CONNECTIVE TISSUES. CELLS.

In loose connective tissue of the salivary glands revealed oval shape middle size cells which synthesized antibodies. Spherical eccentrically positioned nucleus with chromatin clumps of which resemble cartwheel or clock face. Call these cells.

A. \*Plasma cells

B. Adipose cells

C. Neutrophils

D. Fibroblasts

E. Macrophages

Chronicle inflammation of the gingiva is finished with excessive excrescence of connective tissue fibers. What cells took active place in this process?

A. \*Fibroblasts

B. Osteoblasts

C. Fibrocytes

D. Macrophages

E. Osteoclasts

A foreign body entered into the skin and leads to inflammation development. What connective tissue cells take place against the foreign body in the skin reaction?

A \*Neutrophils, macrophages, fibroblasts

B Macrophages

C Melanocytes

D Adipocytes

E Adventitial cells

During investigation of connective tissue slides neutrophils are revealed. What function do these cells have when they leave blood and enter tissue?

A. \*Microorganisms phagocytosis

B. Trophic

C. Support

D. Regulation of smooth muscle cells contraction

E. Expand blood vessels

A chemical burn of esophagus caused it's local constriction as a result of scar formation. What cells of loose connective tissue take part in scar formation?

A \*Mature specialized fibroblasts

B Immature nonspecialized fibroblasts

C Fibrocytes

D Miofibroblasts

E Fibroclasts

In loose connective tissue histological specimen revealed relatively big cells with basophilic metachromatic granularity. These granules include histamine and heparin. Call these cells.

A. \*Mast cells

B. Fibroblasts

C. Macrophages

D. Plasma cells

E. Adipose cells

Amount of tissue fluid in the connective tissue ground substance can be increased. Ths condition is called oedema. What can be a reason for local oedema?

A.\*Increasing of histamine in the connective tissue

B. Presence of obstacle for venous outflow

C. Difficulty of blood outflow through vessels, heart failure

D. Increased permeability of the capillaries

E. Presence of obstacle for lymph outflow

Round shaped cells jwere found in the loose connective tissue of omentum. Cytoplasm of these cells are strongly basophilic. Nucleus is oval shape, eccentric located, there are small light area. What are these cells?

A.\*plasma cells

B. Fibroblasts

C. Adipose cells

D. Macrophages

E. Mast-cells

Cells with high phagocytic and hydrolytic activity are found in the connective tissue of the uterus

just after pregnancy. These cells participate in dissolving of ground substance. There are large amount of lysosome in their cytoplasm. Name these cells?

A.\*Fibroclasts

B. Fibroblast of I type

C. Fibroblast of II type

D. Fibrocytes

E. Myofibroblasts

Accute cateral inflammation of eye conjuctiva and nasal cavity mucosa develop every spring and summer in the patient during blossoming of herbs and trees. What cell elements activation and phagocytosis rest in the base of this syndrome?

A.\*Mast cells

B. Platelets

C. Macrophages

D. Neutrophils

E. Endothelium cells

CONNECTIVE TISSUES. INTRACELLULAR SUBSTANCE. CONNECTIVE TISSUE WITH SPECIAL PROPERTIES.

The damaged Achilles tendon function was renewed after the treating. What is the mechanism of tendon regeneration?

A \*Synthesis of the collagen fibers

B Synthesis of the hyaline cartilage

C Formation of the adipose tissue

D Synthesis of the fibrous cartilage

E Replacements of the place of injury by the muscle tissue

Decreased blood supply of the organs causes hypoxia that activates fibroblasts function. Volume of what elements does increase in this case?

A \*Intercellular substance

B Vessels of microvascular bed

C Nerve elements

D Parenchymatous elements of the organ

E Lymphatic vessels

A specimen of connective tissue of derma was stained with Sudan III and hematoxylin. There are clusters of big polygonal cells that turned orange. Their nuclei are flattened and located on periphery. What tissue is it?

A \*White adipose

B Brown adipose

C Reticular connective

D Hyaline cartilaginous

E Lamellar osseous

When a wound heals, a scar takes its place. What substance is the main component of its connective tissue?

A \*Collagen

B Elastin

C Keratan sulfate

D Chondroitin sulfate

E Hyaluronic acid

The lower limb was injured during the athlete training. Traumatologist made the diagnosis: the tendon rupture. What type of connective tissue the tendon belongs to?

A \*Dense regular fibrous tissue

B Dense irregular fibrous tissue

C Loose connective tissue

D Reticular tissue

E Cartilage tissue

Connective tissue consists of parallel collagen fibers separated by fibroblasts. What is the name of this type of connective tissue?

