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PROGRESSION AND PATIENT OUTCOME OF CHRONIC KIDNEY DISEASE FROM A MAJOR MEDICAL CENTER IN NORTHERN TAIWAN

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BACKGROUND: The epidemic of end-stage renal disease (ESRD) is a pressing public health issue worldwide. However, the course of renal progression beyond stage 3 chronic kidney disease (CKD) has never been studied in a systematic way.

METHOD: From September 2003 to March 2004, we prospectively enrolled stage 3 to 5 CKD patients from the nephrology outpatient clinics of National Taiwan University Hospital. The stages of CKD were estimated by glomerular filtration rates (GFR) using the simplified MDRD formula. Patients were monitored periodically for at least 24 months until lost to follow-up, initiation of renal replacement therapy (RRT) or death.

RESULTS: Four hundred thirty-four patients classified as stage 3 (n=184), stage 4 (n=142) and stage 5 not on dialysis (n=108) participated this study. The mean age was 64.9 years, 61.5% were male, and 33.2% were diabetic. During the follow-up period, 93 patients (21.4%) had started RRT and 28 patients had died (6.4 %). The mean annual GFR decline rates were 1.96, 3.89 and 4.32 mL/min/1.73m^2 for stage 3, 4, and 5, respectively. By Cox survival analysis, male sex, diabetes, lower GFR, lower body mass index, higher systolic BP, absence of angiotensin II blockers, and severe proteinuria were statistically significant independent predictors for initiation of RRT.

CONCLUSION: Our study describes for the first time the treated natural course of moderate to severe CKD and associated prognostic factors in Taiwan where ESRD is endemic. Renal function deteriorates at a faster rate as the stage of CKD progresses. In contrast to Western countries, the relatively low mortality of CKD patients may contribute partially to the high incidence of ESRD in Taiwan.

Keyword: chronic renal disease, renal progression, end stage renal disease