THE SURVIVAL OF INCIDENT DIALYSIS PATIENTS

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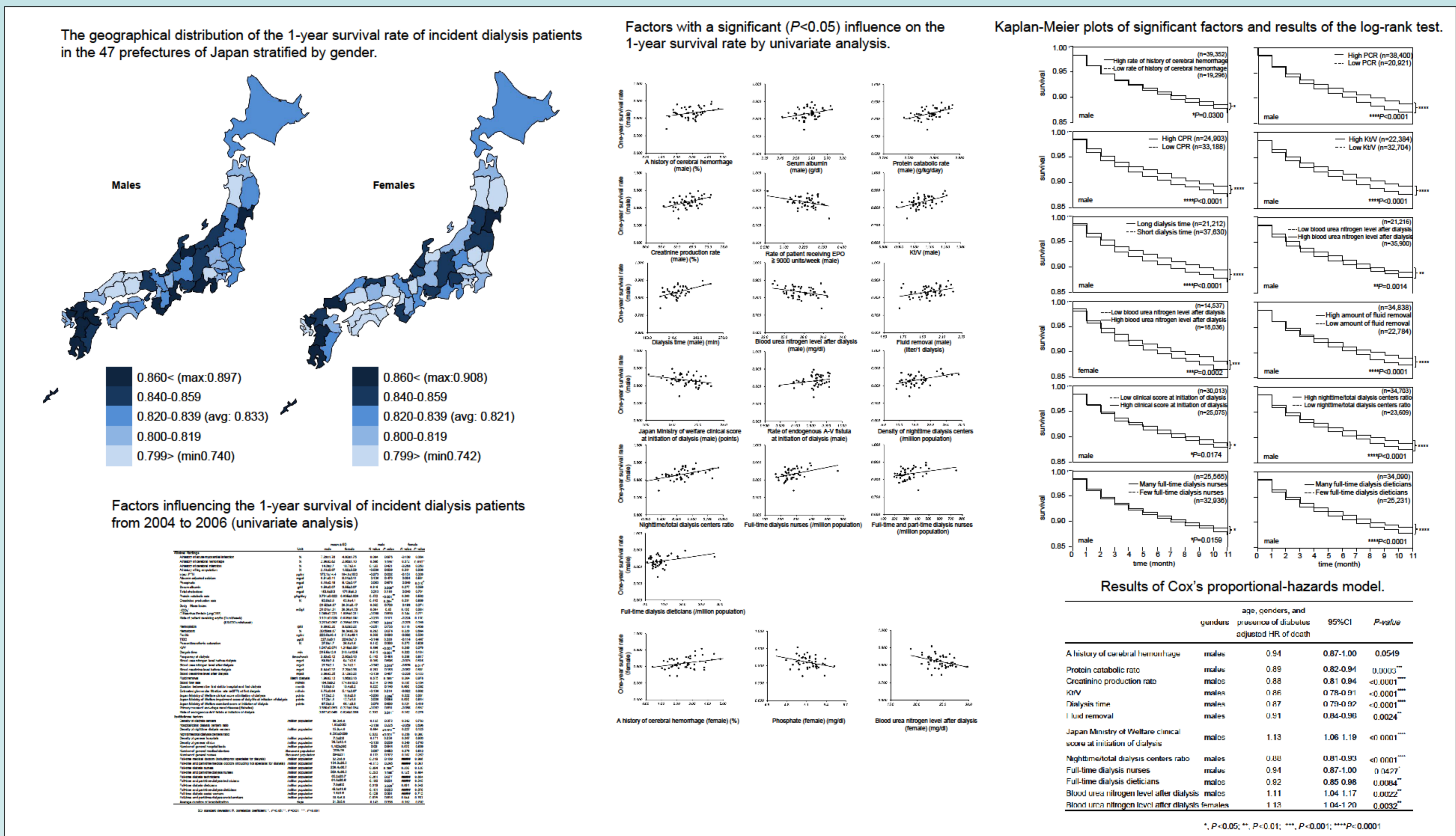**Committee of the Renal Data Registry, the Japanese Society for Dialysis Therapy, Tokyo, Japan**

Objectives:

There are regional differences in the survival of incident dialysis patients, but few studies have investigated the reasons. Therefore we evaluated which regional clinical factors might affect survival of incident dialysis patients with use of Japanese Renal Data Registry data for entire dialysis population in Japan.

Methods:

We investigated 37 clinical factors from the perspective of its relation to survival stratified by gender for patients from 47 prefectures in Japan using the Japanese Society for Dialysis Therapy database (JRDR-09105) which registered 102,011 patients who were introduced chronic dialysis therapy during 2004-06. We also investigated 20 institutional factors from the database from 3,958 institutions of the 47 prefectures in 2005. Univariate survival analyses were performed by Kaplan-Meier analysis and log-rank test. The observation period was 1 year after starting chronic dialysis. The factors which can potentially have effects on survival were also tested by Cox's proportional-hazards model. The prefectures which patients live in are divided into 2 categories for each clinical factor; prefecture with either upper or lower values. The variable for the categories was dichotomized and was subjected to the Cox's model for each patient as well as age and primary diagnoses.

Results:

The geographical distribution of the 1-year survival rate of incident dialysis patients in the 47 prefectures of Japan stratified by gender.

Factors influencing the 1-year survival of incident dialysis patients from 2004 to 2006 (univariate analysis)

Factors with a significant (P<0.05) influence on the 1-year survival rate by univariate analysis.

Kaplan-Meier plots of significant factors and results of the log-rank test.

Results of Cox's proportional-hazards model.

The age-adjusted 1-year survival rate was 0.832±0.027. A total of 11 factors were significantly correlated with 1-year survival according to the Kaplan-Meier analysis and log-rank test. Deaths occurred 15.0% in 24 upper survival prefectures and 18.7% in 23 lower survival prefectures (*P<0.0001*, unadjusted HR of death in lower survival prefectures: 1.26, 95% CI: 1.17-1.40). 10 factors [protein catabolic rate, creatinine production rate, dialysis time, fluid removal, Japan Ministry of Welfare clinical score at initiation of dialysis, nighttime centers/total dialysis centers ratio, number of full-time dialysis nurses, number of full-time dialysis dieticians, and blood urea nitrogen after dialysis] were significant by the Cox's model.

Conclusions:

Various institutional factors in addition to the clinical factors were closely related to the survival of incident dialysis patients, and regional differences in the survival may be explained, at least partly, by these factors.