

FP382

CKD-JAC STUDY SHOWS THE HUGE IMPACT OF CKD ON ALL KINDS OF HOSPITALIZATION: RESULTS FROM 2897 EVENTS ANALYSISSatoshi Iimuro¹, Tetsuji Kaneko¹, Enyu Imai², Yasuo Ohashi³, Akira Hishida⁴¹Teikyo University, Tokyo, Japan, ²Nakayamadera Imai clinic, Hyogo, Japan, ³Chuo University, Tokyo, Japan and ⁴Yaizu City Hospital, Shizuoka, Japan

INTRODUCTION: Chronic kidney disease (CKD) is now a global public health problem. We started the Chronic Kidney Disease-Japan Cohort (CKD-JAC) study from 2007 to 2011, which is a multicenter prospective cohort study of Asian patients living in Japan with stage 3, 4, or 5 CKD.

CKD Cohort studies have shown the clear evidences of CKD as an independent risk factor for end-stage kidney disease (ESKD), cardiovascular disease (CVD), and all-cause death. At the same time, on daily clinical practices, we face that CKD patients are very vulnerable and get hospitalized frequently due to a variety of diseases. Some studies show that CKD patients have high incidence of hospitalization for arteriovenous shunting, CVD, and infection, but there is no study that elucidate the impact of CKD on all kinds of hospitalization.

Our purpose is to determine the frequency and kinds of hospitalization of CKD patients, with comparing to Japanese general population, and find high-risk population among them.

METHODS: 2966 patients were observed, median follow-up period was 3.9 years and main papers have already published. Hospitalization data were recorded from the study enrollment until the beginning of dialysis or the end of follow-up period, whichever came first. The following hospitalization data were collected: 1) date of hospitalization and discharge, 2) diagnoses, and 3) treatment.

Hospitalizations were classified into 12 main disease groups. These groups are referred to as "CKD-JAC classifications". In addition to the CKD-JAC classification, diseases were also coded by the Japanese Ministry of Health, Labor and Welfare (MHLW) disease classification codes, based on the 2003 edition of the ICD10. It allowed us to compare our data to "Patient Survey of 2008" performed by Japanese MHLW, as general population data.

RESULTS: We observed 2897 all-cause hospitalization events (252.3 hospitalizations/1000 person-years [hos/1000p-y]). Hospitalizations caused by renal diseases were the most common (86.1 hos/1000p-y.) Hospitalization for CVD-related issues, infectious disease, malignant neoplasm were also common, at 37.3, 19.7, and 17.7 hos/1000p-y, respectively. The most common infection was pneumonia (6.8 hos/1000p-y.) Endocrine, nutritional, and metabolic diseases accounted for 16.6 hos/1000p-y, with diabetes mellitus accounting for 9.3 hos/1000p-y.

All-cause hospitalization increased with CKD stage and in the presence of diabetes. Patients with diabetes at enrollment had 345.7 hos/1000p-y, which is considerably higher than 196.8 hos/1000p-y for those without diabetes. Survival analysis, using hospitalization as an event, showed earlier all-cause hospitalization according to CKD stage and diabetes.

Hospitalizations were 17.1-fold higher in the CKD-JAC population than in general population, especially kidney (218.0-fold) and eyes (100.5-fold.) However, even when we removed the diseases closely related to CKD from the all-cause hospitalization, hospitalizations were still 9.7-fold more frequent in the CKD-JAC population than in control.

CONCLUSIONS: This study shows the extreme vulnerability of CKD patients to many diseases. Especially, CKD patients with diabetes have high hospitalization rate, even after excluding diseases closely related to diabetes. That means so-called diabetic kidney disease is high-risk for hospitalization.