A. \*Dense regular connective tissue

B. Loose connective tissue

C. Reticular connective tissue

D. Dense irregular connective tissue

E. Mucous connective tissue

A patient underwent Caesarean section. During the operation a long incision was made in the uterus wall and the fetus was extracted from uterus. Healing of the sutured myometrium will proceed in the following way:

A \*Formation of a fibrous cicatrix

B Formation of smooth muscular tissue

C Formation of cross-striated muscle fibers

D Proliferation of myosatellitocytes

E Hypertrophy of smooth myocytes

of the large cells are found in the connective tissue slide stained with sudan III and hematoxylin. These cells are stained in the orange color. Nuclei have flat shape and displaced to the periphery. What tissue is it?

A.\*White adipose tissue

B. Brown adipose tissue

C. Dense fibrous connective tissue

D. Loose fibrous connective tissue

E. Compact bone

Umbilical cord was compressed as a result of extra fetal activity. Circulation between fetus and mother didn't disorder. Presence of what structures do contribute to this in the first place?

A.\*Mucous connective tissue

B. Remnant of alantois

C. Tunica of artery

D. Tunica of vein

E. Yolk sac

CONNECTIVE TISSUE. LOOSE CONNECTIVE TISSUE. CELLS.

The inflammatory process in tissues and organs is accompanied by their redness and swelling. What

leukocytes in the connective tissue provide the expansion of blood vessels and increase their permeability?

A. Basophils

B. Neutrophils

C. Eosinophils

D. Т-lymphocytes

E. В-lymphocytes

The cells of next morphology: intensely basophilic cytoplasm, eccentrically placed nucleus with chromatin, which is located in a "spoke wheel" and highlights the cytoplasm near it – were found in the lymph node histological sections of the experimental animals after the antigen stimulation. What is the type of cell?

A \* Plasmocytes

B Macrophages

C Fibroblasts

D Adipocytes

E Tissue basophils (mast cells)

The histamine plays a central role in the development of allergic clinical manifestations. What cells produce it?

A \* Mast cells

B T lymphocytes

C Macrophages

D B-lymphocytes

E Plasmocytes

The local esophagus stenosis as a result of scar formation developed at the patient after the esophagus chemical burn. Which cells of the loose connective tissue involved in the formation of scars?

A \* Mature specialized fibroblasts

B Young unspecialized fibroblasts

C Fibrocytes

D Myofibroblasts

E Fibroclasts

A foreign body entered into the skin and leads to inflammation development. What connective tissue cells take place in the skin reaction against of the foreign body?

A \* Neutrophils, macrophages, fibroblasts

B Macrophages

C Melanocytes

D Adipocytes

E Adventitial cells

The cesarean section was performed to a patient. The uterus wall was cut and fetus released. By what mechanism the myometrium regeneration will be in the area of the wound?

A \*Formation of connective tissue scar

B Formation of new smooth muscle

C Formation of striated muscle fibers

D Proliferation of myosatellitocytes

E Hypertrophy of smooth muscle cells

A live vaccine was injected into a human organism. Increased activity of what connective tissue

cells can be expected?

A \*Plasma cells and lymphocytes

B Macrophages and fibroblasts

C Pigmented cells and pericytes

D Adipocytes and adventitial cells

E Fibroblasts and labrocytes

The connective tissue scar is developing in the wound place during the healing. Which cells provide the process?

A \* Fibroblasts

B Macrophages

C Fibrocytes

D Mast cells

E Melanocytes

The allergic dermatitis of both hands developed at the women as a result of the contact with the chromium compounds at the production. Which skin cells mainly participated in the realization of this disease?

A \* Tissue basophils

B Plasmocytes

C Macrophages

D Neutrophils

E Lymphocytes

A big number of the elongated cells with dense nucleus and many lysosomes, phagosomes and pinocytotic vacuoles in the basophilic cytoplasm were found in the lavage of the patient with acute tibia wound. What are these cells?

A \* Macrophages of connective tissue

B Fibroblasts

C Fibrocytes

D Plasmocytes

E Tissue basophils

In course of an experiment a big number of stem cells of red bone marrow was destructed in some way. Regeneration of what cell populations will be inhibited in the loose connective tissue?

A \*Of macrophages

B Of fibroblasts

C Of pigment cells

D Of lipocytes

E Of pericytes

A significant number of red bone marrow stem cells was destroyed at the experiment. What cells of connective tissue renewal will be inhibited?

