**RECENT TRENDS IN PREVALENCE, MICROBIOLOGY, TREATMENT, AND OUTCOME OF INFECTIVE ENDOCARDITIS IN END-STAGE RENAL DISEASE**

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*Background:* Infective endocarditis (IE) may complicate clinical course in end-stage renal disease (ESRD) patients, however data from large studies are lacking. This study examined contemporary trends of hospitalization rates, microbiology, and outcomes of IE in patients with ESRD.

*Methods:*We queried the Nationwide Inpatient Sample database for years 2006 through 2011 to identify ESRD patients admitted with a primary diagnosis of IE.

*Results:* A total of 44,822 IE hospitalizations in ESRD patients were identified with a significant increase in annual rates of admission during the study period (Table). Mean age was 59±15 years, and patients were predominantly male (53%) and white (44%). Staphylococcal, Enterococcal, fungal, and GNB IE increased while rates of Streptococcal IE remained unchanged (Table). In-hospital mortality declined from 19.4% in 2006 to 15.8% in 2011 (relative change -18.6%; p <0.001). Rates of valve surgery did not change significantly during the study period (7.7% in 2006 and 7.6% in 2011; p = 0.58). *Enterococcal* (p=0.02)and fungal (p<0.001) IE were more likely whereas Staphylococcal aureus and gram negative (p<0.001 for both) IE were less likely to need valve surgery.

*Conclusion***:** Clinical profile, microbiology and treatment of IE in ESRD patients have changed significantly in recent years.

Table - Incidence of infective endocarditis, microbiology, and valve replacement from 2006- 2011

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year | Number of admissions | IE per 1000 U.S. ESRD patients | In-hospital Mortality (%) | Valve replacement surgery per 1000 IE admissions | % Pathogen | | | | | |
| Staph aureus | Non-aureus Staph | Streptococcus | Enterococcus | GNB | Fungus |
| 2006 | 6239 | 17.5 | 19.4 | 77 | 37.1 | 9.4 | 8.8 | 4.9 | 6.4 | 0.2 |
| 2007 | 6011 | 16.3 | 16.4 | 74 | 37.8 | 9.6 | 7.7 | 5.7 | 4.8 | 0.1 |
| 2008 | 7067 | 18.4 | 18.1 | 65 | 41.9 | 10.2 | 11.3 | 5.5 | 6.5 | 0.2 |
| 2009 | 8197 | 20.5 | 14.9 | 79 | 45.5 | 9.3 | 11.0 | 6.8 | 9.2 | 0.4 |
| 2010 | 7827 | 18.9 | 16.7 | 65 | 45.0 | 9.5 | 10.4 | 6.5 | 7.8 | 0.2 |
| 2011 | 9541 | 22.3 | 15.8 | 76 | 42.9 | 12.1 | 8.8 | 6.7 | 6.8 | 0.5 |
| Relative Δ | +52.9% | +27.4% | -18.6% | 0% | +16% | +29% | 0% | +35% | +6% | +150% |
| P2011-vs-2006 | <0.001 | <0.001 | <0.001 | NS | <0.001 | <0.001 | NS | <0.001 | <0.001 | <0.001 |

Staph aureus=Staphylococcus aureus, GNB=gram negative bacteria