

**Infective endocarditis in children – Retrospective observations between 2000 and 2015.**

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Background: Infective endocarditis (IE) remains a diagnostic and therapeutic challenge associated with high morbidity and mortality. We aimed to evaluate the profile of microbial organisms and clinical manifestations during the past decade as guidelines shifted.

Methods: We conducted a retrospective study examining pediatric IE cases (< 16y) treated between January 1, 2000 and September 1, 2015. Clinical presentation, treatment, complications and outcome of IE as well as underlying microorganisms and congenital heart defects were reviewed.

Results: A total of 45 patients were diagnosed with 'definite IE' using the Modified Duke Criteria.

Prevalence of IE was consistent over time with 24 episodes between 2000 and 2007 and 21 episodes between 2008 and 2015. Overall, 16 patients (36%) required cardiac surgery due to IE. 7 patients (16%) died with 6 children after hospital acquired (HA) IE < 1 year of age.

87% patients had an underlying congenital cardiac defect (septal defect in 7, none with ASD or muscular VSD; open ductus arteriosus in 1). Out of 17 included patients operated for TOF or truncus arteriosus, 12 presented with endocarditis of a prosthetic graft (homograft, Melody valve or Venpro graft).

A causative organism was found in 33 cases (73%): viridans Streptococci in 11 (24%), coagulase negative Staphylococci in 9 (20%) and Staphylococcus aureus in 8 (18%).

We found 8 (33%) cases of community acquired (CA) IE between 2000 and 2007 against 16 cases (76%) between 2008 and 2015. With viridans Streptococci being more prevalent in the CA group, we observe a relative increase of IE cases caused by viridans Streptococci between 2008 and 2015 (not statistically significant).

14 patients (31%) presented with HA IE during the first year of life with 79% after heart surgery and a prevalence of coagulase-negative Staphylococci (43%).

Conclusion: Pediatric IE incidence remains similar over the investigated time period with a shift towards CA IE. Streptococci accounted for the majority of cases.

In our population, patients with muscular VSD, ASD or open duct are at very low risk to develop IE. Awareness of IE prevention is crucial for all physicians and patients, especially after implantation of prosthetic grafts.