ANALYSIS OF CARDIOVASCULAR HEMODYNAMIC CHANGES IN AUTOIMMUNE THYROIDITIS USING ULTRASONIC ECHOCARDIOGRAPHY

Najmutdinova D. K.
Nasirova A. K.
Rasulov A. D.
Tashkent medical academy

Keywords: autoimmune thyroiditis, echocardiography, cardiovascular hemodynamic changes, morphofunctional cardiac changes, hypothyroidism, cardiovascular system

Introduction:

Autoimmune thyroiditis (AIT) is a chronic disease characterized by gradual onset, non-specific early symptoms, and slow progression with increasing destructive processes in the thyroid gland. AIT is one of the most prevalent thyroid gland diseases and often accompanies hemodynamic changes affecting the structure and function of the heart. Altered thyroid hormone levels lead to dysmetabolic changes that disrupt structural and functional relationships in various organs, especially in the cardiovascular system. Clinical manifestations of cardiovascular disorders in hypothyroidism include polymorphic chest pain and exertional dyspnea against a background of varied and non-specific symptoms. Literature analysis and clinical observations of patients with hypothyroidism, particularly subclinical forms that often mask cardiovascular pathology, underscore the need for focused study and development of diagnostic, treatment, and prognostic approaches for hemodynamic changes in these patients. This study aims to identify and analyze morphofunctional changes in the heart of patients with different AIT phases.

Materials and Methods:

A total of 113 patients with autoimmune thyroiditis and no history of cardiovascular pathology were examined. For cardiac function analysis, patients underwent ultrasonic echocardiography (EchoCG) using the "PHILLIPS Affinity 70G" machine. M-mode, B-mode, and Doppler techniques were employed with patients in the left lateral decubitus position. Evaluation was conducted through parasternal short- and long-axis views of the left ventricle (LV) and apical 2-, 4-, and 5-chamber sections. Measurements included the mean values of three cardiac cycles.

Results:

EchoCG parameters were analyzed, including end-diastolic and end-systolic dimensions of the LV, LV volumes, stroke volume, cardiac output, and ejection fraction. Significant differences were found in LV dimensions and functions among patients with euthyroidism, subclinical, and overt hypothyroidism compared to the control group. The most pronounced

changes occurred in patients with overt hypothyroidism, showing increased LV dimensions and reduced functionality.

Discussion:

This study underscores the importance of early diagnosis and appropriate therapy for endocrine disorders to prevent cardiovascular complications in patients with AIT. Observed changes in cardiovascular hemodynamics require a comprehensive treatment approach, including correcting hormone levels and closely monitoring cardiovascular health. The results highlight the necessity of collaboration between specialists across disciplines to optimize the diagnosis and treatment of these patients.