

## Relationship between Hwa-byung and Health Related Quality of Life in Korean Hemodialysis Patients

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**Background:** Hwa-byung (HB), a Korean culture-bound syndrome, is caused by long-standing unfair social trauma and suppressed anger. HB has comparable comorbidity profile as major depression or generalized anxiety disorder. The aim was to investigate the prevalence of HB in Korean hemodialysis patients and its relationship between health-related quality of life (QoL) and other clinical characteristics. **Methods:** Clinically stable patients from 6 hemodialysis centers were enrolled. Thirty-six-item Short-Form Health Survey and temperament and symptom scale of HB, Hospital Anxiety and Depression Scale were used to diagnose and assess health-related QoL and psychological distress, respectively. Sociodemographic factors such as age, sex, education and hemodialysis-related clinical factors and laboratory parameters were assessed. **Results:** Two hundred and seventy one hemodialysis patients were enrolled and among them, 51 patients (18.9%) could be diagnosed with HB that is significantly more prevalent than that of general population (4.1%). The patient group with HB was less educated, more depressive and anxious and reported lower level of QoL than the patients without HB. The severities of HB and depressive symptoms were significantly associated not only with mental QoL but also with physical QoL in the final regression models. In contrast, anxiety symptom severity and other psychological variables were not associated with QoL. Of interest, C reactive protein level was negatively associated with both QoL levels of patients. **Conclusions:** After controlling multiple clinical variables, HB, depressive symptoms, and CRP level were significantly associated with mental and physical QoL. Chronic ongoing distress related to hemodialysis may contribute to increased prevalence of HB and depression in this patient group. Clinicians should be more attentive to emotional distress of hemodialysis patients to improve their health-related QoL.

## Carotid plaque and progression of renal dysfunction in patients with chronic kidney disease

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**Background:** Carotid plaque is a surrogate marker of systemic atherosclerosis and closely associated with adverse cardiovascular outcomes. However, data regarding the predictive role of carotid plaque for renal progression are limited in chronic kidney disease (CKD) patients. **Methods:** This is a longitudinal observational study with a cohort of 411 Stage 3 and 4 CKD patients. A carotid plaque was defined as a focal structure encroaching into the arterial lumen of at least 0.5 mm or 50% of the surrounding carotid intima-media thickness (cIMT). Renal function decline was measured by estimated glomerular filtration (eGFR) slope and the renal endpoint was defined as the start of dialysis. **Results:** Baseline eGFR was 44.5±11.6 mL/min/1.73m<sup>2</sup> and eGFR slope was -2.87±3.76 mL/min/1.73m<sup>2</sup>/yr. A carotid plaque was found in 282 (68.6%) patients, and these patients had significantly faster rates of renal function decline than those without plaque (-3.64±3.84 vs. -1.20±2.85 mL/min/1.73m<sup>2</sup>/yr, *p*<0.001). According to multivariate analysis, statistically significant variables determining eGFR slope were diabetes ( $\beta$ =0.77, *p*=0.033), increased pulse pressure ( $\beta$ =0.02, *p*=0.015), elevated proteinuria ( $\beta$ =0.50, *p*<0.001), increased cIMT ( $\beta$ =4.36, *p*<0.001) and the presence of a carotid plaque ( $\beta$ =-1.48, *p*<0.001). Particularly, irregular plaque surface significantly associated with rapid decline of renal function. During the 2.5-year follow-up, 47 (11.4%) of patients started dialysis. Patients with carotid plaque had a poorer dialysis-free survival rate than those without carotid plaque (hazard ratio 3.3: 95% confidence interval 1.01, 10.77). **Conclusions:** Carotid plaque was closely associated with rapid decline of renal function and progression to dialysis in stage 3 and 4 CKD patients. **Key words:** Renal progression, chronic kidney disease, carotid plaque, renal survival