

## Clinical and microbiological characteristics of Infective endocarditis: A 12-year experience in a tertiary hospital

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**Background :** The risk factors and clinical outcome of infective endocarditis (IE) have been changed over the decades. We investigated clinical and microbiological characteristics of infective endocarditis diagnosed in recent years. **Methods :** All cases diagnosed as IE according to the modified Duke criteria in Samsung Medical Center during the period 1995 to 2006 were reviewed retrospectively. Clinical and microbiological characteristics were evaluated. **Results :** A total of 285 cases were enrolled by the criteria of definite (62.5%) or possible (37.5%) endocarditis. Their mean age was  $48.0 \pm 18.5$  years and male patients comprised 67.7%. Predisposing heart diseases included valvular heart diseases (21.4%), congenital heart diseases (17.5%), and prosthetic valve (10.9%). Procedures such as dental treatment (9.1%), indwelling intravenous catheter (6.3%), hemodialysis (5.6%), and acupuncture (4.6%) were suspected of being related to IE. Most cases were community-acquired infections (88.8%). Echocardiography was done in 280 cases. Transthoracic echocardiogram was helpful in diagnosis of IE in 72.2%, and transesophageal echocardiogram in 92.5%. Blood cultures were positive in 220 cases (77.2%). Identified etiologies included viridans group streptococci (34.6%), *Staphylococcus aureus* (31.5%), *Enterococcus* (7.5%), Other streptococci (7.5%), and HACEK group (1.3%). Defervescence was observed in 130 cases (45.6%) in response to antibiotic therapy (mean period,  $4.1 \pm 2.6$  days). Surgical treatment was performed in 145 cases (50.9%). Valvular regurgitation with heart failure was the most frequent cause of surgery (30%). Seventy-six cases showed complications including extracardiac embolization (13.3%), intracardiac abscess (9.8%) etc. Thirty-eight patients (13.3%) died and eleven patients (3.9%) discharged hopelessly. Fourteen cases (4.9%) recurred. **Conclusion :** Our study shows that *Staphylococcus aureus* has been the second commonest etiology of IE. Blood culture and echocardiography have been very helpful in diagnosis of IE in our institution. A half of the patients received surgical treatment and mortality rate was lower than those in literatures published in the past.

## Recent trends of infectious complications in preengraftment period of allogeneic hematopoietic stem cell transplantation in a single center

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Medical records of 232 adult patients who underwent allogeneic HSCT at Catholic HSCT center from Jan 2004 to Dec 2005, were retrospectively reviewed and the data were compared with the data in year 2001 to 2002. One hundred forty-five episodes of fever or infection developed in 131 patients (57.3%). Twenty-one episodes (14.5%) were microbiologically defined infections (MDI), 92 episodes (63.4%) were clinically defined infections (CDI) and 32 episodes (22.1%) were unexplained fever (UF). The proportion of MDI decreased and that of CDI increased compared with the previous years (20.1% and 55.5%, respectively in previous years). Oropharynx was the most common site of infection (31.1%), followed by gastrointestinal tract (16.0%) and lower respiratory tract (14.6%) and this trend was similar as before. Out of 21 episodes of MDI, a total of 29 microorganisms [16 gram negatives (55.2%), 11 gram positives (37.9%), and 2 fungi (6.9%)] were identified. The proportion of gram positives increased compared with the previous years (37.9 vs 27.1%). Among gram negatives, *Escherichia coli* (16.7%) was most frequently isolated, followed by *Klebsiella pneumoniae* (18.8%), *Pseudomonas fluorescens* and *Enterobacter cloacae* (both, 12.5%). Three isolates were ESBL-producers which comprised 27.3% of all enterobacteriaceae. The most common gram positive was *Enterococcus faecium* (13.3%), followed by *Enterococcus faecalis* and coagulase negative *Staphylococcus* (27.3%). Half of the *E. faecium* was resistant to vancomycin. The proportion of *enterococcus* species among gram positives increased compared with the previous years (63.6% vs 24.0%). The mean follow-up period was 650 days and overall mortality was 33.2%. But, only one death occurred in preengraftment period on post transplantation day 6 due to acute renal failure and uncontrolled metabolic acidosis. Compared with the previous years, the number of febrile episodes and the site of infection was similar. However there was a change in the population of microorganisms. Because the fraction of resistant organism is considerable, regular monitoring of infectious complication in these patients is continuously needed. No infection-related death was observed during preengraftment period.