

Assessment of Coronary Artery Disease Severity in Hepatitis C Patients at Suez Canal University Hospital Cardiac Catheterization Laboratory

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BACKGROUND:

Chronic hepatitis C virus (HCV) infection and coronary artery disease (CAD) are major health problems causing significant worldwide morbidity and mortality. Chronic HCV infection induces a pro-inflammatory state and promotes atherosclerosis. We conducted this study to assess the association between HCV infection and severity of coronary artery disease.

METHODS:

The study was a cross sectional study including 225 randomly selected patients: 150 HCV positive patients (study group) and 75 age and gender matched HCV negative individuals (control group). Both groups were referred to undergo diagnostic coronary angiography. HCV markers and HCV PCR were done to all patients. Gensini score was used to assess the severity of CAD.

RESULTS:

Age and gender distribution were comparable in both groups. Likewise, the prevalence of smoking (56% versus {vs} 61.3%), diabetes mellitus (49.3% vs 46.7%) and hypertension (66.7% vs 65.3%) were comparable in the study and control groups, respectively.

However, the lipid profile was different in both groups, the cholesterol level was 186 ± 22 mg/dl vs 205 ± 29 mg/dl, $P < 0.018$ in the study group vs the control group, respectively. The triglycerides level was 122 ± 27 mg/dl vs 153 ± 34 mg/dl, $P < 0.001$, in the study group vs the control group, respectively.

Nevertheless, HDL level was nearly similar in both groups, 41 ± 12 mg/dl vs 38 ± 14 mg/dl, $P < 0.06$, in the study vs the control group, respectively. Likewise, LDL level was 131 ± 25 mg/dl vs 141 ± 31 mg/dl, $P < 0.08$, in the study group versus the control group, respectively.

The study group had more severe CAD than the control group using Gensini score (40 versus {vs} 25.5, $P < 0.001$). The study group had higher incidence of ST elevation myocardial infarction (STEMI) than the control group (33 % vs 24%, $P < 0.05$). There was significant difference between both groups regarding presence of ≥ 1 totally occluded coronary artery (24% in the study group vs 12% in the control group, $P < 0.04$). Three vessels CAD was more common in the study group than in the control group (40% vs 18% respectively, $P < 0.05$). There was a mild statistically significant positive correlation between Gensini score and HCV PCR, correlation coefficient 0.24, $P < 0.001$.

CONCLUSIONS:

In randomly selected patients referred to undergo coronary angiography, CAD severity assessed by Gensini score, incidence of STEMI and presence of totally occluded coronary arteries are significantly higher in patients with chronic HCV infection than in HCV negative patients. More large scale studies are needed to find the exact mechanism by which HCV is associated with or contribute to the development of CAD.

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