Objective and Methods:

There is only limited data on epidemiology, diagnosis and therapy of myocarditis in children and adolescents. MYKKE, a prospective registry for myocarditis from pediatric heart centers, university hospitals and community hospitals in Germany, aims to overcome this knowledge gap.

Results

By March 2017, 19 centers across Germany have enrolled 233 patients. Baseline data show clear trends for age: 0-<2 years (23%), 2-12 years (20%) and 13-18 years (57%); gender: male 65% (Figure 1). Decrease of exercise capacity (70%) was the leading symptom, followed by dyspnea (38%), angina (38%), arrhythmia (28%), feeding intolerance (20%) and syncope (12%). 55% had an infection less than 6 weeks ago, 37% fever.

Patients 0-<2 years had the highest incidence of reduction of ejection fraction (EF) below 30% (61%) compared with age groups 2-12y (43%) and 13-18y (8%, Figure 2). Furthermore they and the 2-12 year group had the highest need for VAD and/or ECMO therapy (28%; 2-12 years: 22%; 13-18 years: 7%; Figure 3).

Most children died in the 0-<2 years group (12.5%). The overall mortality was 5.2%. By now we have the follow up data of 118 patients with a median time of 8.7 ± 5.2 month after first visit. The median EF increased significantly from 48% at initial presentation to 63% at follow up (p<0.001; Figure 4).

Conclusions

With its ongoing enrollment, MYKKE is a successful multi-center registry for myocarditis in children and adolescents. The data underline two age peaks with a severe clinical course and more adverse events in the youngest patients. MYKKE serves as a platform for deriving diagnostic criteria and will in future facilitate interventional studies.