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**HYPERTENSION AND ITS ASSOCIATION WITH THE
SEVERITY OF CHRONIC PERIODONTITIS: A
PRELIMINARY STUDY**

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Original Article

Hypertension and its association with the severity of chronic periodontitis: a preliminary study

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Abstract Chronic periodontitis (CP) is an inflammatory disease of the supporting tissues of the teeth caused by specific microorganism. Hypertension is one of the major causes of cardiovascular disease whereas periodontitis has recently drawn increasing attention because of its potential relationship with cardiovascular disease. The objectives of this study were to determine the prevalence of the hypertension in CP patients as well as to evaluate the association between hypertension and severity of CP. One hundred and eighty five records of CP patients treated in Dental Clinic, Universiti Sains Malaysia Hospital (USM Hospital), Kelantan from 2010 until 2013 were retrieved and reviewed. The diagnosis of periodontal disease and the presence of hypertension were recorded. The severity of chronic periodontitis was classified into mild, moderate and severe according to the clinical attachment loss. The data was obtained and analyzed using SPSS version 20.0. Majority of the subjects were from Malay ethnic group (94.4%) at the range age between 41 and 61 years (67.8%). In conclusion, the prevalence of hypertension in chronic periodontitis patients was 12.2%. There was no significant association between hypertension and severity of CP ($p=0.229$).

Keywords: hypertension, periodontitis, severity of chronic periodontitis.

Introduction

Periodontitis is the most common oral inflammatory disease of the supporting tissues of the teeth caused by specific microorganisms (Saini, 2009). *Porphyromonas gingivalis*, *Prevotella intermedia*, *Bacteroides forsythus*, *Campylobacter rectus* and *Actinobacillus actinomycetemcomitans* and the treponemes are among the most common organisms associated with periodontal diseases (Ezzo and Cutler, 2003). It is one of the most common chronic disorders of infectious origin with prevalence of 10% to 60% in adults depending on the diagnostic criteria (Papapanau, 1996).

Recently periodontal disease was found to be associated with cardiovascular disease, a condition which has been linked to systemic inflammatory markers and endothelial dysfunction (Joshipura *et al.*, 2004). Chronic periodontitis is a common inflammatory disorder which has been

recognized as a risk factor for atherosclerotic complications. Current epidemiological evidence also supports its potential association with increase in blood pressure and hypertension prevalence (Tsioufis *et al.*, 2011). It is well known that periodontitis and hypertension share common risk factors, such as increased age, smoking, stress and socioeconomic factors. These risk factors may confound the association of the two diseases (Grassos *et al.*, 2010).

Surveyed data from Ministry of Health, Malaysia, (2013) revealed that in 2011, the prevalence of hypertension in Malaysians was 32.7% (18 years and above) and 43.5% (30 years and above). Untreated or suboptimal controlled hypertension leads to increased cardiovascular, cerebrovascular and renal morbidity and mortality (Ministry of Health, Malaysia, 2013). Hypertension-related mortality in the United States was estimated to reach 54,000 deaths in 2004 (Rosamond *et al.*, 2007) and 43 deaths per