

tralized storage of information, information exchange between the universities (internal curricula, reports, storage of document versions), web-based system of distance learning.

Conclusions. To improve the quality of BMI education one needs to integrate medical and technical universities in the training of students. To achieve this purpose we have to develop new curricula, courses and learning materials, presented at web-portal for distance learning.

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LECTINOHISTOCHEMICAL REGULARITIES EPITHELIAL GERMS DIFFERENTIATION OF THE HUMAN PAROTID GLAND

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In spite of the fact that the period of the intrauterine development is relatively short transformation of the body during this time is rather considerable. The lectin (Lc) histochemistry is a new modern methodological approach to the study of glycopolymers (glycoproteins and glycolipids) in cells and extracellular tissue structures, particularly during embryonic differentiation [1; 4]. Glycopolymeric (GPM) compounds make up structural and functional basis of cells and tissues of a living organism [2; 5; 7]. Existence of identification and junction of such glycopolymers by endogenic Lc in the body, called lectin-receptor interactions, can trigger lectin-dependent regulations of cellular functions and cellular response in ontogenesis which stipulate differentiation of tissues and their structural components.

Information from the literature on the histological topography lectins receptors in the early months of prenatal human ontogenesis

few and about the characteristics of expression of carbohydrate determinants rudiments of parotid gland in early human prenatal ontogenesis – are absent [3; 6]. The necessity of anatomical-lectinohistochemical examination of the parotid gland (PG) in early prenatal period of ontogenesis is substantiated.

Objective: to study expression of Lc GPM-receptors on the surface of cells, cytoplasm and on the basal membrane of the human parotid gland epithelial germs and oral cavity with its derivatives.

Material and methods. Studied 50 embryos and fetuses aged up to 21 days to 12 weeks of fetal development (FD) 2,5-70,0 mm parietal-coccygeal length (PCL) in stages from the early period of mature and immature neural groove stage somites before the fetal period (which corresponding X-XII levels of development Streeter and 9-23 stages, adopted at the Carnegie Institute). For research using embryonic material, which developed in the uterus in the absence of obvious damaging environmental factors. Glycopolymers cells and extracellular tissue structures detected by processing of serial sections of Lc, conjugated with horseradish peroxidase. The intensity of the reaction of that develops – from light- to dark brown. Control of the specificity of the reaction was carried out by excluding diaminobenzidine of circuit processing drugs.

Results. Early histogenesis of PG, oral cavity with its derivatives are found to be accompanied by GPM synthesis with final non-reduced residues of N-acetyl-D-glucosamine, and to a lesser extent – N-acetylneuraminic acid, which appear to be Lc wheat germs (WGA) (table 1). The epithelium lining the oral cavity, buccal-alveolar pockets, tongue, and forming PG germs on the stages of its development or isolation from the previous germs, contains a number of GPM with final non-reduced residues of N-acetyl-D-glucosamine, and to a lesser extent – N-acetylneuraminic acid. Development and growth of these organs result in a complete reduction of lectin receptors (LR) of wheat germs on the basal membrane (BM) of the epithelium.

Table 1. Characteristics of carbohydrate specificity of lectin used in the study of early prenatal ontogeny of the human parotid gland.

Name lectin	Carbohydrate specificity
Wheat Germ Agglutinin (WGA)	N-acetylneuraminic (sialic) acid and to a lesser extent, N-acetyl-D-glucosamine
Elderberry lectin (SNA)	N-acetylneuraminic (sialic) acid and less β -D-galactose
Helix pomatia lectin (HPA)	N-acetyl-2-deoxy-2-amino-D-hlyukopiranoza
Ricinus communis Agglutinin (RCA)	β -D-galactose, sialic acid shielded
Solanum tuberosum (STA)	N-acetyl-hitotriozamin
Laburnum anagyroides (LABA)	α -L-fucose
Peanut agglutinin (PNA)	β -D-galactose

