ATRIAL FIBRILLATION IN PATIENTS WITH PHARMACOLOGICALLY CONTROLLED HYPERTENSION – INDIRECT ANTIARRHYTHMIC EFFECTS FOR SINUS RHYTHM MAINTENANCE AFTER ELECTRICAL CARDIOVERSION

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DOI: https://doi.org/10.26800/LV-142-supp5-50

Introduction:

Rhythm control in atrial fibrillation (AF) patients with arterial hypertension (AH) remains complicated, attributed to pathogenetic link between both diseases. Indirect antiarrhythmic effects of medications not primarily recognized as sinus rhythm maintaining drugs, referred to as upstream therapies, including blood pressure-lowering agents, receive pathogenetically justified increasing attention. Nevertheless, studies demonstrate diverse success.

Aim:

To evaluate effectiveness of angiotensin-converting enzyme inhibitors (ACEIs)/angiotensin receptor blockers (ARBs), mineralocorticoid receptor antagonists (MRAs) and diuretics for sinus rhythm maintenance after electrical cardioversion (ECV) in AF patients with pharmacologically controlled AH.

Materials and Methods:

Study was conducted among hypertensive AF patients undergoing ECV in the Latvian Centre of Cardiology. Inclusion requirements were intake of ACEI/ARB, MRA or diuretic (at least one) and, additionally, class IC or class III antiarrhythmic drug prescription. Baseline interview and 1-, 3-, 6-, 9-, 12-month follow-up was conducted. Data was processed using MS Excel and SPSS Statistics software, calculating odds ratios (ORs) with 95% confidence intervals (CIs) for evaluation of sinus rhythm maintenance prospects (significance level $\alpha = 0.05$).

Results:

Among 105 participants, present ACEI/ARB use (75.2%) resulted in 51.9% 12-month sinus rhythm maintenance rate, with outcome for MRA therapy (24.8%) – 69.2%, diuretic intake (33.3%) – 57.1%. Compared to non-use, ACEI/ARB therapy increased OR for sinus rhythm maintenance by 47.1% (OR 1.471, 95%CI 0.601-3.599, p=0.396), MRA intake – by 197.8% (OR 2.978, 95%CI 1.158-7.657, p=0.021), diuretic use – by 58.3% (OR 1.583, 95%CI 0.699-3.588, p=0.270).

Conclusion:

Increased sinus rhythm maintenance likelihood tendency was observed for studied medications, with statistically significant result for present MRA therapy. Results demonstrate potential of MRAs among hypertensive AF patients in terms of rhythm control, yet not commonly highlighted for this group.

Keywords: Atrial Fibrillation, Electrical Cardioversion, Indirect Antiarrhythmic Effects, Mineralocorticoid Receptor Antagonists, Sinus Rhythm