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Predictors of outcomes in paediatric dilated cardiomyopathy

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Background: Dilated cardiomyopathies (DCM) is a severe disease and remains the leading cause of heart transplantation in children. Objective: To determine predictors of outcome during sequential follow-up of a cohort of pediatric DCM.

Methods: The study was retrospective (2000-2016) monocentric and included children with DCM. Clinical, biological, echocardiographic parameters and treatment information were collected throughout the follow-up.

Results: We included 110 patients. Mean follow-up was 4 years. 75% had no events during the first year of follow-up. 39% of patients died or underwent cardiac transplantation. In 27% of cases, the left ventricular function fully recovered. Predictors of events at baseline (death and transplantation) were age at diagnosis > 5 years ($p=0.017$), and cardiogenic shock as a presenting symptom ($p = 0.04$). During follow-up, hospitalization for acute cardiac failure ($p <0.0001$), and the need for loop diuretics during follow-up ($p = 0.01$) predicted events. In multivariate analysis, recurrent hospitalizations for heart failure and persistence of mitral insufficiency were risk factors of death ($p=0.02$ and $p<0.001$ respectively).

Conclusion: We identified number of hospitalizations for heart failure and persisting congestive status requiring diuretics as predictors of outcome in DCM. In addition, we identified mitral insufficiency as a string predictor of events suggesting that progressive dilatation of the left ventricle should be considered as a risk factor for subsequent events and that reducing mitral regurgitation potentially with pulmonary banding could be considered in these patients.