



8. ROLE OF FIBROBLASTS AND OTHER NON-FIBROBLASTIC STROMAL CELLS IN SUSTAINING THE THYROID GLAND STRUCTURE

Author: Berbeci Alexandrina

Scientific advisor: Globa Tatiana, MD, PhD, Assistant Professor, Department of Histology, Cytology and Embryology, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

Introduction. The thyroid gland is one of the most important endocrine organs that is responsible for producing hormones that regulate metabolism, growth, and development. Giving the primordial function of thyroid gland to secrete thyroid hormones, the majority of studies are oriented toward parenchima, the stroma being left in the shadow. In order for the parenchima to exert its function, it needs the stroma with its cells to support it, role of fibroblasts being undeniable. Stroma of the thyroid gland is still a mystery, that requires research and studies.

Aim of study. The study aims was to describe fibroblasts and other non-fibroblastic stromal structures role that sustain the structure of the thyroid gland.

Methods and materials. For this review were used articles and scientific publications from medical sites PubMed, Google Scholar, Medscape.

Results. Fibroblasts are connective tissue cells that secrete extracellular matrix components, which form a scaffold that supports the various cell types within the gland, including thyroid follicular cells responsible for hormone synthesis. Fibroblasts contribute to the maintenance of tissue architecture within the thyroid gland. Stromal cells, such as fibroblasts, mast cells and macrophages, participate in the regulation of angiogenesis by secreting growth factors and interacting with endothelial cells. Stromal cells help modulate the local immune environment, influencing the balance between tolerance and immune response to prevent autoimmune reactions. In addition, fibroblasts and other non-fibroblastic stromal cells play a role in facilitating regenerative process by providing the necessary support for cell proliferation and tissue remodeling.

Conclusion. Fibroblast functions extend beyond structural support to include regulatory roles in angiogenesis, immune modulation, extracellular matrix remodeling, and support for tissue regeneration. The collaboration between fibroblasts and other stromal cell types within the thyroid gland is essential for maintaining its structure and function. Key words. thyroid gland, stroma, fibroblasts, stromal cells.