

"Therapy of infective endocarditis – a retrospective single centre study 2005 – 2014"

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Endocarditis (EC) is a rare disease. Antibiotic therapy and cardiac surgery substantially improved outcome in the last century. We conducted a single center evaluation of epidemiology, outcome and treatment of EC.

Methods: A mean of 20 EC cases are treated at the University Hospital of Vienna with about 100.000 admittances per year. Cases were identified using all ICD-10 codes coding EC using a scientific database (RDA) integrated within hospital patient information system. Thus all data available can be linked together allowing a multi-dimensional approach. To assess the association between for therapy and outcome the Kruskal-Wallis rank- sum test for was performed and the chi-squared test was calculated. A $p < 0.05$ was considered as significant.

Results: Overall, 204 patients (153 males, 55 females, median age 62 years, range 0.3–88 years) with 208 endocarditis episodes were identified. EC affected the aortic, mitral, tricuspidal and pulmonal valves in 84, 71, 15 and 8 cases, respectively. In 40 patients at least two valves had endocarditic lesions. Blood cultures were performed in 95% of the patients. The 3 most frequently isolated organisms were *Staphylococcus aureus* (n=51), alpha-hemolytic streptococci (n=47) and enterococci (n=25). In 44 patients blood cultures were sterile. In 78 patients (38%) cardiac surgery for valve replacement was performed within 6 weeks after the diagnosis of EC. Overall, 175 patients had a favorable outcome of therapy +/- surgery, 31 patients died from EC. EC caused by *S. aureus* had a significantly worse outcome than EC by the other microorganisms (Favorable response: 75% vs. 89,75%, $p < 0.05$). Thirty-eight of the patients received treatment according to the international guidelines. The response rate to teicoplanin monotherapy, to sequential treatment betalactams and teicoplanin (for outpatients' treatment) and to standard therapy plus any kind of combination therapy was 96% (25/26), 92% (22/23) and 82.5% (130/156), respectively (not significant).

Conclusion: Infective endocarditis is a rare but still life-threatening disease. Cardiac sonography and blood cultures were routinely performed. Timely cardiac surgery is pivotal. Adherence to therapy regimens remains to be improved particularly in patients without detection of the causative pathogen. Teicoplanin may be an option for the treatment of EC.