EXPLORATION OF ELECTROMECHANICAL DYSSYNCHRONY IN REPAIRED TETRALOGY OF FALLOT : COMPARISON OF MECHANICAL AND ELECTRICAL ACTIVATION OF RIGHT VENTRICLE BY 3-DIMENSIONAL ANALYSIS

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BACKGROUND

- Patients with Tetralogy of Fallot can develop right ventricular (RV) dysfonction
  - Partly related to electromechanical dyssynchrony due to right bundle branch block
  - Aggravated by chronic ventricular volume overload and progressive RV dilatation
- Abnormal mechanical activation pattern
  - Right sided septal flash/ early septal activation
  - Prestretch of laterobasal wall
  - Late contraction of laterobasal wall and post systolic shortening

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BACKGROUND

- Technical limitations of 2D echocardiography for RV analysis
- Interest of 3D analysis of RV :
  - Mechanical : permitted by 3D echocardiography and speckle-tracking
  - Electrical : permitted by endocardial mapping

OBJECTIVE

- To compare RV electrical activation by endocardial mapping and RV mechanical activation by 3D specke-tracking
- In order to understand electromechanical dyssynchrony in Tetralogy of Fallot

METHODS

- Inclusions of 30 patients, over 24 months
- French prospective and multicentric study
- Endocardial mapping : CARTO sofware, 3D speckle tracking : TomTec 4D RV Function 2.0 sofware

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