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Valvular Heart Disease

TRENDS IN INFECTIVE ENDOCARDITIS (IE) INCIDENCE AND MICROBIOLOGY BEFORE AND AFTER 2007
IDSA/ACC/AHA IE PROPHYLAXIS GUIDELINES CHANGE

Moderated Poster Contributions

Hall C

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Background: The goal of this study was to evaluate the trend in incidence and the microbiology associated with before and after the change in IE prophylaxis guideline in 2007 by IDSA/ACC/AHA.

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 compare the trend of incidence as well as outcome between periods 2000-2007 and 2008-2011.

Results: There were 453,111 estimated discharges with a diagnosis of IE from 2000-2011. Overall, there was a significant increase in the incidence of IE from 2000-2011 (annual percentage change (APC) and 95% confidence intervals (95% CI): 2.9 [2.1-3.6]). The rise of IE incidence from 2007-2011 (APC) was 3.6 (95% CI: 3.6 [-0.01 - 7.4]). Poisson regression modeling showed that the trend (slope) of IE incidence between 2000-2007 and 2008-2011 was not statistically different ($p=0.725$) (Figure 1). The proportion of staphylococcus IE cases has increased significantly from 2000 to 2011, while the VGE IE cases have remained stable (Figure 2)

Conclusion: Our study shows that the incidence of IE has increased consistently over the last decade in the US without any significant difference before and after the prophylactic guideline change in 2007. However, the actual rise in the number of cases is mainly related to Staphylococcal etiology of IE

Table 1. Incidence of Infective Endocarditis per 1,000,000 population from 2000-2011 and valve replacement per 100,000 IE cases

Year	Number of Cases	Incidence of IE per 100,000 population	Incidence of IE type based on microbiology per 1,000,000 population			
			Staph	VGE	GNE	Fungal
2000	29556	11	35	10	6	1
2001	30762	11	39	10	5	1
2002	32270	11	39	10	6	1
2003	35564	12	44	11	7	1
2004	36931	13	56	11	7	1
2005	37095	13	60	12	7	2
2006	40582	14	67	12	8	1
2007	37333	12	64	12	8	2
2008	40790	14	73	12	8	2
2009	42164	14	82	12	12	2
2010	42396	14	81	13	11	2
2011	47468	15	90	13	13	2

Figure 1b. Trends in IE Microbiology as a Percentage of Total IE Cases from 2000-2011

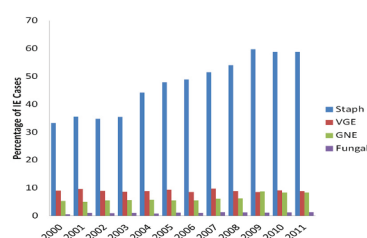


Figure 1a. Incidence of Infective Endocarditis (per 100,000 population) in the United States from 2000-2011. APC=Annual Percentage Change

