



indicative of a considerable development of the anterior surface in its length associated with the development of the cellular process.

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ANATOMICAL PECULIARITIES OF THE PAROTID GLAND STRUCTURE IN HUMAN FETUSES

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Formation of organs is a very complicated process not investigated completely. The role and value of additional information concerning the intrauterine human development are hardly to be overestimated for the solution of issues of perinatal medicine. The parotid gland is an object of a special attention of many scientists. At the same time, the findings concerning typical and variant anatomy of the parotid gland during the fetal period of human development remain disputable and even controversial.

The objective of the study was to investigate variant anatomy and topographic-anatomical peculiarities of the human parotid gland and surrounding structures in fetuses. The parotid gland was examined on 25 human fetuses, 130,0-375,0 mm of the parietal-coccygeal length (PCL). The following methods were applied in the course of the study: thing section of the parotid gland and parotid-masticatory area under the control of a binocular magnifying glass; macro- and microscopy; morphometry; computed 3-D design.

The parotid gland is found to be located in fetuses with 130,0-375,0 mm of PCL in a deep depression posteriorly the branch of the lower jaw, in the posterior mandibular fossa. A greater part of the gland is located between the mandible and sternocleidomastoid muscle penetrating deeply between these structures. The skin of the area is mobile, the adipose tissue and superficial fascia are especially well seen at the end of the examined period of the prenatal development. The structure of the parotid gland of 4-10 month human fetuses is anatomically changeable which is manifested by different shape (oval, leaf-shaped, horseshoe-like, triangle, irregular tetragonal), location and syntopy. Computed 3-D design of the gland presents its volumetric description which is the most practical one – in the shape of trilateral pyramid turned to the malar arch by its base, and to the mandibular angle – by its apex. A number of structures pass through the tissue of the parotid gland including facial nerve, posterior mandibular vein, external carotid artery, auricular-temporal nerve. The parotid duct is formed due to the fusion of two extra-organ lobular branches which in their turn are formed by means of fusion of several upper and lower lobular ducts emerging from the gland tissue passing through its capsule. The direction of the parotid gland is arch-like, with upward convexity. Passing along the external surface of the mastication muscle the parotid duct touches the upper extremity of the adipose body of the cheek and penetrates through the buccal muscle into the oral vestibule where it opens in the shape of a papilla of the parotid duct. The length of the parotid duct in the fetuses of the third trimester is 8,0-26,0 mm, diameter of the lumen is within 0,8-2,5 mm. The parotid duct is projected on the skin of the face from both sides along the line from antilobium to the mouth angle. The wall of the parotid duct consists of the connective tissue rich in elastic fibers and epithelium lying the lumen of the duct. The epithelium consists of two layers – deep cubic and superficial cylindrical.

Therefore, morphogenesis and topographic formation of the human parotid gland in fetuses are influenced by a total effect of spatial-temporal factors associated with the dynamics and close syntopic correlation of organs, vascular-nervous formations and fascial-cellular structures of the parotid area. At the end of the 10th month of the prenatal development the parotid gland under the microscope demonstrates its practically definite shape, although histological processes of differentiation in it are not completed yet.

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DETERMINATION OF MATRIX METALLOPROTEINASES EXPRESSION IN CELLS OF DUCTAL BREAST CARCINOMA WITH METASTASES AND WITHOUT THEM

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Ductal breast carcinoma is about 80% of all types of carcinomas. Immunological and histochemical methods of investigation were used for the study of matrix metalloproteinases (MMP) in tumors during past years. They have the ability to change the properties or destroy the extracellular matrix components. Tumor cells acquire metastatic capabilities, including changes in intercellular connections, basal membranes and other barriers for multilevel process of metastasis.

In addition, the formation of a "metastatic niche" in the area of future implantation plays a significant role in the processes of metastasis. Recent researches point to a particular functional role of MMP-9 in creating of "niches" in places of distant metastases before migration.

162 cases of ductal breast carcinoma, including 97 cases with metastasis and 65 cases without them were used in the research. The expression of MMP-2, -9 was determined with the help of the immunohistochemical diagnostic method. The obtained preparations were transformed into digital images. The level of expression in units of optical density was determined by (ImageJ), the computer microdensitometer program. Quantitative indicators between groups with metastases and without them were compared on the basis of the obtained data. It was found out that the index was within the range of 0.221-0.272, the average figure was 0.238 in determining the expression of MMP-2. In 91% of cases, the metastatic indicators of optical density were ≥ 0.238 , at 9% ≤ 0.238 . In the non-metastatic group, the results were: