Increased Incidence of Infective Endocarditis After the 2009 European Society of Cardiology Guideline Update: A Nation-wide Study in the Netherlands

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Background:
After the introduction of the updated 2007 ACC/AHA infective endocarditis (IE) guideline and the NICE 2008 guideline, the ESC guidelines on Prevention, Diagnosis and Treatment of Infective Endocarditis followed in 2009. Prophylaxis for patients at risk became less strict afterwards. There is limited data on IE trends after the introduction of this ESC guideline.

Hypothesis:
The ACC/AHA guideline uses virtually similar criteria for prophylaxis as the ESC guideline and has shown a significant rise in IE since its introduction. We hypothesize that the same trend will be observed in the Netherlands.

Methods:
We performed a nation-wide retrospective trend study using segmented regression analysis of the interrupted time series. The patient data were obtained via the national healthcare insurance database. We compared the data before and after the introduction of the 2009 ESC guideline.

Results:
Between 2005 and 2011 a total of 5213 patients were hospitalized with IE in the Netherlands. During this period there was a significant increase in infective endocarditis from 30.2 new cases per 1,000,000 in 2005 to 62.9 cases per 1,000,000 in 2011 (p<0.001). Historically more male subjects are affected with IE; 69.9% of the patients were men. The increase in IE was similar in both sexes. In 2009 the incidence of IE increased significantly above the projected historical trend (Rate Ratio: 1.327, 95% CI: 1.205 - 1.462 p<0.001). This coincides with the introduction of the 2009 ESC guideline (see figure 1).

Conclusion:
This observational study shows that there has been a steady increase in the IE incidence between 2005 and 2011. After the introduction of the 2009 ESC guidelines the incidence increased more than expected from previous historical trends. The male to female ratio in IE is unchanged at a 2:1 ratio and the increase is similar in both groups.
Disclosure: