**Гистология.**

**Cytology**

**#**

Analysis of an electron diffraction pattern of a cell revealed mitochondrion destruction. This

might result in abnormal course of the following cell process:

+ Oxidation of organic substances

***-***  Nuclear division

***-*** Crossingover

***-***  Cleavage

**#**

Formation of ribosome subunits in a cell was disturbed in course of an experiment (by means of

activated mutagenic factors). This will have an effect on the following metabolic process:

***+*** Protein biosynthesis

***-*** Carbohydrate biosynthesis

***-***  ATP synthesis

***-***  Photosynthesis

***-***  Biological oxidation

#

Electron microscopic study of a cell revealed roundish bubbles confined by a membrane and

containing a lot of various hydrolytic enzymes. It is known that these organelles provide

intracellular digestion and protective functions. These elements are:

***+*** Lysosomes

***-*** Centrosomes

***-***  Endoplasmic reticulum

***-***  Ribosomes

***-***  Mitochondria

***#***

A 50 year old woman had her tooth extracted. The tissue regenerated. Which of the following

organella are the most active during tissue regeneration?

***+***Ribosomes

***-*** Centrosomes

***-*** Postlysosomes

***-*** Agranular endoplasmic reticulum

***-*** Lysosomes

**Embryology**

**#**

Microspecimen of a child's finger skin reveals subnormal development of epidermis. What

embryonic leaf was damaged in course of development?

***+*** Ectoderm

***-*** Mesoderm

***-*** Entoderm

***-*** Mesenchyma

***-*** Ectomesenchyma

**#**

During gastrulation the Hensen's node remained underdeveloped in the embryo. Which axial

organ will slow down its development?

***+*** Chord

***-***Neural crests

***-***  Neural groove

***-***  Neural tube

***-*** Mantle layer of the neural tube

**#**

At a certain stage of development of a human embryo one can observe formation of a cavity in

its structure, small light blastomeres on the periphery and large dark blastomeres at one of the

poles. The embryo at this stage of development is called:

***+*** Blastocyst

***-***  Morula

***-***  Zygote

***-***  Gastrula

***-***  Blastodisk

**#**

For an unknown reason the fertilization membrane of an embryo dissolved in the fallopian tube

in the first critical period. What complication of pregnancy is possible in this case?

***+*** Embryo implantation into the Fallopian tube

***-***  Embryonic death

***-*** Invagination of the blastocyst wall

***-***  Return of blastocyst back to the ampullary portion of the tube

***-***  Formation of two blastocysts

**#**

Implantation process has two stages: adhesion and invasion. Morphological manifestation of

blastocyte adhesion is:

***+*** Attachment of blastocyte to the endometrium

***-*** Destruction of endometrium epithelium

***-***  Destruction of connective tissue of endometrium

***-***  Destruction of endometrium vessels

***-***  Formation of lacunes

**Epithelial tissues.**

**#**

There is a specimen of soft palate where both oral and nasal surfaces can be seen. It was

revealed that oral cavity had damaged epithelium. What epithelium is damaged?

***+*** Multistratal squamous nonkeratinizing

***-*** Multistratal cubical nonkeratinizing

***-*** Multistratal prismatic nonkeratinizing

***-*** Multistratal squamous keratinizing

***-*** Multirowed ciliated epithelium

#

Study of a tubular organ revealed that its median membrane consists of solid hyaline rings.

What epithelium lines mucous membrane of this organ?

***+*** Multinuclear prismatic ciliated

***-*** Monostratal prismatic glandular

***-*** Monostratal prismatic with a border

***-*** Multistratal squamous nonkeratinizing

***-*** Monostratal cubical

#

Histological examination of a tissue sample revealed that the tissue had no blood vessels, and

the cells were packed tightly together making layers. Specify this tissue:

***+*** Epithelial

***-*** Cartilaginous

***-*** Osseous

***-*** Nervous

***-***Muscular

**Blood**

**#**

Examination of mountain climbers who have spent a long time in a high-altitude region revealed increase of erythrocyte number (over 6x1012/l) and haemoglobin concentration (over 170 g/l).

What mechanism caused this phenomenon?

+ Intensified production of erythropoietin by the kidneys

***-*** Weakening of erythrocyte hemolysis in bloodstream

***-*** Improved ability of tissue for oxygen utilization

***-*** Intensified processes of anoxic energy production

***-*** Weakening of intracellular erythrocyte hemolysis

#

Blood sampling for bulk analysis is recommended to be performed on an empty stomack and in the morning. What changes in blood composition can occur if to perform blood sampling after food intake?

***+*** Increased contents of leukocytes

***-*** Increased contents of erythrocytes

***-*** Increased plasma proteins

***-*** Reduced contents of thrombocytes

***-*** Reduced contents of erythrocytes

#

Live vaccine is injected into the human body. Increasing activity of what cells of connective tissue can be expected?

***+*** Plasmocytes and lymphocytes

***-*** Macrophages and fibroblasts

***-*** Pigmentocytes and pericytes

***-*** Adipocytes and adventitious cells

***-*** Fibroblasts and labrocytes

***#***

In the blood of a 26-year-old man it was revealed 18% of erythrocytes of the spherical, ball-shaped, flat and thorn-like shape. Other eritrocytes were in the form of the concavo-concave disks. How is such phenomenon called?

***+***Physiological poikilocytosis

***-*** Pathological poikilocytosis

***-*** Physiological anisocytosis

***-*** Pathological anisocytosis

***-*** Erytrocytosis

**#**

3 years ago a 52 y.o. man underwent an operation for stomach extraction. Results of blood

analysis: erythrocytes - 2,0x1012/l, Hb- 85 g/l, colour index - 1,27. These changes were caused

by disturbed assimilation of the folowing vitamin:

***+*** B12

***-***  B6

***-***  C

***-***  P

***-*** A

**#**

Blood analysis of a 16-year-old girl suffering from the autoimmune inflammation of thyroid gland revealed multiple plasmatic cells. Such increase in plasmocyte number is caused by proliferation and differentiation of the following blood cells:

***+***B-lymphocytes

***-*** T-helpers

***-*** Tissue basophils

***-*** T-killers

***-***T-supressors

**Skeletal tissue**

#

The symptoms of regeneration process (callus) on the place of fracture were revealed in the

histologic specimen of tubular bone. What tissue forms this structure?

***+*** Fibrous bone tissue

***-*** Loose connective tissue

***-*** Reticular tissue

***-*** Epithelial tissue

***-*** Lamellar bone tissue

**#**

Examination of a histological specimen of tubular bone revealed signs of regeneration process

(callus). What tissue is this structured formed of?

***+*** Rough fibrous osseous

***-*** Loose connective

***-***  Reticular

***-*** Epithelial

***-*** Lamellar osseous

**#**

During the experimental analysis of chondrohistogenesis a sclerotome was damaged. What

cells will it make impossible to differentiate?

***+*** Chondroblasts

***-*** Smooth myocytes

***-*** Myoblasts

***-*** Fibroblasts

***-*** Epidermocytes

#

A histological specimen presents the tissue that contains cells having no processes and a few

tens of nuclei each. One of cell surfaces has a corrugated zone that provides secretion of

hydrolytic elements. What tissue is it?

***+*** Osseous tissue

***-*** Cartilaginous tissue

***-*** Epithelial tissue

***-*** Nerve tissue

***-*** Muscular tissue

#

Calcification of the intercellular substance of bone tissue is accompanied by the deposition of

hydroxyapatite crystals along the collagen fibers. This process requires the presence of alkaline

phosphatase in the intercellular substance. What cell produces this enzyme?

***+*** Osteoblast

***-*** Osteocyte

***-*** Osteoclast

***-*** Chondroblast

***-*** Chondrocyte

#

As a result of a chest trauma the costal cartilage was damaged. The cartilage regenerates due

to the following layer of perichondrium:

***+***Chondrogenic

***-*** Fibrous

***-*** Elastic

***-*** Collagen

***-***Sharpey's fibers

**Muscle tissue**

**#**

A microspecimen of the submandibular salivary gland shows some basket-shaped cells

concentrated around the acines and excretory ducts. These cells surround bases of the serous

cells and are called myoepitheliocytes. These cells relate to the following tissue:

***+*** Muscular tissue

***-*** Epithelial tissue

***-*** Neural tissue

***-*** Special connective tissue

***-*** Loose fibrous connective tissue

**#**

The regeneration process of damaged skeletal muscles іs very slow. What elements of

musculoskeletal fiber take part in the process of regeneration?

