TRENDS IN INFECTIVE ENDOCARDITIS HOSPITALIZATIONS IN THE UNITED STATES FROM 2000-2008

Poster Contributions
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Background: Epidemiology of Infective endocarditis (IE) has changed over the years due to changes in life expectancy, risk factors, IE prophylaxis guidelines, improved diagnostic tools and antibiotic treatment. There is a paucity of data on how these changes translate into trends in IE incidence. We studied trends in IE hospitalizations in the United States over the last decade.

Methods: Nationwide inpatient sample (NIS) database was used to identify patients ≥ 18 years with a discharge diagnosis of IE from 2000-2008 using the ICD-9-CM code 421.x. Data was divided into periods of 3 years each to study trends. Trends in IE were analyzed for a variety of demographic and clinical attributes.

Results: There were 316,715 discharges with IE from 2000-2008. Based on US census estimates data there was an increase in the incidence of IE hospitalizations from 2000 to 2008 (14.4 cases/100k PY (person-years) in 2000-02, 16.2 cases/100k PY in 2003-05 and 17.3 cases/100k PY in 2006-08). This corresponded to an average annual percentage change (APC) of 0.95% (95% CI, 0.94-0.96) from 2000-2008 (test of trend p<0.001). Similar increasing trend in incidence of IE hospitalization was observed among the elderly (age>65) as well, with an annual APC of 1.03% (95% CI, 1.02-1.04, p<0.001). There was a dramatic increase in IE among ESRD patients (annual APC of 1.17% from 2000-2008). Patients with higher co-morbidity index (calculated by Charlson's score), Staphyloccocal and MRSA etiology also showed statistically significant rising trend. Absolute proportion of patients >65 years of age, male gender, Caucasian versus African American race and payer status was unchanged during the 3 study periods. There was no change in incidence of IE in other immune-compromised groups such as cancer, collagen vascular disease, inflammatory bowel disease and transplant recipients. Interestingly, there was a decline trend in IE among HIV patients.

Conclusion: Despite improving health care and IE prophylaxis guidelines, IE hospitalizations have increased in the last decade alarmingly so in ESRD patients. Staphyloccocal etiology, in particular MRSA is clearly on the rise and could be an important contributory factor for the growing trend in IE.