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MORPHOLOGICAL CHANGES OF THE ADENOHYPOPHYSIS OF THE CHILD ON A BACKGROUND OF MATERNAL HIV INFECTION

Исследование проведено в рамках научно-исследовательской работы «Патоморфологические особенности формирования плода и новорожденного под влиянием патологии матери» (номер государственной регистрации 0110U001805).

ABSTRACT. Background. A key element of adaptive-compensatory mechanism of the endocrine system of the body is the anterior pituitary. Despite the obvious importance of the adenohypophysis in the development of the endocrine system of the fetus, its age morphology described only in a few papers. **Objective.** Identification of morphological and functional changes in the adenohypophysis of the child on a background of HIV infected mothers. **Methods.** Immunohistochemical examination was performed using the indirect method of Coons modifications M.Brosman. ACTH (adrenocorticotropic hormone) and TSH (thyroid stimulating hormone) were detected by mAb (monoclonal antibody) to ACTH and TSH firm Chemicon international (a Serological company). Immunohistochemical study was carried out in the luminescent microscope «Axioskor 40" using the software Biostat. exe. The optical density was determined by immunofluorescence method Gubina Vakulik-GI and co-workers. Histological morphometric research was carried out on the microscope Olympus BX-41 using programs Olympus DP-Soft (Version 3: 1), and Microsoft Excel. The density of the cellular elements 400 recalculated by increasing at 10 the limited fields of view. All digital data is processed by methods of mathematical statistics using variations and alternative analysis. **Results.** Children did not demonstrate any violation of the adenohypophysis in embryogenesis, but influence of stress for a long period of time, including the prenatal period, leading to tension, and subsequently to the disruption of the adaptive-compensatory possibilities of the adenohypophysis. These immunohistochemical studies show a progressive reduction in the intensity of luminescence in thyrotropocytes and adrenocorticotropocytes; it also evidence depression of the functional state of the adenohypophysis. In the adenohypophysis we found profound functional exhaustion, manifested by the massive growth of the stroma, increasing the relative volume chromophilic cells by reducing the chromophobes, as well as reducing the emission intensity of thyrotropocytes and adrenocorticotropocytes. **Conclusion.** Immunohistochemical study allowed us to identify reduced light intensity of thyrotropocytes and adrenocorticotropocytes treated with monoclonal antibody to TSH and ACTH in the adenohypophysis of dead children from 6th months up to 1 year of HIV-infected mothers. A massive expansion of the stroma, increasing the relative amount of chromophilic cells due to reducing of chromophobe cells. These immunohistochemical studies indicate a profound depletion of anterior pituitary gland function in children who died at the age from 6 months to 1 year old from HIV-infected mothers.

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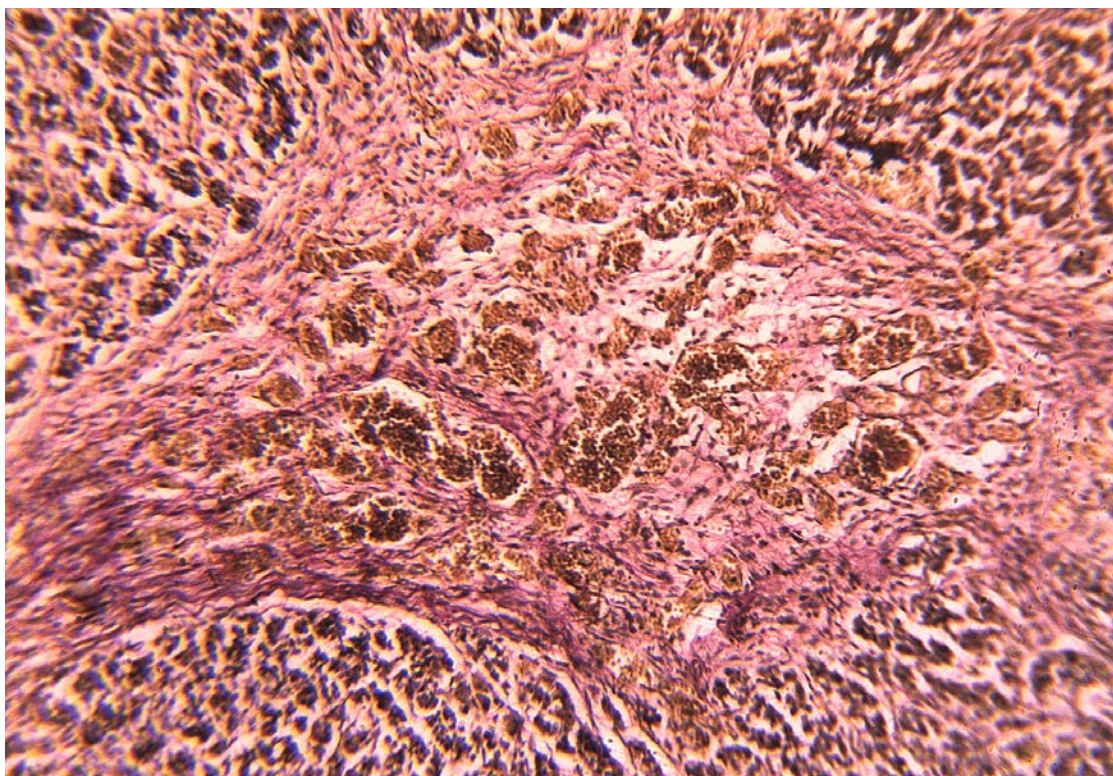