***+***Myosatellitocytes

***-*** Myoblasts

***-*** Smooth myocytes

***-*** Myofibroblasts

***-*** Myoepithelial cells

**Nervous tissue**

**#**

A sensory nerve ganglion consists of roundish neurocytes with one process that divides into

axon and dendrite at a certain distance from perikaryon. What are such cells called?

***+***Pseudounipolar

***-*** Unipolar

***-*** Bipolar

***-*** Multipolar

***-*** Apolar

**Nervous system**

**#**

A ventral root of spinal cord was damaged as a result of a trauma. The following processes of

the following neurons were damaged:

***+***Axons of motor neurons

***-*** Dendrites of motor neurons

***-*** Axons of sensory neurons

***-*** Dendrites of sensory neurons

***-*** Dendrites of internuncial neurons

**#**

One of sections of central nervous system has layerwise arrangement of neurocytes. Among

them there are cells of the following forms: stellate, fusiform, horizontal, pyramidal. What section of central nervous system is this structure typical for?

***+***Cortex of cerebrum

***-*** Spinal cord

***-*** Cerebellum

***-*** Medulla oblongata

***-*** Hypothalamus

***#***

A patient had a trauma that led to the injury of front spinal roots. Denote the damaged

structures:

***+***Axons of motoneurons and lateral horn neurons

***-*** Central processes of spinal ganglion neurons

***-*** Peripheral processes of spinal ganglion neurons

***-*** Axons of lateral horn neurons

***-*** Axons of motoneurons

#

In a specimen that was coloured by method of silver impregnation some piriform cells with 2-3

evident dendrites were found. What structure is being analysed?

***+***Cerebellar cortex

***-*** Spiral organ of middle ear

***-*** Retina

***-*** Cerebral cortex

***-*** Spinal ganglion

***#***

Microscopic analysis of a specimen revealed an organ of nervous system that consists of

pseudounipolar neurons covered with glial and connective tissue membranes. Determine this organ:

***+***Spinal ganglion

***-*** Vegetative ganglion

***-*** Spinal cord

***-*** Cerebellum

***-***Cortex of cerebrum

***#***

A patient underwent partial removal of a structure of central nervous system by medical

indications. This resulted in development of atony, astasia, intention tremor, ataxia,

adiadochokinesis. What structure of CNS was partially removed?

***+***Cerebellum

***-*** Amygdaloid complex

***-*** Hippocampus

***-*** Basal ganglions

***-*** Motor cortex

***#***

As a result of a trauma a patient has damaged frontal spinal roots. What structures are likely to

be affected?

***+***Axons of the motoneurons and axons of the lateral horn neurons

***-*** Central processes of the sensory neurons of the spinal ganglions

***-*** Peripheral processes of the sensory neurons of the spinal ganglions

***-*** Axons of the lateral horn neurons

***-*** Dendrites of the spinal ganglion neurons

**Sense organs**

**#**

As a result of punctate retinal hemorrhage a patient lost ability to see objects in the centre of

visual field. In what part of retina did the hemorrhage take place?

***+***Yellow spot

***-*** Ciliary part of retina

***-*** Iris

***-*** Blind spot

***-***Vascular membrane

**#**

As a result of head trauma a 32 year old man has damaged ampullas of semicircular ducts.

What stimuli perception will be disturbed?

***+***Angular acceleration

***-*** Vibration

***-*** Gravitation

***-*** Linear acceleration

***-***Vibration and gravitation

**#**

The deficit of vitamin A causes the disorder of twilight vision. What cells is the photoreceptor

function typical for?

***+***Rod neurosensory cells

***-*** Horizontal neurocytes

***-*** Conic neurosensory cells

***-*** Bipolar neurons

***-***Ganglionic nerve cells

**#**

A histological specimen of an eyeball shows a structure in form of a convexoconvex formation

connected with the ciliary body by the fibers of ciliary zonule and covered with a transparent

capsule. Specify this structure:

***+***Crystalline lens

***-*** Vitreous body

***-*** Ciliary body

***-*** Cornea

***-*** Sclera

#

A histological specimen presents a receptor zone of a sensoepithelial sense organ. Cells of this zone are placed upon the basal membrane and include the following types: external and internal receptor cells, external and internal phalangeal cell, stem cells, external limiting cells and external supporting cell. The described receptor zone belongs to the following sense organ:

***+***Acoustic organ

***-***Visual organ

***-*** Gustatory organ

***-*** Equilibrium organ

***-*** Olfactory organ

#

An infectious disease caused contractive activity of muscles that contract and dilate eye pupil

(paralytic state). What functional eye system was damaged?

***+***Accomodative

***-*** Dioptric

***-*** Ancillary

***-*** Photosensory

***-*** Lacrimal apparatus

**Cardio-vascular system**

***#***

A histological specimen shows a blood vessel. Its inner coat is composed by endothelium, subendothelium and internal elastic membrane. The middle coat is enriched with smooth myocytes. Such morphological characteristics are typical for the following vessel:

***+*** Muscular-type artery

***-*** Elastic-type artery

***-*** Capillary

***-*** Non-muscular vein

***-*** Muscular-type vein

**#**

Morphological examination revealed in histological specimen of biopsy material an

irregular-shaped vessel. Its middle membrane is formed by bundles of smooth myocytes and

layers of connective tissue. What type of vessel is it?

***+***Vein of muscular type

***-*** Artery uf muscular type

***-*** Lymphatic vessel

***-*** Venule

***-*** Arteriole

**#**

Obliterating atherosclerosis causes changes in the vessels of the lower extermities. A

histological specimen of such a vessel evidently presents both internal and external elastic

membranes, middle membrane contains a lot of myocytes. What vessel is affected in case of

this disease?

***+***Artery of muscular type

***-*** Artery of elastic type

***-*** Artery of mixed type

***-*** Vein with strongly developed muscles

***-*** Lymph node

**#**

A specimen of the pia mater shows a vessel with no middle membrane in its wall, its outer

membrane adheres to the surrounding tissues, the inner membrane is made up of the basal

membrane and endothelium. Specify this vessel:

***+***Fibrous vein

***-*** Muscular vein with weakly developed muscular elements

***-*** Muscular artery

***-*** Arteriola

***-*** Mixed artery

#

A histological specimen shows a blood vessel. Its inner coat is composed by endothelium,

subendothelium and internal elastic membrane. The middle coat is enriched with smooth

myocytes. Such morphological characteristics are typical for the following vessel:

***+***Muscular-type artery

***-*** Elastic-type artery

***-*** Capillary

-Non-muscular vein

***-*** Muscular-type vein

**Skin**

**#**

Histological study of a microslide of human skin found only dense irregular connective tissue.

Which layer of this organ was analysed?

***+***Reticular dermis

***-*** Papillary dermis

***-*** Subcutaneous adipose tissue

***-*** Epidermis

***-***Basal layer of epidermis

**Lymphoid organs**

**#**

An electronic microphotograph shows a macrophagic cell with erythrocytes at different stages

of differentiation located along its processes. This is the cell of the following organ:

***+***Red bone marrow

***-*** Thymus

***-*** Spleen

***-*** Tonsil

***-*** Lymph node

**#**

A 46 year old patient was admitted to the hematological department. It was found that he had

disorder of granulocytopoesis and thrombocytogenesis processes. In what organ does this

pathological process take pace?

***+***Red bone marrow

***-*** Thymus

***-*** Spleen

***-*** Lymphatic ganglion

***-*** Palatine tonsil

***#***

Medullary substance of a hemopoietic organ's lobule in a histological specimen is lighter coloured and contains epithelial bodies. What organ are these morphological preperties typical for?

***+***Thymus

***-*** Lymph node

***-*** Spleen

***-*** Liver

***-*** Kidney

#

A histological specimen presents an organ that has both cortical and medullary substance.

Cortical substance consists of an external zone that contains lymph nodules as well as of a

paracortical zone. Medullary substance contains medullary cords, sinuses and trabecules. What

organ possesses these morphological signs?

***+***Lymph node

***-*** Spleen

***-*** Kidney

***-*** Thymus

***-***Adrenal glands

#

In a histological specimen parenchyma of an organ is represented by lymphoid tissue that forms

lymph nodes; the latter are arranged in a diffuse manner and enclose a central artery. What

anatomic formation has such morphological structure?

***+***Spleen

***-*** Tonsil

***-*** Lymph node

***-*** Thymus

***-*** Red bone marrow

**Endocrine system**

***#***

A 5-month-old boy was hospitalized for tonic convulsions. He has a life-time history of this

disease. Examination revealed coarse hair, thinned and fragile nails, pale and dry skin. In blood:

calcium - 1,5 millimole/l, phosphor - 1,9 millimole/l. These changes are associated with:

***+***Hypoparathyroidism

***-*** Hyperparathyroidism

***-*** Hyperaldosteronism

***-*** Hypoaldosteronism

***-*** Hypothyroidism

***#***

A patient with Itsenko-Cushing syndrome has persistent hyperglycemia and glycosuria,

hypertension, osteoporosis, obesity. Increased synthesis and hypersecretion of the following

hormone will be observed in this case:

***+***Cortisol

***-*** Adrenaline

***-*** Glucagon

***-*** Thyroxin

***-*** Aldosterone

***#***

A 9 y.o. boy was admitted to the endocrinological department. This boy has already had several

fractures of hist extremities due to bone brittlness. The function of the following endocrinal

glands (gland) is disturbed:

***+***Parathyroid

***-*** Thyroid

***-*** Thymus

***-*** Adrenal

***-*** Epiphysis

**#**

By producing a number of hormones placenta plays a part of temporary endocrine gland. What

hormone may be detected in woman's blood on the third or the forth day after begin of

implantation, that is used in medicine for early pregnancy detection?

***+***Chorionic gonadotropin

***-*** Somatostatin

***-*** Progesterone

***-*** Vasopressin

***-***Oxytocin

**#**

In a histological specimen of adrenal cortex there are petite polygonal cells that form roundish

clusters and contain some lipidic inclusions. What part of adrenal is presented in this histological specimen?

***+***Glomerular zone

***-*** Intermedial zone

***-*** Fasciolar zone

***-*** Reticular zone

**#**

Parodontitis is treated with calcium preparations and a hormone that stimulates tooth

mineralization and inhibits tissue resorption. What hormone is it?

***+***Calcitonin

***-*** Parathormone

***-*** Adrenalin

***-*** Aldosterone

***-*** Thyroxine

**#**

A patient has been given high doses of hydrocortisone for a long time. This caused atrophy of

one of the adrenal cortex zones. Which zone is it?

***+***Fascial

***-*** Glomerular

***-*** Reticular

***-*** Glomerular and reticular

#

A histological specimen of a mandibular gland shows an exctretory duct. Mucous membrane of

the duct is lined with cubic epithelium whose cells have weakly developed organellas. What

excretory duct is it?

***+***Intercalated

***-*** Striated

***-*** Interlobular

***-*** Common excretory

#

Microscopic examination of a parenchymatous organ revealed that its epithelial cords formed

glomerular, fascicular and reticular zones. The central part of the organ was presented by

accumulations of chromaffin cells. Specify this organ:

***+***Adrenal gland

***-*** Thyroid gland

***-*** Epiphysis

***-***Liver

***-*** Hypophysis

#

The aim of the morphological study was to investigate an endocrine gland with parenchyma

consisting of epithelium and neural tissue. In the epithelial trabeculae the study revealed two

types of cells: chromophile and chromophobe. Identify this organ:

***+***Pituitary gland

***-*** Adrenal gland

***-*** Hypothalamus

***-*** Thyroid gland

***-*** Parathyroid gland

**Oral cavity**

#

A histological specimen of mandible of an embryo shows a tooth germ with the dental papilla

made up of small stellate basophilic cells. What tissue forms this part of the tooth germ?

***+*** Mesenchyme

***-*** Epithelial

***-*** Reticular

***-*** Cartilaginous

***-*** Osseous

#

Examination of a 42-year-old patient suffering from paradontosis revealed some roundish

calcified formations 2-3 mm in diameter in the coronal pulp. Name these structures:

***+*** Denticles

***-*** Interglobular dentin

***-*** Interglobular spaces

***-*** Sclerotic dentin

- Dead dentin

#

A 35-year-old patient consulted a dentist about low density of dental tissues, increased fragility

of teeth on eating solid food. In order to determine Ca/P relation a scrape of enamel was sent to

the laboratory. What value of this index is suggestive of intensified demineralization?

***+*** 0,9

***-*** 1,67

***-*** 1,85

***-*** 2,5

***-*** 1,5

***#***

A histological specimen presents a developed tooth that has a coating resistant to acids, but it

can be found only on the lateral surfaces of the tooth. What coating is meant?

