



The Association of Severe Periodontitis and Hypoalbuminemia in Chronic kidney Disease Patients



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OBJECTIVES

➤ The objective of this study is therefore to evaluate the association between dental and periodontal diseases in Thai patients with various stages of CKD that were treated at Golden Jubilee Medical Center, Mahidol University, Thailand, from 2011-2012.

METHODS

➤ This study was designed as a cross-sectional study and performed at Golden Jubilee Medical Center, Mahidol University, Thailand, during 2011-2012.

➤ The inclusion criteria were: patients who had been diagnosed with CKD for at least 90 days and age greater than 20 years. The study groups were divided by eGFR as mild CKD group (eGFR 60-90 mL/min/1.73 m²; group 1), moderate CKD group (eGFR 30-60 mL/min/1.73 m²; group 2), and severe CKD group (eGFR < 30 mL/min/1.73 m²; group 3). Maintenance haemodialysis (MHD) patients were also included in this study.

➤ The exclusion criteria were: any systemic disease that could acutely affect the GFR and /or oral health status (immunodeficiency syndrome, recurrent or active cancer); or any medication that could affect the oral health status, such as immunosuppressive drugs (corticosteroid drugs or chemotherapy).

CONCLUSIONS

➤ Accounting for the immunity of CKD patients, dental diseases, periodontal diseases, and oral mucosal diseases are of significant concern. Routine dental examinations and proper preventive dental care are suggested in CKD patients, especially in the early stages of CKD. Prospective cohort study needs to link the association of severe periodontitis, mortality, and hypoalbuminemia and confirm the desirable survival outcome on the successful treatment of periodontal diseases.

Acknowledgement:

We express our sincere appreciation to the teammates in Medical and Dental clinics of Golden Jubilee Medical Center, Mahidol University who work every day, not only to take care of patients but also to ensure the extensive data collection on which our work is based. We thank the International Center for Medical and Radiological Technology Laboratory Department for providing the clinical data, analysis and review for this research project and for advancing the knowledge and practice of kidney care.

Figures and Graphs

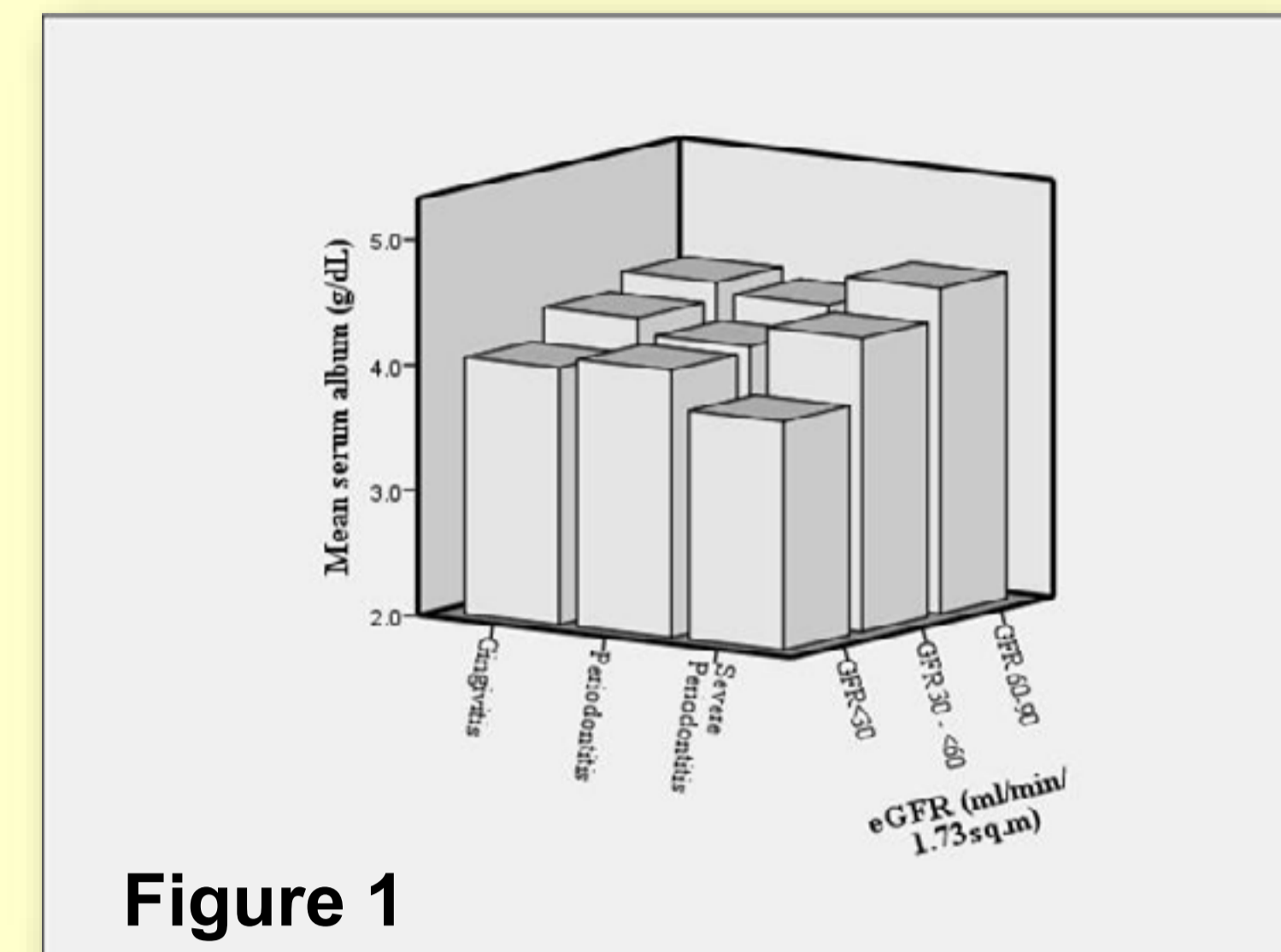


Figure 1

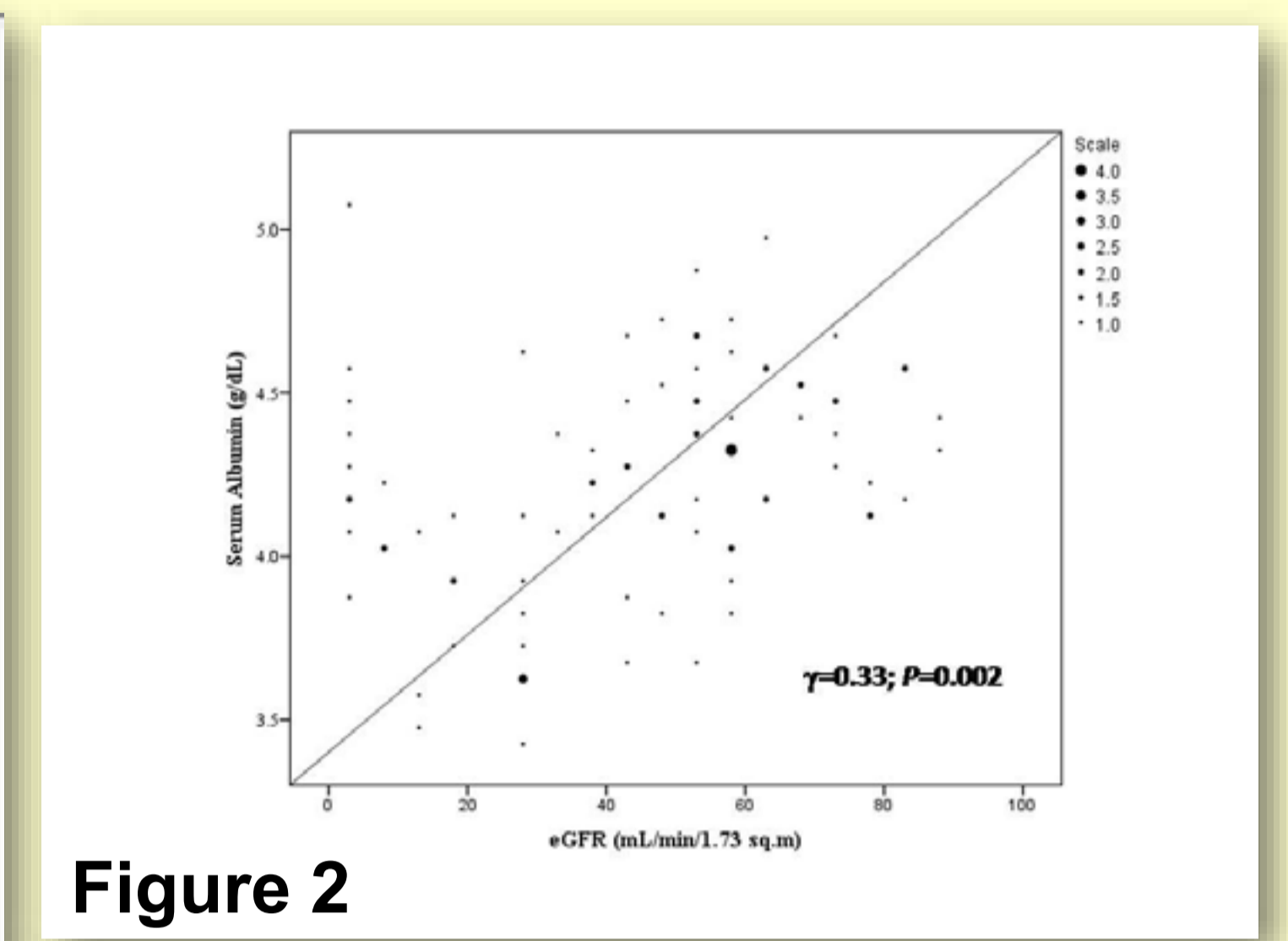


Figure 2

Three-dimension model that demonstrated the association between the levels of mean serum albumin and periodontal status among the three groups of CKD

The correlation between estimated glomerular filtration rate (eGFR; mL/min/1.73m²) and the levels of serum albumin (g/dL)

Odd Ratios for Hypoalbuminemia (serum albumin <3.8 g/dL)

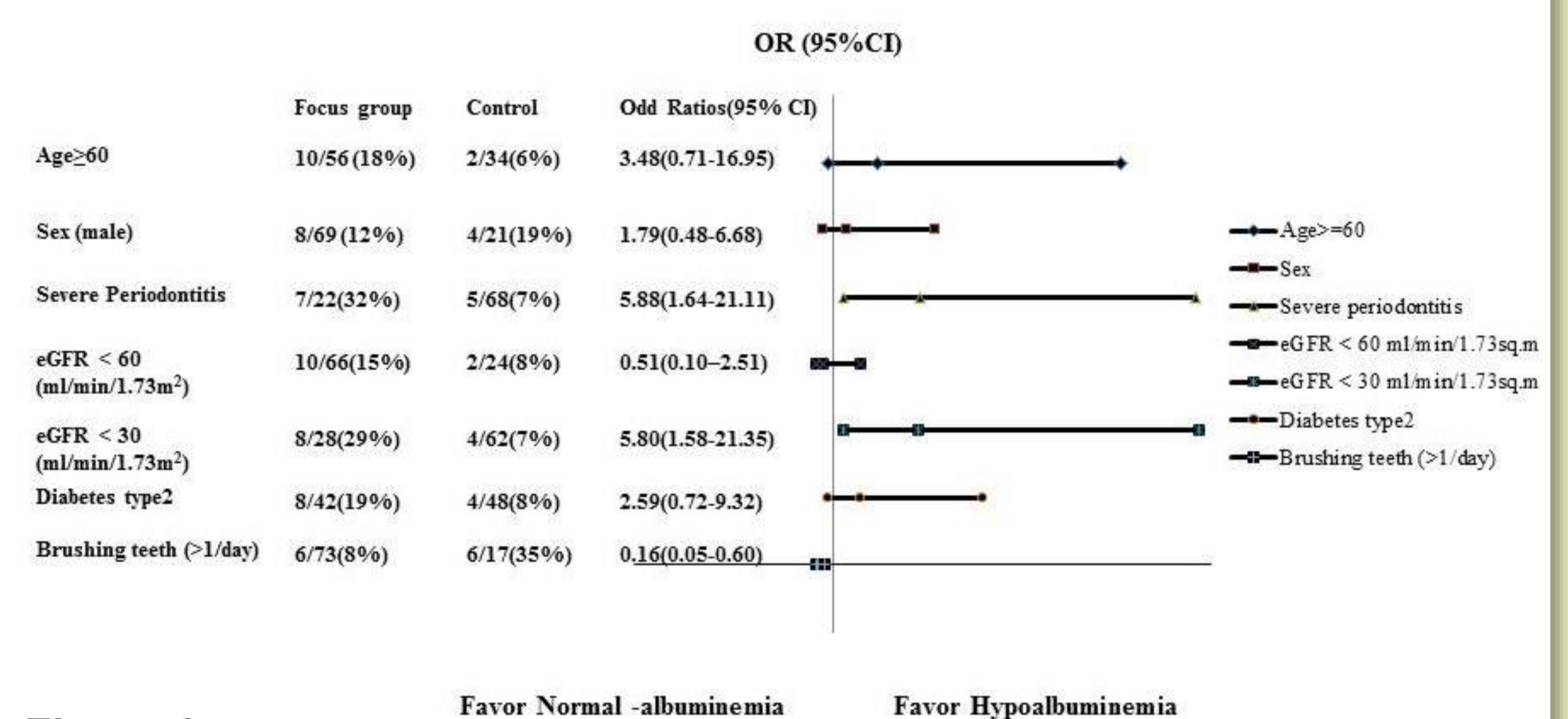


Figure 3

Forest plots of various factors might contribute to hypoalbuminemia

RESULTS

➤ A total of 129 patients with different stages of CKD were included. Ninety-eight (76%) were men. The age range was between 30-86 years, with an average age of 61 ± 11 years. Common etiologies of CKD were hypertension (29%) and Diabetes Mellitus type 2 (16%).

➤ Severe periodontitis was significantly higher in the “more severe CKD group” (eGFR < 60 mL/min/1.73 m²) than in the “less severe CKD group” (eGFR 60-90 mL/min/1.73m²; 24% vs. 9%, P=.03).

➤ Severe periodontitis, eGFR lower than 30 mL/min/1.73m² and brushing teeth (>1time/day) associated with hypoalbuminemia (defined as <3.8 g/dL) [odds ratio (and 95% confidence interval) of 5.88 (1.64–21.11), 5.80 (1.58–21.35) and 0.16 (0.05–0.60)], respectively.

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