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RESTORATION SINUS RHYTHM IN PATIENTS WITH ATRIAL FIBRILLATION IMPROVES PROGNOSTIC INDICATORS DURING CARDIOPULMONARY EXERCISE TESTING

Poster Contributions

Hall C

Saturday, March 29, 2014, 3:45 p.m.-4:30 p.m.

Session Title: Arrhythmias and Clinical EP: Advances in Stroke Risk Stratification for Patients with Atrial Fibrillation

Abstract Category: 4. Arrhythmias and Clinical EP: AF/SVT

Presentation Number: 1143-120

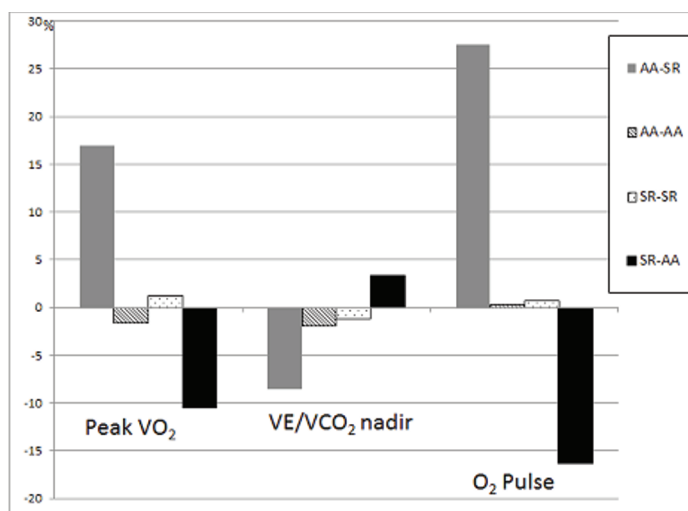
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Background: Restoration of sinus rhythm (RSR) in patients (pts) with symptomatic atrial fibrillation (AF) is often associated with improved symptoms yet its prognostic impact is not well established. Since peak oxygen consumption (peak VO₂), oxygen pulse (O₂ pulse), and breathing efficiency (VE/VCO₂ nadir) obtained during cardiopulmonary exercise testing (CPET) have prognostic value, we examined whether RSR has a favorable impact on these parameters.

Methods: We identified all pts with a history of AF who underwent multiple CPET evaluations at Mayo Clinic between October 31, 2005 and July 13, 2013. Peak VO₂, O₂ pulse, and VE/VCO₂ nadir were compared in pts in AF and in SR. Two subgroups were identified and compared: those who underwent CPET initially in SR then AF and those initially in AF then SR.

Results: 508 pts (mean age 61.2 ± 14.1, females 29.9%) were included. Peak VO₂, O₂ pulse and VE/VCO₂ nadir were 15.1, 33.8, and 11.5 respectively during AF and 18.2, 31.7, and 12.6 respectively during SR (P values <.0001, <.0001, .0024 respectively). In the subgroup that went from AF to SR, peak VO₂ and O₂ pulse increased by 16.9% and 27.6% respectively while VE/VCO₂ decreased 8.6%. Conversely, when a patient went from SR to AF peak VO₂ and O₂ pulse decreased by 10.5% and 16.3% and VE/VCO₂ increased 3.3%.

Conclusions: Based on CPET, RSR is associated with a significant improvement in cardiac function and prognostic indicators. These data provide impetus for a therapeutic strategy in pts with AF beyond improvement in symptoms.



Change in exercise parameters. AA-SR (N=38) indicates initially being in an AA for the first CPET and SR for the last. SR-AA had 44 pts. There were 238 pts in SR for both tests and 188 in AA for both tests.