

## Survival and outcome in pediatric myocarditis - 3 year data from the German multicenter prospective myocarditis registry: "MYKKE"

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### Purpose

In children myocarditis is one cause for the development of severe heart failure. "MYKKE", a multicenter prospective registry on pediatric (<18 years) patients with suspected myocarditis, aims to gain knowledge on incidence, diagnostic, therapy and outcome.

### Methods

Between September 2013 and April 2018 patients within the "MYKKE" registry were analyzed according need for mechanical circulatory support (MCS), heart transplantation (HTx) and survival.

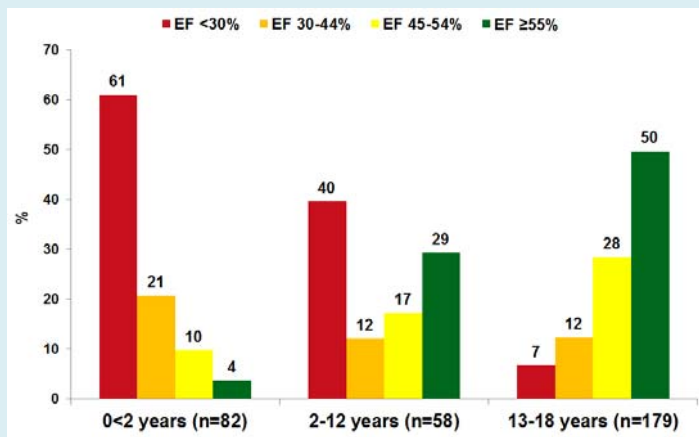


Fig. 1: Ejection fraction according age groups (p>0.001; n=319)

### Results

319 patients were enrolled by 21 centers, median (range) age 10.1 (0-17) years; 66.5% male. Three age groups were defined according clinical course and severity of disease: 0<2 (25.7%), 2-12 (18.2%) and 13-18 years (56.1%); Figure 1.

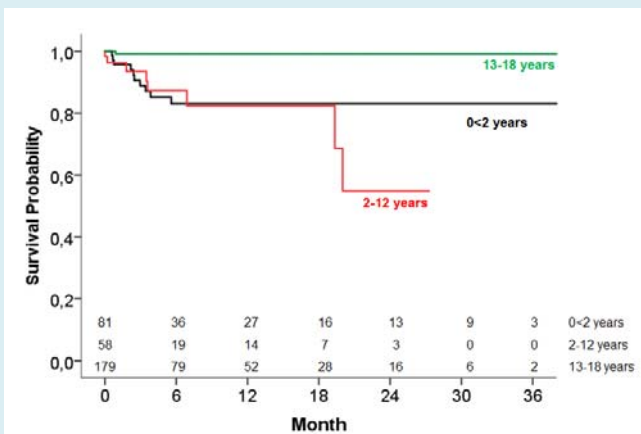


Fig. 2: Survival within age groups (p<0.001; n=319)

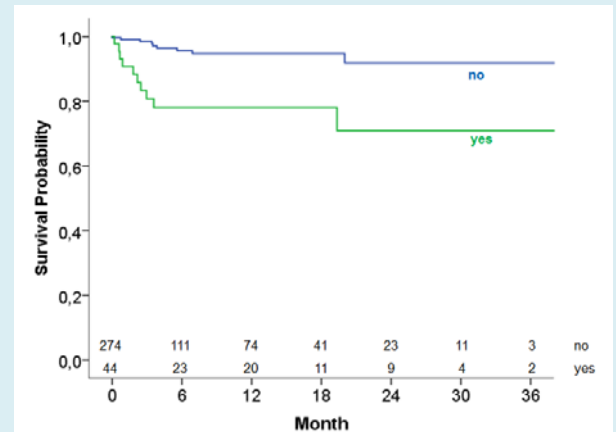


Fig. 3: Survival in MCS vs. Non-MCS patients (p<0.001; n=318).

14% (n=44) needed MCS with a median age of 1.0 (0-17) years. 5.3% (n=17) received HTx, 4 patients are listed. Overall mortality was 6% (n=19) with highest rates in the youngest age groups (p<0.001; Figure 2), 23% in MCS group (n=10). Non-MCS patients (p<0.001) showed with 92% vs. 71% a significant better survival; Figure 3. Accordingly, we defined a risk group of patients <2 years and EF <30% whose mortality rates were significantly higher (p<0.001; Figure 4). After a median Follow-up of 11.0 (0.7-47.6) month, 22% (44/203) patients still have a reduced left ventricular ejection fraction.

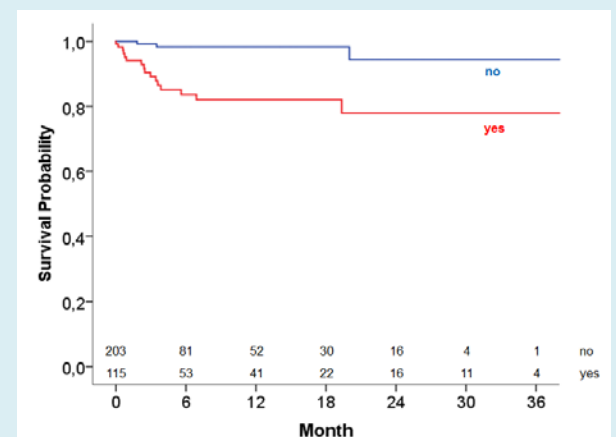


Fig. 4: Survival in risk group (red) vs. no risk group patients (p<0.001; n=318)

### Conclusions

Myocarditis stays a dangerous disease in the pediatric population, especially in very young children. With the first prospective data achievement and analysis we could define risk factors and outcome in this special patient cohort.