Abstract: **P1873**

**Effect of remote ischemic preconditioning on electrophysiological parameters in non-valvular paroxysmal atrial fibrillation: the RIPPAF Randomized Clinical Trial**

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**Background:**

Atrial fibrillation (AF) remains the most relevant arrhythmia with a prevalence of 2%. The treatment options are either highly invasive and cost-intensive or limited by potential side effects or insufficient efficacy. However, no direct means of prevention that could reduce the burden of AF have been tested.

**Objective:**

To determine the effect of remote ischemic preconditioning (RIPC), performed by short episodes of forearm ischemia, on inducibility and sustainability of AF.

**Methods:**

146 patients with paroxysmal AF undergoing electrophysiological study were randomized to receive either RIPC or sham intervention. Atrial refractory periods (ERP), conduction times, velocities, and conduction delays measured in atria were analyzed by pacing from both proximal and distal CS-catheter. Endpoints of the study were the inducibility and sustainability of AF after pre-specified rapid pacing sequences. [NCT02779660]

**Results:**

RIPC significantly reduces the inducibility of AF (OR: 0.35, 95% CI 0.17-0.71, p=0.003) and led to a decreased dispersion of atrial refractory periods (16.0±14.0ms vs. 22.7±19.0ms, p=0.021) as well as shorter atrial conduction delays (49.2±19.6ms vs. 56.2±22.5ms, p=0.049 for proximal CS, 42.4±16.6ms vs. 49.8±22.2ms, p=0.029 for distal CS). However, there was no influence on sustainability of induced AF episodes.

In the whole cohort, longer atrial conduction delay (57.6±22.2ms vs. 50.0±20.5ms, p=0.044) and slower conduction velocity (1.74±0.3mm/ms vs. 1.93±0.5mm/ms, p=0.006) were associated with inducibility of AF, whereas a wider ERP dispersion of effective refractory periods (25.9±18.3ms vs. 15.7±11.6ms, p=0.028) maintain AF episodes.

**Conclusion:**

RIPC reduces the inducibility of AF. This effect is possibly mediated by changes in electrophysiological properties of atria.