A \* Macrophages

B Fibroblasts

C Pigment cells

D Adipocytes

E Pericytes

An inflammation is characterized by the dilation of the blood capillaries at the site of injury, decreased blood circulation, increased vascular permeability. Which of the following cells play the primary role in these processes?

A \* Tissue basophils

B Fibroblasts

C Plasmocytes

D Eosinophils

E Macrophages

After the radioactive exposure a patient has stem cells disorder. The regeneration of what cells of friable connective tissue will be damaged?

A. \*Macrophages

B. Pericytes

C. Fibroblasts

D. Pigment cells

E. Adipocytes

Low concentration of the specific antibodies was found in the blood of a patient with influenza. The function of what cell of connective tissue is inhibited?

A. \*Plasmocyte

B. Lymphocyte

C. Macrophage

D. Macrophage

E. Labrocyte

The microscopic examination of wound lavage of a patient with acute wound process of his shin revealed big content of irregular extended-formed cells, with dense nucleus, the basophilic cytoplasm which includes many lysosomes, phagosomes and pinocytotic vesicles. What cells were found in the wound?

A. Tissue basophils

B. \*Connective tissue macrophages

C. Fibrocytes

D. Fibroblasts

E. Plasmocytes

A bleeding accompanied by slow blood clotting (at normal number of platelets in blood tests) occurred in women after the limb injury. What substance of loose connective tissue prevents the blood clotting process? By what cell does it produced?

A. \* Heparin, tissue basophils

B. Heparin, macrophages

C. Histamine, tissue basophils

D. Heparin, plasma cells

E. Heparin, fibroblast

The allergic reaction in the form of urticaria developed at a patient (formations of the vesicles under the epidermis as result of the plasma release into loose connective tissue). What substance of mast cells causes an increase of blood vessel permeability?

A. \* Histamine

B. Heparin

C. Hyaluronic acid

D. Chondroitin sulfate type A

E. Chondroitin sulfate type C

Leading role in the vascular phase of inflammation plays the histamine. Which cell of loose connective tissue produces histamine?

A. \* Tissue basophils

B. Fibroblasts

C. Plasma cell

D. Fibrocyte

E. Macrophage

The drug ketotifen, which is able to inhibit the histamine release from a particular cell type, is used for long-term therapy in patients with asthma. Name these cells.

A \*Mast cells

B Lymphocytes

C Eosinophils

D Macrophages

E Plasma cells

Increased number of basophils in the connective tissue of the mucous is accompanied by edema of the tissues during allergic rhinitis (inflammation of the nasal mucosa). With what function of the tissue basophils does it connected?

A \* Biogenic amines synthesis

B Intercellular substance production

C Phagocytosis

D Antibody production

E Heat production

CONNECTIVE TISSUE. DENCE CONNECTIVE TISSUE. INTRACELLULAR SPACE.

A slide represents a tissue with spherical cells, each of them containing a large fat drop covered with thin cytoplasm layer in its center. Nucleus is compressed and situated at the cell periphery. What tissue is it?

A. White adipose tissue

B. Brown adipose tissue

C. Mucous tissue

D. Pigmented tissue

E. Reticular tissue

The lower limb was injured during the athlete training. Traumatologist diagnosed the tendon rupture. What type of connective tissue the tendon belongs to?

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The damaged Achilles tendon function was renewed after the treating. What is the mechanism of tendon regeneration?

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D Synthesis of the fibrous cartilage

E Replacements of the place of injury by the muscle tissue

Decreased blood supply of the organs causes hypoxia that activates fibroblasts function. What

elements volume is increased in this case?

A \*Intercellular substance

B Vessels of microvascular bed

C Nerve elements

D Parenchymatous elements of the organ

E Lymphatic vessels

The substance that disorders the collagen fibers formation was introduced to the animals. How will change the tendon properties in this case?

A \* The tendon hardness to a rupture will decrease

B No change

C The tendon elasticity will decrease

D The tendon hardness to a rupture and elasticity will decrease

E The tendon hardness to a rupture will increase but elasticity will decrease

Collagen, elastin and reticulin belong to the fibrillar elements of the connective tissue. Indicate the aminoacid which constitutes only collagen, and identification of which in biological fluids is used for the diagnosing of the connective tissue diseases.

A. \*Hydroxyproline

B. Proline

C. Lysine

D. Phenylalanine

E. Glycine

The hyaluronidase increase occurs at a patient under the action of bacteria. How the intracellular substance permeability will change in this case?

A. \*Increase of permeability

B. No effect

C. Reduce of permeability

D. Slowing of metabolism

E. Reduce the content of glycosaminoglycans