Fig. 1. D-2 group adenohypophysis. Network of full-blooded sinusoid capillaries with pronounced perivascular sclerosis. Van Gieson staining. $\times 100$.

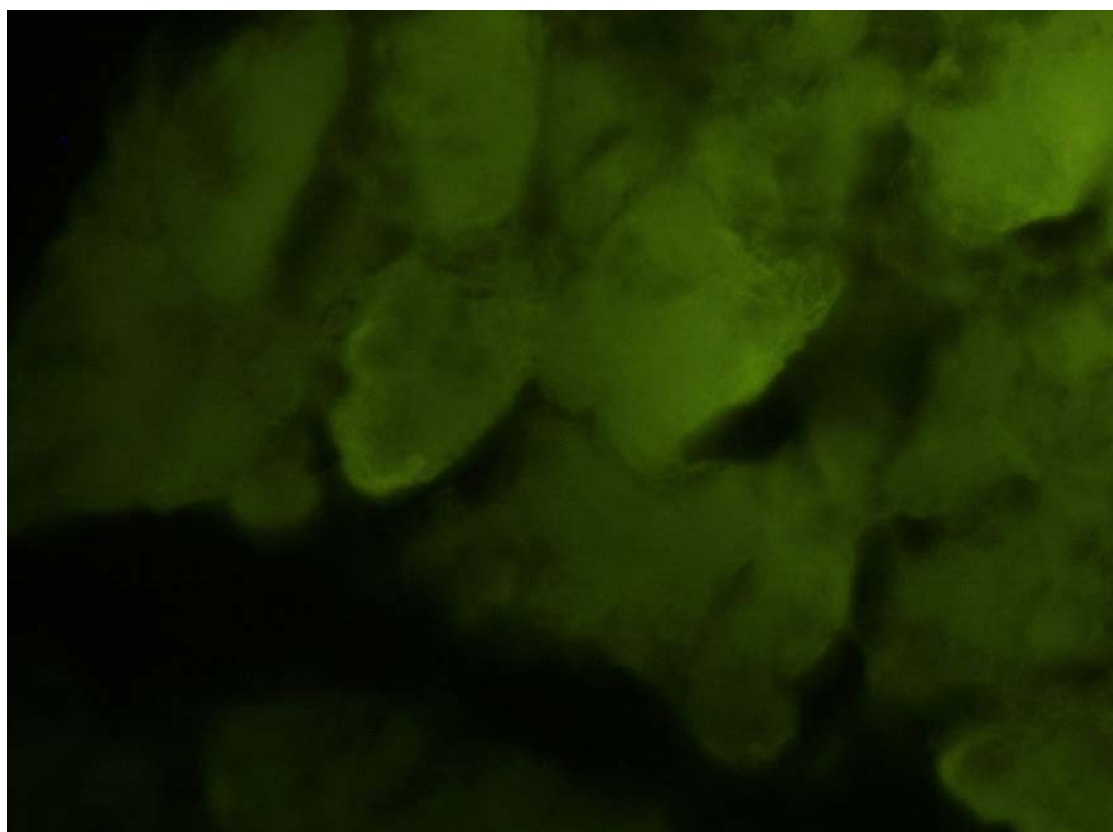


Fig. 2. Poor specific luminescence of the thyrotropocytes cytoplasm in the adenohypophysis of group D-2 child. Direct method of Coons with monoclonal antibodies to the ACTH. $\times 600$.

