutmeg liver appearance

121. Which macroscopic characteristics change visibly in hepatosteatosis?
a) color only
b) color and volume only
c) consistency alone
d) color, volume and consistency
e) color and consistency only

122. Choose the disease where the fibroinoid degeneration does not affect the walls of the arterioles.

a) erysipelas
b) bluetongue
c) white muscle disease
d) uremia
e) nodular panarteritis

123. Choose the disease where the fibroinoid degeneration does not affect the walls of the arterioles.
a) mink plasmacytosis
b) obesity
c) systemic lupus erythematosus
d) swine fever
e) hypertension

124. Choose the group of lesions that may complicate with the occurrence of fibroinoid vasculitis
a) fibroinoid degeneration and necrosis
b) hyalinosis and waxy necrosis
c) vascular cholestatosis and ateromatosis
d) vascular hyalinosis and arteriolosclerosis
e) elastosis and arteriosclerosis

125. Choose the possible correlation between the tumor type and the degenerative process:
a) mast cell tumor - lipomatosis
b) fibrosarcoma - squamous metaplasia
c) some mammary gland tumors - cholesteatosis
d) transmissible venereal tumor - elastolysis
e) mucinous carcinoma - amyloidosis

126. Histopathology, differential diagnosis in muscle hyalinosis is performed in relation to:
a) the eosinophylic myositis
b) muscle hemorrhage
c) rhabdomyosarcoma
d) gas gangrene
e) fixation artifacts

127. Cerebral necrosis in lamb enzootic ataxia is produced as a result of:
a) the formation of glial nodules
b) lipophanerosis
c) hypomyelinogenesis
d) deficit of surfactant
e) perikaryon necrosis

128. Why is the atelection considered a complex dislipidosis?
a) due to phospholipids in the surfactant liquid
b) due to damage to the respiratory system
c) because the tensioactive effect of the surfactant liquid has disappeared
d) due to highlight of lipomacrophages
e) because of cholesterol synthesis

129. Choose the wrong correlation between the metabolite and histopathology appearance:
a) hyaline – empty optical vacuum that displaces the nucleus
b) amyloid -- deposits in the form of plates in the CNS
c) cholesterol - optically empty romboid cracks
d) triglycerides - hepatocite looks like adipocyte
e) hyaline - spherical oxyphil deposits

130.Choose the wrong correlation:
a) chronic diseases – amyloid
b) senescence - hyaline
c) thrombosis - fibrinoid degeneration
d) involution – mucoid degeneration

e) tumors – fibroinoid degeneration

131.Choose the diagnosis that corresponds to the gross description: Taurine spleen, with white nodules of different sizes, dry on section, delimited by the conjunctive capsule.
A) sago spleen — localized amyloidose
(b) apostematous splenitis
(c) necrotic splenitis
(d) granulomatous splenitis
(e) lardaceous spleen - diffuse amyloidosis

132. Choose the diagnosis that corresponds to the gross description: Thick, pink-pale myocard wrapped in a fat layer:
a) lymphocytic myocarditis
b) muscle hyalinosis
c) cardiac oedema
d) cardiac pseudohypertrophy
e) cardiac hemangiosarcoma

133. Choose the diagnosis that corresponds to the histopathological description: The epithelium of the proximal convoluted tubes is swollen, with empty optical vacuoles in the cytoplasm, low lumen, inconstant formation of adipose cylinders in the lumen of the tubes:
a) renal amyloidosis
b) nephrosteatosis
c) tubulonecrosis
d) acute nephritis
e) nephroblastoma

134. Atrophy _____ the fat tissue is installed in malnutrition, chronic diseases (cachexia) and malabsorption-maldigestion. Choose the word that completes the statement.
a) fat
b) partial
c) simple
d) serous
e) fibrinoid

135. In which situation do we consider the presence of triglycerides in hepatocytes physiologically?
a) in obesity at the dog
b) in diabetes mellitus
c) in the terminal gestation in bovine
d) in exaggerated ingestion of lipids
e) in hypoxia - tissue anoxia

136. Massive accumulations of mucus in rabbit colon, of glass-like appearance, produced by hyperplasia and hypertrophy of the goblet cells are found in:
(a) haemorrhagic enteritis
(b) diffuse granulomatous colitis
(c) diphtheroid enteritis
(d) myxedema caused by thyroid hypofunction
(e) mucoid enteropathy of rabbits

