Insulin resistance in chronic hepatitis C: mechanisms and clinical relevance

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Insulin resistance is the main clinical and pathogenetic feature of the metabolic syndrome, one of the major health problems worldwide. Chronic liver diseases may induce insulin resistance. The hepatic manifestation of the metabolic syndrome is nonalcoholic fatty liver disease. Insulin promotes the storage of energy in the fed state by stimulation of glycogen synthesis, lipogenesis, suppression of gluconeogenesis and VLDL formation. Epidemiological studies have shown that chronic hepatitis C induces insulin resistance. Insulin resistance in chronic hepatitis C is associated with progression of liver fibrosis, resistance to antiviral therapy and development of hepatocellular carcinoma. Here we review the major findings from epidemiological studies from 1994 to the present which have resulted in our current knowledge of insulin resistance in chronic hepatitis C. We further summarise the preliminary pathogenetic models that explain the development of hepatitis C virus-induced insulin resistance. Finally, we draw conclusions for the clinical management of these patients.

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