



## Diabetes, renal failure and hepatitis C infection: The puzzle should be attended more in future

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### ► Implication for health policy/practice/research/medical education:

Hepatitis C and diabetes mellitus are an emerging diseases and every family physicians, internists, infectious specialists should inform about it. Understanding the importance of prevention strategies for control of burden of these diseases is necessary for policy makers.

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Metabolic syndrome is an emerging problem in the world (1). High blood glucose, abnormality in lipid profile, high blood pressure, abdominal obesity, and fatty liver are the clinical and laboratory features of the metabolic syndrome (2). Patients with metabolic syndrome are at high risk of cardiovascular diseases, stroke and renal insufficiency (3). It has been reported that the prevalence of metabolic syndrome in Iran is one of the highest worldwide (4). High blood pressure and diabetes mellitus are the main causes of chronic renal failure in Iran (5). Patients on hemodialysis are at higher risk of acquiring Hepatitis C virus (HCV) infection (6-10). HCV infection is the main cause of chronic liver diseases in hemodialysis patients while HBV infection has been controlled by vaccination during recent two decades (8, 12-15). Renal transplantation will increase the risk of insulin resistance and diabetes mellitus (16, 17), on the other hand the occurrence of diabetes has negative impact on graft survival (16). So weight control and physical activity can help patients and their grafts. Diabetes mellitus has been known as one of the most

common cause of chronic renal failure and there are some reports that demonstrate a higher incidence and prevalence of type 2 diabetes mellitus in HCV-infected patients in comparison with general population (18, 19).

On the other hand, extrahepatic manifestations of HCV infection are also vital and include mixed cryoglobulinemia, lymphoproliferative disorders, and HCV-associated glomerulonephritis (MPGN) (20). HCV-associated nephropathy often develops several years after acquiring the infection. MPGN is reported as the most common HCV-induced nephropathy and usually occurs in the context of cryoglobulinemia (20). HCV and chronic renal disease are common problems worldwide that impose high health and financial burden in different countries. Diabetes mellitus, chronic renal failure, and HCV infection all of them impair quality of life and increase the morbidity and mortality in patients (21). However control of HCV and metabolic syndrome can change the scenario. Control of HCV infection in hemodialysis setting is possible (22). Integration of surveillance system for early detection, treating all of treatable patients with alpha interferon, putting HCV-infected patients on the top list for renal transplantation, training the staffs in hemodialysis centers, and using more the erythropoietin instead blood transfusion are known strategies against HCV in hemodialysis patients.

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