

## Recovery of left atrial contractile dysfunction after conversion of atrial fibrillation with ranolazine plus amiodarone versus amiodarone alone

Nikolaos Tsanaxidis

New Cross Hospital, Heart and Lung Centre, The Royal Wolverhampton NHS Trust, UK



### Abstract

Patients presented in hospital with recent onset paroxysmal AF divided into two groups according to the management strategy planned. After conversion of atrial fibrillation (AF) to sinus rhythm, it is found that atrial contractility remains depressed for several days. Atrial stunning could be related to deranged atrial relaxation while increased  $Ca^{2+}$  might facilitate early recurrence of AF. This study assessed special markers indicating atrial contractile dysfunction after conversion of recent-onset AF (< 48 h) in 85 patients. All patients had AF episodes no longer than 30h and were prospectively divided into two groups dependent on therapeutic scheme used for converting AF. Accordingly, 41 patients (24 M/17 F, 65±11 y) were treated with A (5 mg/kg/1h iv+50 mg/h maintenance infusion) and 44 patients (18 M/26 F, 67±9 y) with A+R (5 mg/kg/1h iv+50 mg/h maintenance infusion + 1 g po, respectively). Left atrial diameter in the A and A+R group was 41.7±4 and 40±6 mm, (p=0.23). Left ventricular ejection fraction was 50.1±10.2 vs 57.4±3.9 % in the A vs A+R group (p=0.004). Conversion time amounted 16.1±4.6 vs 10.3±3.9h in the A vs A+R group (p<.0001). Left atrial ejection force (LAEF), and Left Atrial kinetic energy (LAKE) were assessed at 6, 24, and 48 h after cardioversion to estimate time course of recovery of atrial contractile dysfunction between the groups; left atrial volume index (LAVi) was measured 6 h post cardioversion (Table). These markers have shown significant superiority of A+R group with six times higher levels (measured in dynes) against the A group. Conclusion: Our data suggest that when R added to A significantly increased LAEF and LAKE reflecting improved LA contractile function after conversion of AF. This might be taken as an anti-stunning effect limiting mechano-electrical mechanisms that could trigger early recurrence of arrhythmia.

### Biography:

Nikolaos Tsanaxidis is an Interventional cardiologist and a TAVI Fellow in Cardiology at New Cross Hospital, Heart & Lung tertiary Centre, Royal Wolverhampton NHS Trust, UK. He is a Board Certified Cardiologist in UK and Greece since 2018; also PhD candidate in Larissa University Hospital, Greece. He is a Professional member of European Society of Cardiology (ESC) and EAPCI and member of British Cardiovascular Intervention Society (BCIS).

### Speaker Publications:

1. "P2683 Postoperative atrial fibrillation in patients with reduced ejection fraction heart failure undergoing cardiac surgery: ranolazine shortens time to conversion when added to amiodarone"; European Heart Journal / 2017 / Vol 38(1).
2. "Ranolazine Added to Amiodarone Facilitates Earlier Conversion of Atrial Fibrillation Compared to Amiodarone-Only Therapy"; PACE/ 2017/Vol 40 Issue 4/ 372–378.
3. "Spontaneous coronary artery dissection in a patient with cerebral autosomal dominant arteriopathy with subcortical infarcts and leucoencephalopathy syndrome: a case report"; European Heart Journal Case Reports/2019/ Vol 3, Issue 3.

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