

Title of the doctoral program

Bioengineering and Medical-Surgical sciences

Title of the research activity

Influence of different perfusion and aortic clamping techniques in minimally invasive mitral valve surgery: a randomized clinical trial

Short description of the research activity

Minimally invasive mitral valve surgery (MIMVS) has become one of the most innovative approach in cardiac surgery in the last few years. Compared with conventional surgery, MIMVS is associated with optimum outcomes, even if concerns still remain about neurological complications.¹⁻³ The risk of stroke in consequence of MIMVS, varies from 2 to 10% as reported by various studies and registries.⁴⁻⁸ This risk is increased considering transient clinical events and clinically silent infarcts (not associated with immediate and evident neurological deficit) theoretically capable of determining alterations of the neuropsychological profile of the patient and detectable with specific imaging modalities as magnetic resonance (MR).⁹

The purpose of this randomized blinded study is to prospectively evaluate major and minor neurologic event such as vascular complications in patients undergoing MIMVS and to compare different aortic clamping and perfusion techniques also from a fluid dynamics point of view; specifically, the endoaortic balloon with retrograde perfusion (Endoreturn - ER) and the transthoracic clamp (TT) with retrograde perfusion.

Scientific responsible (name, surname, role, email)Mauro Rinaldi, Principal investigator, mauro.rinaldi@unito.it**Number of vacancies for XXXI cycle (3 years program)**

1.

Specific requirements (experiences, skills)

Not required

Website of the research group (if any)

http://www.cittadellasalute.to.it/?option=com_content&view=article&id=176%253Acardiochirurgia-u&catid=57%253Asanitarie&Itemid=1