ANATOMY AND HISTOLOGY OF THYROID GLAND OF THE HEDGEHOG (ERINACEUS CONCOLOR) IN BELARUS

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Introduction. High dynamic activity and the energy status of the body of hedgehog is largely determined by the functioning of the endocrine glands, namely the thyroid gland, which can also act as a morphological indicator of the surrounding environment in which the organism lives. The purpose of the research was to identify anatomical and histological features of thyroid structure in the hedgehog (Erinaceus concolor Linnaeus, 1758) in Belarus.

Materials and Methods. The study was conducted in the laboratory of histology course. Material was collected in the Vitebsk region. Histological and morphometric methods were used. Glands were fixed in a mixture and subjected Rouge poured into paraffin. Histological sections were stained for scoping study with hematoxylin-eosin. Measurements and microphotography of the structural elements of thyroid glands were performed with light microscope «Olympus» BX-41 with digital camera.

Results: It was found that the thyroid gland in hedgehog has paired compact body, consisting of two (right and left) lobes interconnected with isthmus. Their form is drop-like, caudally narrowed. The thyroid gland is fixed by the connective tissue and the isthmus is on the sides of the trachea. Right and left lobes are located symmetrically: cranial reach the thyroid cartilage, and caudal - 6th tracheal rings (at 2 - 4th cervical vertebra). A thin connective gland isthmus extends from the caudal lobes and reaches the level of 7 - 8 th tracheal ring. Thyroid hedgehog, like a mole, in contact with sternothyroid muscle, where close by common carotid artery and vagosympathetic trunk. The blood supply to the body at the expense of the thyroid artery, which divides into two branches - cranial and caudal.

Morphometric measurements of the right and the left lobe are identical to each other. The absolute mass of the right lobe of 0.07 ± 0.011 g, length - 0.62 ± 0.098 cm, width - 0.25 ± 0.001 cm, thickness - 0.20 ± 0.016 cm absolute mass of the left lobe of 0.07 ± 0.014 g length - 0.62 ± 0.011 cm, width - 0.30 ± 0.001 cm, thickness - 0.20 ± 0.095 cm.

Histological thyroid hedgehog found that organ parenchyma, as well as at a mole represented by all classical structural elements. Follicular cells
cubic form, is formed for each follicle wall, their height is 3.75 ± 0.214 micrometer. Kernels thyroid epithelium round shape and located in the center of the cell. Most nuclei containing 2, and sometimes 4 nucleolus, indicating that the cells actively participate in protein synthesis processes. C-cells are located throughout the gland in the form of islands – inter follicular position. The rounded shape C-cells are rare. Nuclei usually oval, rarely rounded, and usually somewhat larger and lighter nuclei follicular cells. The nucleus contains 1 - 3 nucleolus. The granules are evenly distributed in the cytoplasm of C-cells. The incidence of thyroid follicular hedgehog diverse, it is dominated by small follicles with a diameter 18.22 ± 1.366 micrometer, medium and large follicles are rare and are located beneath the capsule on the body periphery. The follicles are partially filled with colloid together tightly are not adjacent, due to the large number of inter-follicular islands or pads Sanderson. The latter are typically follicular cells at different stages of differentiation, among which are follicles consisting of 6 - 8 cells. Inter-follicular connective tissue, forming a broad layer between follicles with passing them vessels and nerves in the thyroid gland hedgehog is well developed, unlike a mole. Consequently, for the Belarus hedgehog characteristic trabecular type, follicular thyroid structure, unlike other mammals, which often is characterized by follicular and trabecular type. The reported type of thyroid structure hedgehog is different from the most common - the classic change of epithelial-stromal relations in favor of increasing the area inter-follicular islands.

**Conclusion.** The data obtained can be used for the purpose of forming and the subsequent enrichment of the fundamental base of information on morph functional characteristics of the endocrine glands in the various aspects of wild animals for the formation of a set of indicators and morphometric database, reflecting the state of the thyroid gland of animals in specific environmental and territorial conditions of their habitat, feeding and breeding.

**References:**
