RENAL ARTERY STENOSIS IN PATIENTS WITH GENERALIZED ATHEROSCLEROSIS.

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Introduction. Renal artery stenosis (RAS) is a common yet often underdiagnosed condition in patients with generalized atherosclerosis. It significantly contributes to secondary hypertension and progressive renal dysfunction. This study aims to evaluate the prevalence, pathophysiological mechanisms, and early diagnostic approaches for RAS in the context of systemic atherosclerotic disease.

Aim. The main aim of this study is to **evaluate the prevalence, diagnostic markers, and clinical significance of renal artery stenosis (RAS) in patients with generalized atherosclerosis**, with a focus on early detection methods and their role in preventing renal and cardiovascular complications.

Materials and Methods.

In an experimental cohort of 40 patients aged 55–75 years diagnosed with generalized atherosclerosis (confirmed via CT angiography and lipid profile), Doppler ultrasound and MR angiography were used to screen for RAS. Laboratory parameters (creatinine, eGFR, aldosterone levels) and blood pressure readings were evaluated before and after the administration of ACE inhibitors to identify functional significance.

Results.

RAS was detected in 17 of 40 patients (42.5%). Of these, 10 (58.8%) had bilateral involvement. Significant associations were noted between RAS and elevated systolic blood pressure (>160 mmHg), reduced eGFR (<60 mL/min/1.73 m^2), and elevated LDL-C. Patients with RAS showed a paradoxical rise in serum creatinine post-ACE inhibitor initiation — a diagnostic indicator of hemodynamically significant stenosis.

Discussion.

The study reaffirms the high prevalence of RAS in patients with diffuse atherosclerosis. Early identification using non-invasive imaging and biochemical markers is crucial to prevent irreversible renal damage and optimize antihypertensive therapy. Further, the study emphasizes the role of RAAS activation in the pathogenesis of RAS-related hypertension.

Conclusion.

Routine screening for RAS in high-risk atherosclerotic patients should be integrated into clinical practice. Non-invasive diagnostic tools, combined with functional assessment, provide an effective strategy for early intervention.

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