

Characteristics of infective endocarditis in children and adolescents with congenital heart defects in Norway

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Introduction

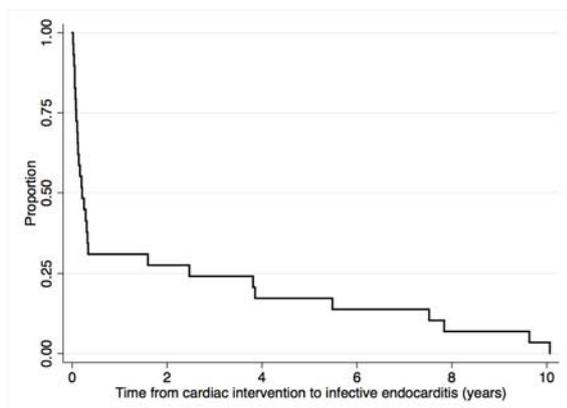
Norwegian health registers provide a unique opportunity to conduct nationwide population-based studies. The aims of this study were to investigate the occurrence of infective endocarditis (IE) according to the European Society of Cardiology criteria in children and adolescents with congenital heart defects (CHDs) and to characterize their heart defects, previous treatments, diagnostic features, and outcomes of IE.

Methods

Data concerning all children with CHD and IE born in Norway between 1994 and 2016 were retrieved from the Oslo University Hospital's Clinical Registry for Congenital Heart Defects. Survivors were followed through 2016, and supplementary information was retrieved from medical records.

Results

The study includes all 1 357 543 live births in Norway between 1994 and 2016. The incidence of IE according to the European Society of Cardiology criteria was estimated to 2.2 per 10 000 person-years (n=36) among children and adolescents (0-18 years old) with CHDs. The mean follow-up time was 12.4 years (\pm 5.5 years) and the incidence was stable throughout the period. Twenty five (75%) of the patients had severe CHDs and most had undergone open chest cardiac surgery or catheter-based cardiac interventions the last year before IE (fig 1). Thirteen (38%) patients underwent cardiac surgery as a part of the IE treatment. Mechanical heart valves were implanted in two cases. Three patients died (8%) of multiple organ failure related to IE.



Conclusions

In conclusion, the incidence of IE among children and adolescents with CHDs in Norway 1994-2016 was higher than the reported incidence in the general population. Despite the restrictions against antibiotic prophylaxis to the highest-risk patients in 2009, the incidence of IE was stable throughout the period. IE was associated with severe CHDs and recent complex cardiac interventions, and had significant mortality. In our view, it is still essential to underline the importance of adequate prevention, early detection, and rapid treatment of IE in many patients with CHDs.