



## 6001-574. ACCURACY OF MULTISLICE CARDIAC TOMOGRAPHY TO DEPICT CARDIAC VENOUS ANATOMY BEFORE CARDIAC RESYNCHRONIZATION THERAPY

María de la Paz Rikapito Brian, Santiago Rivera Giampieri, Mariano Badra Verdu, Jean Francois Roux, Paul Farand, Félix Ayala Paredes y Gerald Gahide del CHUS Fleurimont, Sherbrooke (Quebec).

### Resumen

**Background:** Recent developments in Cardiac Resynchronization Therapy (CRT) require thorough and detailed knowledge of cardiac venous anatomy and function. It has been demonstrated that left ventricular lead placement in a suitable coronary vein is a key determinant of responsiveness to CRT. Retrograde venography is currently the gold standard technique for defining Coronary Sinus (CS) anatomy, however Multislice Cardiac Tomography (MSCT) has been increasingly used as a non-invasive alternative. The aim of this study was evaluate the accuracy of MCT to determinate the presence of CS tributaries before CRT.

**Methods:** A retrospective analysis of 14 consecutive patients (Men: 71.42%) eligible to CRT was performed. MSCT to depict CS anatomy was assessed in all patients one to six days before CRT. CS retrograde venography was achieved in 12 patients. Both methods evaluated the presence of the following CS tributaries: Inferior Interventricular Vein (IIV), Posterior Vein (PV) and Lateral Marginal Vein (LMV). The CS ostium diameter and distance between the CS ostium and right atrium lateral wall were also measured.

**Results:** Median age was 73.5 years (range 53 years to 80 years) and 100% of patients presented NYHA FC III. Median echocardiographic Ejection Fraction (EF) was 25% (range 18% to 35%) and median right atrial area was 15 cm<sup>2</sup>, inter-quartile range (IQR) 13-18.75. The IIV was identified in 100% of MSCT, but only in 41.6% of venographies. In comparison to venography, the MSCT's sensibility and specificity to identify the presence of PV and LMV was 71.4%; 85.7% and 100%; 80% respectively. A kappa coefficient of 0.676 (IC95%: 0.29-1.06) for PV and 0.657 (IC95%: 0.22-1.09) for LMV were observed. Median CS antero-posterior diameter was 7.96 mm, IQR 7.06-11.67 and supero-inferior was 12.8 mm, IQR 11-15.07 (p: 0,001). A statistically significant positive correlation (r: 0.738, p: 0,003) between echocardiographic right atrial area and the distance from CS ostium to the right atrial lateral wall in the MSCT, was observed.

**Conclusions:** MSCT could be applied as a non invasive technique to depict CS and its tributaries (IIV, PV, LMV) before CRT. Knowing CS measures and anatomy could be useful to select eligible patients for intracardiac device implantation.