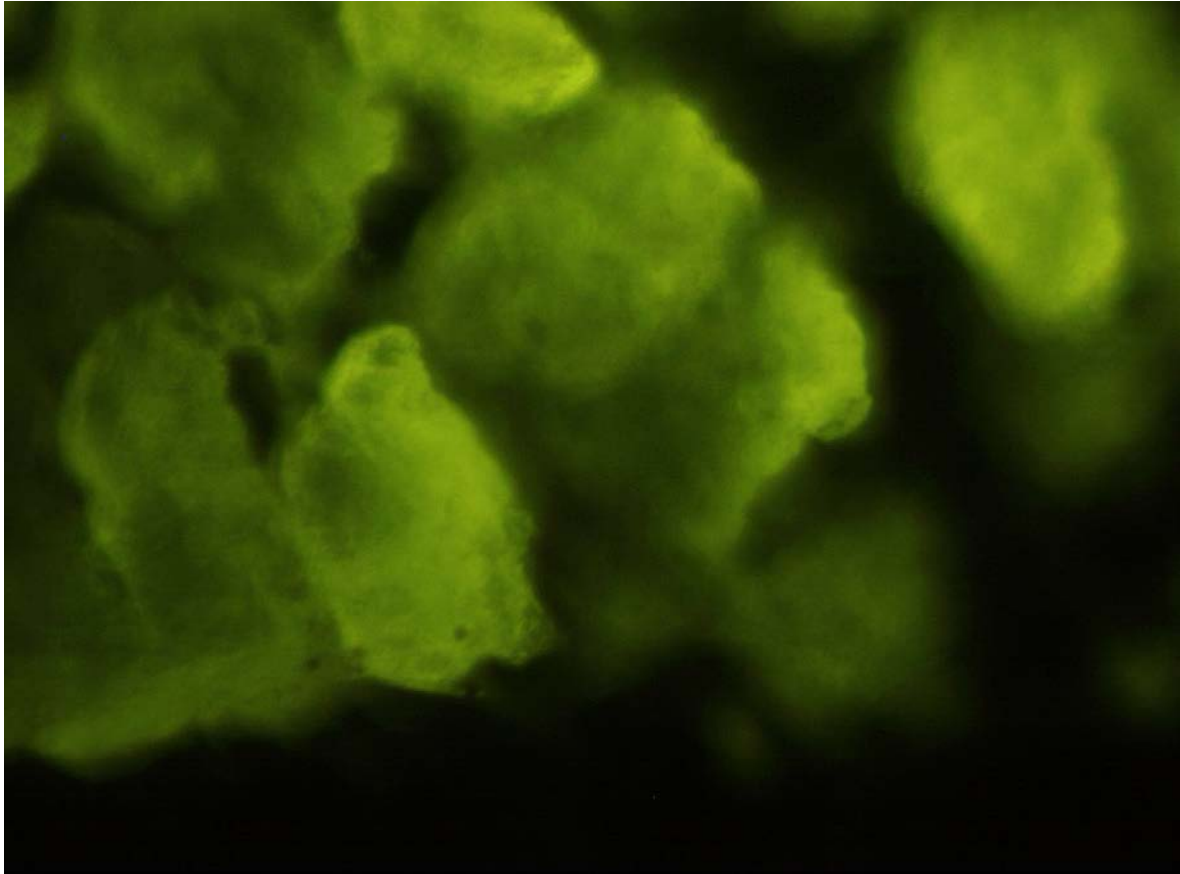


Fig. 3. Poor specific luminescence of the adrenocorticotropocytes in the adenohypophysis of group D-2 child. Direct method of Coons with monoclonal antibodies to the ACTH. x600.

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