***+*** Cuticle

***-*** Dentine

***-*** Enamel pellicle

***-*** Enamel

***-*** Cement

***#***

Histological study of an extirpated pulp revealed some cylindrical cells in its peripheral layer.

What are these cells called?

***+*** Odontoblasts

***-*** Fibroblasts

***-*** Monocytes

***-*** Ameloblasts

***-*** Myofibroblasts

**#**

Before teeth come out first on their roots appears a solid tissue that looks like membrane

reticulated bone. What tissue is it?

***+***Cement

***-*** Dentin

***-*** Enamel

***-*** Loose fibrous connective tissue

***-*** Dense fibrous connective tissue

**#**

A histological specimen presenting a tooth slice shows that the intercellular dentin substance

contains collagen fibers being tangential to the dentinoenamel junction and perpendicular to the dentinal tubules (Ebner's fibers). This dentin layer is called:

***+*** Parapulpar dentin

***-*** Mantle dentin

***-*** Granular layer

***-*** Interglobular dentin

***-*** Secondary dentin

**#**

Histological examination of trasverse enamel slice revealed linear banding in form of concentric

circles that is pointing at an angle to the dentinoenamel junction. Name these structures:

***+***Retsius' lines

- Hunter-Schreger's lines

***-*** Enamel plates

***-*** Enamel fascicles

***-*** Enamel spindles

**#**

During the embryogenesis of oral cavity the development of dental enamel was disturbed. What source of dental development was damaged?

***+***Epithelium

***-*** Mesenchyma

***-*** Mesoderma

***-*** Dental saccule

***-*** Dental papilla

**#**

During the tooth development the enamel organ has prismatic cells with hexagonal intersection; the nucleus is situated in the central part of the cell. What cells are meant?

***+***Preenameloblasts

***-*** Exterior enameloblasts

***-*** Cambial cells

***-*** Enamel pulp cells

***-*** Preodontoblasts

#

A histological specimen of an oral cavity organ demonstrates that the organ's anterior surface is lined with multilayer squamous nonkeratinous epithelium, and its posterior surface - with

multiserial ciliated epithelium. What organ is it?

***+*** Soft palate

***-*** Gingiva

***-*** Hard palate

***-*** Lip

***-*** Cheek

**#**

A child damaged the lateral surface of his tongue. What lingual papillas are most likely to be damged?

***+***Foliate

***-*** Conic

***-*** Vallate

***-*** Filiform

***-***Fungiform

#

During examination of a child's oral cavity a pediatrician found 8 incisors. The child's

development corresponds to his age. How old is the child?

***+***10-12 months

***-*** 6-7 months

***-*** 7-8 months

***-*** 12-15 months

***-*** 16-20 months

#

Examination of a tooth slice of a 42 y.o. man revealed on the dentinal-enamel border some solid

linear fusiform structures as long as 1/3 of enamel depth. What structures were revealed?

***+***Enamel spindles

***-*** Denticles

***-*** Enamel fascicles

***-*** "Dead" tracts

***-***Carious damage

#

During examination of a child's oral cavity a pediatrician established presence of inferior medial

incisors. The child's development is normal. How old is the child?

***+***6-7 months

***-*** 8-9 months

***-*** 10-12 months

***-*** 13-14 months

**Digestive system**

**#**

An animal had been intensively fed with carbohydrates. Histologic examination of its liver

revealed a significant number of glycogen granules. Glycogen relates to the following group of

cell structures:

***+***Trophic granules

***-*** Secretory granules

***-*** Excretory granules

***-*** Pigment granules

***-*** Special organelles

**#**

In a histological specimen the gland adenomeres should be determined. They are formed by the

cells with central round nucleus and basophilic cytoplasma. Determine the type of adenomeres:

***+***Serous

***-*** Mucous

***-*** Combined

***-*** Sebaceous

***-*** Seromucous

**#**

A patient underwent gastroscopy that revealed insufficient amount of mucus covering the

mucous membrane. This phenomenon is caused by the dysfunction of the following cells of

stomach wall:

***+***Cells of prysmatic glandular epithelium

***-*** Parietal cells of gastric glands

***-*** Principal exocrinocytes of gastric glands

***-*** Cervical cells of gastric glands

***-*** Endocrinocytes

***#***

Examination of a microspecimen made of an unknown organ revealed some acini that contained

10-15 cone cells with basophilic cytoplasm, round nucleus and well developed granular

endoplasmic reticulum. An acinus is surrounded by a basal membrane with myoepithelial cells

localized in its splitting. What organ is the slice made of?

