TEMPORAL TRENDS AND MICROBIOLOGICAL PREDICTORS OF VALVE REPLACEMENT FOR IE FROM 2000-2011, A NATIONWIDE PERSPECTIVE

Background: The goal of this study was to evaluate temporal trends and predictors of valve replacement due to infective endocarditis (IE).

Methods: Healthcare Cost and Utilization Project - National Inpatient Sample (NIS) database was used to perform a retrospective observational cohort study to investigate the incidence of IE in the United States (US) from 2000 through 2011. Poisson regression model (PROC GENMOD, SAS 9.3) was used to analyze the data. Temporal trend was assessed by joinpoint regression analysis (Version 4.0.4, National Institute of Health, Bethesda, MD).

Results: There were 453,111 estimated discharges with a diagnosis of IE from 2000-2011 (Table 1). Valve replacement for IE was increasing consistently from 2000-2007, annual percentage change (APC) was 8.2%. The trend has not significantly changed after 2007 (p=0.11) (Figure 1). Etiological analysis shows that Staphylococcal and Fungal IE comprises major proportion of IE needing valve replacement (Figure 2). Significant predictors of valve replacement includes anaerobic IE (OR:1.4, 95% CI:1.04-1.8), Staphylococcal IE (OR:1.3, 95% CI:1.2-1.4) and Fungal IE (OR:2.2, 95% CI:1.9-2.5) (Table 2).

Conclusion: Our study shows that overall trend in valve replacement for IE has remained stable since 2007. However, the numbers have significantly increased in certain etiology of IE (staphylococcal and fungal).