糖尿病與 C 型肝炎
Diabetes Mellitus and Hepatitis C

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Chronic hepatitis C virus (HCV) infection and Type 2 Diabetes Mellitus (T2DM) are both prevalent diseases worldwide, which are associated with increased morbidity and mortality. Chronic hepatitis C leads to not only end-stage liver diseases but also a wide spectrum of extrahepatic manifestations, including insulin resistance, T2DM, cryoglobulinemia and cardiovascular disorders. Accumulating evidence demonstrates that chronic HCV infection increases the risk of T2DM and also accelerates the onset of T2DM. Successful antiviral therapy could reduce the level of insulin resistance, and the incidence of T2DM as well as the complications of T2DM. On the other hand, T2DM has been one of the most important factors associated with the risk of HCC development in chronic hepatitis C patients, even in those who eradicate HCV after antiviral therapy, especially among those with mild fibrosis. We recently discovered that metformin use could greatly reduce the HCC risk after SVR among CHC patients with T2DM.

Since the liver is the major organ in glucose production, the two-way association of HCV and T2DM suggests a critical role of HCV in diabetogenesis. Several studies have shown that HCV infection have direct and indirect effects on glucose metabolism, leading to IR and T2DM. The hepatocytes with HCV replicon down-regulated cellular surface GLUT2 expression and led to decreased glucose uptake. HCV core protein and non-structure 5A (NS5A) protein have been associated with the HCV-related glucose dysregulation, nevertheless, the pathogenetic mechanism remains to be determined. The exploration of the HCV-related diabetogenesis might help us to develop potential new targets for glucose control in T2DM by the lesson from a virus.