

HCV infection in diabetes mellitus patients

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Hepatitis C virus (HCV) infection is a prevalent infectious disease, whereas type 2 diabetes mellitus (T2DM) is a more common metabolic disease globally. There is a bidirectional relationship between T2DM and HCV infection across different races and geographic regions. Both diseases also carry an increased morbidity and mortality and have huge impact on health care worldwide. The global and Taiwan prevalence rates of DM (aged 20–79 years) are 9.8% and 9.7%, respectively, while the global and Taiwan prevalence rates of HCV are 1% and 3.8–4.7%, respectively, with Taiwan showing varying rates across the region. The global and Taiwan prevalence rates of HCV among patients with diabetes are 4.2% and 6.1%, respectively.

Patients with T2DM have an increased risk of acquiring HCV infection. Robust data showed the prevalence of HCV was higher in T2DM patients compared to those without diabetes. A Taiwanese study demonstrated that anti-HCV seroprevalence was 2.8 times higher in T2DM patients than in non-diabetic controls. Replication of hepatitis C virus (HCV) in diseased extrahepatic organs and tissues may have direct cytopathic effects, thus leading to a wide spectrum of extrahepatic metabolic manifestations, such as insulin resistance (IR) and/or subsequent glucose abnormalities, lipid abnormalities, and nephropathy. Previous epidemiological studies have demonstrated a significant mutual link between type 2 diabetes mellitus (T2DM) and HCV infection, irrespective of HCV genotype. Further case-control study showed that 37.8% of chronic HCV infection (CHC) patients had DM. For those patients without previously-diagnosed DM, there was a 3.5 folds increase in the prevalence of glucose abnormalities in CHC patients in comparison with healthy controls with oral glucose tolerance test (OGTT). However, despite the evidence of the association between diabetes and HCV and the benefits of anti-HCV treatment, previously published guidelines did not advocate the universal HCV screening for patients with T2DM. HCV screening, especially among patient with T2DM, may result in the timely initiation of anti-HCV treatment and significantly reduce the incidence and mortality of hepatic and extrahepatic manifestations. Furthermore, anti-HCV treatment may improve the metabolic control of patients with diabetes, leading to potentially reduced diabetic comorbidities.