To the extent of growth and branching of the epitheliumtaenia into smaller ducts of PG these substances are deposited on the epithelial apical surface (AS) of the major efferent ducts, and the epithelium of newly formed small ducts does not contain them. On early stages of human embryogenesis the cells of the PG epithelial germ synthesize a considerable amount of GPM with final non-reduced residues of N-acetylneuraminic acid. Cell migration in the process of dichotomic branching of the epithelialtaenia of PG duct germs is connected with accumulation of sialic GPM on BM and AS, as well as in the cytoplasm of epithelial cells. At the end of principal branching (dichotomic divisions of PG germ) – to the 12th week of embryogenesis, LR of wallwart (*Sambucusnigra*) undergo reduction and are contained only in the cellular cytoplasm.

The dynamics of expression and reduction of sialic-containing glucoconjugates which appear to be Lc of wallwart (*Sambucusnigra*), in the epithelial germs of the PG and oral acidity with its derivatives is similar and consists of biosynthesis and accumulation of a noticeable amount of these biopolymers on the earliest stages of the intrauterine development on the AC of the epithelial layer and in the cytoplasm inclusions. During the second and at the beginning of the third month of embryogenesis the concentration of these compounds remains on a high level in the same areas of localization.

At the end of the third month of the intrauterine development the cytoplasm of epitheliocytes gets free from LR at the expense of their reduced amount on AS. BM of the PG epithelial germ and the

oral epithelium with its derivatives during the whole period of the study on the action of Lc of wallwart (*Sambucusnigra*) remain SNA-negative. At the end of the third month of fetal development cytoplasm of epithelial cells released from lectin receptors by reducing their number in the apical plate.

Invagination of epithelial cells in areas bucco-alveolar pockets into the underlying mesenchyme and their transformation into epithelial cords is to the accumulation of specific glycopolymers of the Lc WGA, SNA, HPA, RCA, LABA.

Throughout the study period on the surface of epithelial cells (the cell membrane) bookmarks PG revealed the presence of dynamic growth glycopolymers with finite irreducible residues β -D-galactose – specific to Lc PNA; α -D-mannose – specific to Lc LCA and N-acetylhitotriozamin – specific to Lc STA. Basement membrane and cytoplasm to interact with data lectins gives slightly positive and moderately positive reaction.

Results lektynohistochemical study of early prenatal ontogenesis parotid gland can serve as a basis in the laboratory screening material for morphological maturity evaluation and prediction of fetal viability and diagnosis of deviations from normal development. Lectins are naturally occurring carbohydrate-binding molecules. A very wide range of purified lectins are commercially available which exhibit a diversity of carbohydrate-binding preferences [9]. They can be used in the laboratory to detect carbohydrate structures on, or in, cells and tissues in much the same way that purified antibodies can be employed to detect cell- or tissue-bound antigens using immunocytochemistry.

Conclusions.

The dynamics of prenatal morphogenesis of the embryos and pre-fetuses of the 4th-12th week so fembryogenesis expression of glycopolymers – lectinreceptors on the surface of cells, in the cytoplasm and on the basal membrane of the parotid gland epithelial germs and the human oral cavity with its derivatives by re-distribution of glycopolymers are similar, which can be the evidence of ectodermal source of the parotid gland epithelial germ.

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ANEURYSMAL BONE CYST IN CHILDREN

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Relevance of the topic. Aneurysmal bone cyst is one of the most important problems of today's medicine. Aneurysmal bone cyst is known as the monoosseal dystrophic process which courses to severe pain syndrome or even pathological fracture of the injured extremity. Clinical, radiological researches with pathomorphological verification are main methods for true and timeous diagnostics. Aneurysmal bone cyst has features similar to some dysplastic and tumor-like processes therefore it is necessary to make a correct differential diagnostics.

Aim. To study localization of aneurysmal bone cyst in children.

Methods and materials. Results of clinical and radiological research of 14 patients aged 6-14 years with an aneurysmal bone cyst have been analyzed. Conventional radiography and spiral computed