Surgical treatment of infective endocarditis in children and young adults

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Objectives:
To evaluate results of surgical treatment of infective endocarditis (IE) in childhood and adolescence.

Methods:
A retrospective study of 63 consecutive pts undergoing surgery for IE between 1978 and 2013 (age 2 weeks - 21 years, median 11 years) and followed-up for a median of 8.8 years.

Results:
54 pts (86%) had either surgically repaired (N=31) or native (N=23) congenital heart disease (CHD) with ventricular septal defect (N=15, small perimembranous native in 12/15) and common arterial trunk (N=7) being most common. 9 pts (14 %) had a structurally normal heart. The predominant pathogens were staphylococci (52%) and streptococci (31%), with negative IE cultures in 8%. The etiology of the initial bacteremia was unknown in 66.6 % of pts. The most common indication for surgery was pulmonary or systemic embolism (N=24), infected foreign material (N=23, conduit in 10/23) and heart failure (N=13). During surgery infected material was removed in all pts with 92% of pts undergoing associated procedures. Freedom from recurrence was 89% at 6 months. All pts with recurrence were subjected to repeated surgery. Hospital mortality was 11% (7 pts). Late death possibly related to IE occurred in another 3 (5%) pts (Figure).

Conclusions:
Surgical treatment of IE in the young had an acceptable mortality and recurrence rate. Native small perimembranous ventricular septal defects and conduits were the two most commonly infected substrates. Etiology of the initial bacteremia was unknown in the majority.

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