

中文題目：慢性 C 型肝炎與動脈粥狀硬化相關性研究

英文題目：Association of Hepatitis C Virus Infection with Atherosclerosis: A Population-Based study

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Background: Calcification of the coronary and thoracic arteries provides the best prediction of future cardiovascular events. However, the association between hepatitis C virus (HCV) infection and atherosclerosis remains unclear. The aim of this study was to assess risk factors for atherosclerosis and to investigate the association between HCV infection and atherosclerosis.

Materials and Methods: In this study, 2208 participants were recruited in southern Taiwan between June 2016 and September 2018. Low-dose noncontrast chest CT was provided for all the participants. The presence of coronary or thoracic artery calcification was defined as any Agatston score greater than zero. Diabetes, hypertension, and hyperlipidemia definitions were based on the classification of metabolic syndrome according to the modified Adult Treatment Panel III criteria. Indices of aspartate aminotransferase-to-platelet ratio and fibrosis-4 were calculated for participants with HCV infection. Atherosclerosis risk was estimated using multiple logistic regression modeling.

Results: Atherosclerosis rates were significantly higher in participants with HCV infection than in those without HCV (73.1% vs. 49.3%, $p < 0.001$). Multiple logistic regression analysis revealed that presence of HCV infection (OR = 1.80, 95% confidence interval [CI]: 1.08–2.99, $p = 0.023$), hypertension (OR = 1.71, 95% CI: 1.38–2.12, $p < 0.001$), hyperglycemia (OR = 1.53, 95% CI: 1.22–1.93, $p < 0.001$), and age older than 60 years (OR = 9.98, 95% CI: 7.98–12.48, $p < 0.001$) were significantly associated with higher atherosclerosis risk. Compared with those without HCV infection, participants with HCV infection and significant fibrosis (HCVFIB4 > 1.4) had a significantly higher atherosclerosis risk (OR = 1.91, 95% CI: 1.03–3.56, $p = 0.041$, trend: $p = 0.025$).

Conclusions: HCV infection with metabolic syndrome, advanced liver fibrosis, and high viral load was significantly associated with atherosclerosis. Early treatment for HCV infection is particularly recommended for individuals with elevated cardiovascular risk.

Key words: HCV, atherosclerosis, diabetes mellitus, metabolic syndrome