***+***Parotid gland

***-*** Pancreas

***-*** Lungs

***-*** Sublingual gland

***-*** Liver

**Respiratory system**

**#**

A 28 y.o. patient was diagnosed with acute inflammation of mucous membrane of nasolacrimal

duct. It is known from his anamnesis that he was having nasal discharges for 10 days after he

had recovered from flu. From which part of nasal cavity could the infection have penetrated into

the nasolacrimal duct?

***+***Inferior nasal meatus

***-*** Medial nasal meatus

***-*** Superior nasal meatus

***-*** Vestibule of nose

***-***Frontal sinus

**#**

A patient with an acute rhinitis has hyperemia and excessive mucus formation in nasal cavity.

What epithelial cells of mucous membrane have the intensified activity?

***+***Goblet cells

***-*** Ciliated cells

***-*** Microvillous cells

***-*** Basal cells

***-***Endocrine cells

**#**

Premature infants have syndrom of respiratory failure. Failure of what aerohematic barriere

component underlies this pathology?

***+***Surfactant

***-*** Capillary endothelium

***-*** Basal membrane of endothelium

***-*** Basal membrane of alveolocytes

***-*** Alveolocytes

**#**

A patient was admitted to the hospital with an asphyxia attack provoked by a spasm of smooth

muscles of the respiratory tracts. This attack was mainly caused by alterations in the following

parts of the airways:

***+***Small bronchi

***-*** Median bronchi

***-*** Large bronchi

***-*** Terminal bronchioles

***-***Respiratory part

**Urinary system**

**#**

In course of an experiment the blood pressure of an animal had a stable rise by means of renal

artery constriction. Hyperfunctioning of what renal cells cause this effect?

***+***Juxtaglomerular cells

***-*** Podocytes

***-*** Endotheliocytes

***-*** Interstitial cells

***-***Thick spot cells

**#**

Electron micrograph of a kidney fragment presents an afferent arteriole with big cells under

endothelium. These cells contain secretory granules. Name this type of cells:

***+***Juxtaglomerular

***-*** Mesangial

***-*** Smooth muscular

***-*** Juxtavascular

***-*** Interstitial

**#**

A patient suffering from chronic renal insufficiency has got osteoporosis. Osteoporosis was

caused by abnormal synthesis of the following regulator of mineral metabolism in kidneys:

***+***1,25(OH)2 D3 formation

***-*** Proline hydroxylation

***-*** Lysine hydroxylation

***-*** Glutamate carboxylation

***-*** Cortisol hydroxylation

#

A histological specimen of a kidney shows a part of the distal tubule going between the afferent

and efferent arteriole. The cells building the tubule wall have dense nuclei; basal membrane is

absent. Such structural formation is called:

***+***Macula densa

***-*** Juxtaglomerular cells

***-*** Mesangial cells

***-*** Juxtavascular cells

#

A microphotography represents a fragment of cortical substance of a kidney. This fragment

contains thick spot cells and juxtaglomerular cells with big secretory granules. What kidney

structure is represented?

***+***Juxtaglomerular apparatus

***-*** Renal corpuscle

***-*** Filtering barrier

***-*** Prostaglandin apparatus

***-*** Choroid glomus

#

Electron-microscope investigation of cortical substance of a kidney reveals some structures

lined with prismatic epithelium that normally has brush border and deep plicae of plasmolemma

in its basal part. There is a big number of mitochondrions between these plicae. These

structures belong to the following part of a nephron:

***+***Proximal tubule

***-*** Distal convoluted tubule

***-*** Henle's loop

***-*** Renal corpuscle

***-***Distal straight tubule

**Reproductive system**

***#***

The impact of oxytocin on uterus wall helps to stop uterine bleeding after labor. What

membrane of this organ reacts on the effect of this hormone?

***+***Myometrium

***-*** Endometrium

***-*** Perimetrium

***-*** Parametrium

***-*** Submucous membrane

#

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:

***+***Formation of a fibrous cicatrix

***-*** Formation of smooth muscular tissue

***-*** Formation of cross-striated muscle fibers

***-*** Proliferation of myosatellitocytes

***-***Hypertrophy of smooth myocytes