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 Title : Increased risk of coronary heart disease in patients with chronic osteomyelitis: a population-based study in a cohort of 23 million  
 Topic : 04.13 - CAD and comorbidities  
 Category : Bedside  
 Option : Young Investigator Award (YIA) Population Sciences

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**Objectives:** Chronic inflammatory disease may trigger vascular atherosclerosis. This study aimed to determine whether chronic osteomyelitis (COM) is linked to an increased risk of coronary heart disease (CHD).

**Methods:** A national insurance claim dataset of more than 23 million enrollees was used to identify 15,054 patients with COM and 60,216 randomly selected age- and gender-matched controls between 2001 and 2009 for comparing the risk and incidence of CHD. The study period was from the entry date to the first date of the following events: the diagnosis of CHD, death, withdrawal from the Taiwan National Health Insurance program or the end of 2010. The analysis of the CHD risk was performed using Cox proportional hazards regression model.

**Results:** During a follow-up period of 67,927 person-years, the overall incidence rate of CHD in COM cohort was 1.95-times higher than non-COM cohort (16.66 vs. 8.52 per 1000 person-years). After controlling age, gender and four co-morbidities (hypertension, diabetes, hyperlipidemia, and stroke), the risk remained significantly higher in the COM cohort than the control group (adjusted hazard ratio [HR] =1.65, 95% confidence interval [CI] =1.54-1.78, p<0.001). In age-stratification analysis, the younger population carried higher CHD risk than the elderly (from HR =3.42, 95% CI =1.60-7.32 in age <35 to HR =1.39, 95% CI =1.15-1.68 in age ≥80).

**Conclusions:** This study demonstrates for the first time that COM is an independent risk factor for CHD, particularly in the younger population. Further studies are necessary to explore the underlying mechanisms linking COM and CHD.