

**Infective endocarditis in children one decade after change of prophylaxis recommendations**

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Background: Infective endocarditis (IE) is a rare but severe cardiac disease in childhood. In 2007 IE prophylaxis recommendations changed. The potential impact of this change was evaluated.

Method: Retrospective data analysis between 2006 and 2017 in a single pediatric heart center regarding diagnostic, clinical, microbial, therapeutic, and outcome variable in children with IE and comparison with the decade before (1996-2005)\*.

Results: Twenty-five patients were diagnosed for IE at a median age of 6.91 years (range 0.1 to 19.4, female 48%) with a peak during the first year of life (7/25,28%). All Patients fulfilled the modified Duke criteria for definite (12/25,48%) or probable IE (13/25,52%). The frequency of IE increased from 0.37% in a previous decade\* (1996-2005) to 0.59% [n.s.] (calculated as IE cases per hospitalized cardiac patients). Beside two double valve infections, IE affected pulmonary (11/25, 44%), aortic (7/25,28%), mitral (6/25,24%), and tricuspid valve (1/25,4%), ventricular septal defect, patent arterial duct and unknown location (each 1/25,4%), either as postoperative (13/25,52%) and native IE (12/25,48%). Postoperative IE was associated with foreign material (12/13,92%), i.e. prosthetic valves (10/13,77%) or other material (2/13,15%). All (10/10,100%) infected prosthetic valves were pulmonary valves. Predisposing risk factors for IE were found (12/25,48%). Pathogens were staphylococci spp. (8/25,32%), streptococci spp. (7/25,28%), HACEK (3/25,12%), other (4/25,16%) or culture-negative (3/25,12%). Fever (23/25,92%) and reduced clinical status (18/25,72%) were most frequent clinical findings. IE was diagnosed six days after first symptoms (0 to 141). Most frequent complications included new or altered valve dysfunction (14/25,56%) and embolism (8/25,32%). Treatment included antibiotics (25/25,100%), and cardiac surgery (16/25,64%) at 208 (median) days (6 days to 3.13 years), but often early ( $\leq 28$  days) (9/16,36%) due to valve insufficiency (11/16,44%) or stenosis (6/16,24%), independent of valve localization. Outcome was favourable, beside relapse of IE after 1.47 years (1/25,4%) and mortality due to IE (2/25,8%).

Conclusions: IE is still a severe cardiac disease in childhood, with a constant frequency, relevant morbidity and mortality due to complications, and large rate of re-surgery. The high number of prosthetic pulmonary valve associated IE needs further evaluation and therapeutic alternatives.

\*Weber R, et al. *Pediatr Infect Dis J.* 2008;27:544–50.