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Diabetes and Hepatitis C Infection in Dialysis Patients: The Present Situation in Japan

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Dear Editor,

We read with interest the paper of Alavian SM (1), recently published in Nephro-Urology Monthly, which focused on the importance of the control of HCV and metabolic syndrome in patients with chronic renal failure (CRF). In Japan, the number of diabetic patients is also increasing year-by-year, and the number of patients with diabetic nephropathy among new patients started on dialysis surpassed those with chronic glomerulonephritis since 1998 (2). In order to reduce the number of new diabetic patients, the Ministry of Health, Labour and Welfare in Japan introduced an obligatory medical examination for metabolic syndrome in 2008 (3).

Hepatitis C virus (HCV) infection is known to be strongly associated with chronic kidney disease (CKD) including membranoproliferative glomerulonephritis (MPGN) with cryoglobulinaemia (4, 5). In Japan, Iwasa Y *et al.* (6) reported that the prevalence rate of HCV infection (determined by the anti-HCV antibody positivity) among new patients started on hemodialysis was 7.3%, in contrast to 0.15% in healthy volunteers. They also demonstrated the higher frequency of diabetic nephropathy in anti-HCV antibody-positive patients (37.9%) than in anti-HCV antibody-negative patients (18.6%) (6). Soma J *et al.* (7) reported the prevalence rate of anti-HCV antibody positivity among 2370 renal biopsied patients in the northeast region (Tohoku) of Japan. Among the patients, 4.1% (97 of 2370) were anti-HCV antibody-positive, while 19.5% patients (24 of 123) with type 2 diabetic-related glomerulosclerosis (II-DGS) and 18.2% patients (10 of 55) with MPGN were anti-HCV antibody-positive (7). Interestingly, 25% of patients (6 of 24) with II-DGS had other co-existing glomerular diseases including 3 with MPGN (7). They also demonstrated significantly low renal survival rate and steep $1/S_{cr}$ slope in II-DGS patients with anti-HCV antibody positivity compared to those with anti-HCV antibody negativity (7), directly indicating the adverse effects of HCV infection on patients with diabetic nephropathy.

In Japan, donor blood for transfusion has been routinely screened for HCV infection since 1989 (6). Due to the blood screening and the innovation of recombinant erythropoietin, the risk of HCV infection by

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blood transfusion has significantly reduced in dialysis patients (8). However, hospital-acquired infection of HCV has occasionally been reported and a mass infection case occurred in a private hospital in Hyogo prefecture in May 1999. In order to prevent hospital-acquired HCV infection, the Ministry of Health, Labour and Welfare in Japan thereafter published guidelines for the prevention of hospital-acquired infection during dialysis procedures for both doctors and paramedical staffs in 1999 (9). The guidelines have been revised twice and seem to have contributed to reducing hospital-acquired HCV infection. The prevalence rate of anti-HCV antibody positivity among the entire Japanese dialysis population decreased from 15.95% (1999) to 9.83% (the end of 2007) (9, 10). Additionally, the positive conversion ratio of the anti-HCV antibody, which most likely represents the occurrence of hospital-acquired HCV infection, among the entire Japanese dialysis population decreased from 2.1% (2001) to 1.04% (2007) (2). These efforts in Japan can be adapted by other countries, and can provide benefits for dialysis patients there.

Finacial disclosures

The authors have nothing to declare.

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