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Cardiac Dysfunction in Children and Young Adults with Heart Transplantation: A Comprehensive Echocardiography Study

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ABSTRACT

Background: Transplanted heart dysfunction remains a serious life threatening condition in cardiac transplanted children. Accordingly, several studies have focused their attention on the echocardiographic detection of early signs of cardiac dysfunction in this population. The purpose of our study was to evaluate advanced echocardiographic indices of cardiac function in large sample of children and young adults heart transplant with apparently normal cardiac function.

Methods: 60 patients with transplantation performed at pediatric age at the hospital Bambino Gesù in Rome between 1986 and 2014, with normal ejection fraction and 60 healthy controls were included in the study. All patients and controls underwent a complete transthoracic echocardiographic examination including tissue Doppler analysis, 2D-speckle tracking and three-dimensional echocardiography. 2D-Speckle tracking analysis was used to obtain measures of left ventricular radial, circumferential and longitudinal strain, as well as to derive left ventricular twist