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P1012 - Non-Invasive Cardiac Output Assessment by Impedance Cardiography in Patients with Moderate to Severe Aortic valve Stenosis: Comparitive Study with Thermodilution Method

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Aim: The aim of the study was to compare the cardiac output (CO) measured by the impedance cardiography **(CO_{ic})** method with that of the thermodilution **(CO_{th})** method in patients with moderate to severe aortic stenosis.
Methods: Measurements of CO_{ic} and CO_{th} were compared in 30 patients with moderate to severe aortic valve stenosis, undergoing diagnostic right and left heart catheterization. Patient age ranged from 37 to 82 years (mean 48); there were 21 men and 9 women. Twenty five patients had sinus rhythm and 5 had atrial fibrillation
For non-invasive measurements of cardiac output by impedance cardiography, standard surface electrodes were applied to the left side of the neck and the left side of the thorax at the level of the xiphoid process. CO_{th} was assessed in triplicate by thermodilution via pulmonary artery catheterization
Results: The mean CO_{ic} was 4,9 ±1,4 litre min^{-1}. The mean CO_{th} was 5,0 ±1,6 litre min^{-1}.
There was no significant difference (P=0.6). An well correlation (r=0.73) was found between CO_{ic} and CO_{th} (P<0.001). The bias between the two methods (CO_{ic}-CO_{th}) was 0.03 litre min^{-1} and the limits of agreement, defined as the bias ±1,96 SD were − 1,9 and +2.0 litre min^{-1}.
Conclusions: Impedance Cardiography (ICG) is a feasible and accurate method for non-invasive measurements of CO. Haemodynamic measurements by ICG were correlated highly significant to measurements by the TD method.

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