137. In which type of tumors can mucoid degeneration be associated?
a) mucinous carcinoma
b) basal cell carcinoma
c) squamous cell carcinoma
d) cribriform carcinoma
e) scirrhous carcinoma

138. The healing of the intestinal mucosa by re-epithelization within a few minutes is carried out under the following conditions:
a) the mucosal ischemia followed by the contracting of the villas

b) viral induced cytolitic damage
c) extended ulcer
d) minor superficial epithelial lesions
e) damage to the proliferative compartment of the mucosa

139. Choose the description that corresponds to a pyogenic granuloma:
a) a nodulous epithelized structure, which generates puss
b) granulation tissue, well-vascularized, not covered by the epithelium, which has an excessive growth beyond the mucosa surface
c) large-scale,epithelium-rich, collagen-rich scars
d) aberrant scars, rich in collagen fibers and extracellular matrix with a risk of recurrence
e) a nodulous structure rich in multinucleated giant cells

140. In neovascularization, endothelial cells proliferate and form new vessels from the preexisting ones. This process consists of:
a) the formation of beads of endothelial cells, which then form lumen
b) aberrant proliferation of connective tissue
c) appearance of new lymphatic vessels
d) leukocyte inflow and uncontrolled spread of pericyte
e) spread of smooth muscle in vascular walls

141. Under what conditions is regeneration of skeletal striated muscle tissue occurring?
a) when the myosatellite cells are affected
b) in the case of trauma with interruption of the continuity of the muscle fibers
c) prolonged ischemia and repeated muscle degeneration
d) in nutritional myopathies, with storage of the basal membrane and myosatellite cells
e) in surgical wound with the excision of a fragment of muscle tissue

142. What is primary bone callus?
a) a blood clot formation resulting from a bone fracture
b) a granulation tissue which joins the bone heads
c) a connective sleeve joining the bone ends
d) a mature bone tissue reshaped by force lines
e) ossification of fibrous callus with calcium and phosphorus ions deposit

143.In the regeneration/cure of peripheral nerves, an important role is played by:
A) Schwann cells
b) glial cells
c) bipolar neurons
d) plasma cells
e) endothelial cells

144. Nevroma or amputation neurons represent:
a) nerve thread groups respecting the nervous route
b) lipid drops resulting from the fragmentation of the myelin sheath
c) regenerated axial extensions, no specific orientation
d) degenerative phenomena following perikaryon necrosis
e) tumors of the Schwann cells

145.Choose the correct correlation between the end of the healing/regeneration process and the affected tissue/organ:
a) primary callus - nervous tissue
b) pyogenic granuloma - bucal mucosa
c) "carnification" - muscle tissue
d) gliosis - skin
e) aberrant scar tissue - bone tissue

146. Select the situation that prevents regeneration
a) presence of exudate in large quantities
b) the presence of stable and unstable cells

c) the presence of stem cells
d) preserving the integrity of the basal membrane
e) preserving the integrity of the periosteum

147.Myositis is frequently associated with other damage to muscle fibers, such as:
a) hyalinosis and Zenker-type necrosis
b) elastosis and steatonecrosis
c) steatosis and gangrene
d) cholesteatosis and fibroinoid necrosis
e) colliquation necrosis and wet gangrene

148. What diagnosis is established in a dog with renal insufficiency, which in kidney biopsy, histopathology exhibits congophilic deposits between the endothelial cells and the basal membrane of the glomerular capillaries and in the basal membranes of the renal tub?
a) hyalinosis in the epithelium of the kidney tub
b) steatonephrosis
c) chronic fibrous damage
d) renal amyloidosis
e) fibroinoid degeneration

149.Under optimum regeneration conditions, after the axon enters a column of Schwann cells, it increases by approximately:
a) 5 cm/day
b) a few micrometers/day
c) 1 to 5 mm/day
d) 10 cm/day
e) a few nanometers per day

150. What is sequestration in pathological organization?
a) necrotic tissue territory delimited by a thick conjunctive capsule
b) the granulation tissue at the periphery of the granuloma
c) the granulation tissue on the periphery of the abscess
d) appearance of brides and synechiae in serous cavities
e) conjunctive capsule from the periphery of organs

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