



The Association Between Adiponectin and Myocardial Infarction in Patients with Nonalcoholic Fatty Liver Disease

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INTRODUCTION

Adiponectin is an adipocyte-specific secretory protein that is highly expressed in adipose tissue. Adiponectin levels are decreased in patients with metabolic diseases, such as type 2 diabetes and nonalcoholic fatty liver disease (NAFLD). NAFLD has been associated with an increased risk of myocardial infarction (MI) in previous studies.

OBJECTIVE

To analyze the association between adiponectin concentrations and MI in patients with NAFLD.

METHODS

A literature review was conducted following the PRISMA guidelines. Papers were selected searching PubMed/Medline database in August 2021 using the terms [NAFLD] OR [NASH] AND [adiponectin] AND [myocardial infarction]. The inclusion criterion was limited to observational studies that evaluated the association between adiponectin concentrations and MI in patients with NAFLD. There were no language or publication date restrictions.

RESULTS

The pathophysiology of NAFLD includes insulin resistance and inflammation as key factors, with reduced serum adiponectin levels and increased cardiovascular risk. Adiponectin inhibits liver gluconeogenesis, displays anti-atherogenic and anti-inflammatory properties, and promotes peripheral insulin sensitivity. Lower levels of adiponectin are associated with worse prognosis and increased risk of MI in patients with coronary artery disease. Favorable effects of adiponectin are associated with ischemia-induced angiogenesis, decreased myocyte necrosis, decreased hypertrophic response, and reduced interstitial fibrosis. However, we did not find studies that demonstrated the association between adiponectin levels and MI among patients with NAFLD.

CONCLUSION

Although the anti-inflammatory and cardioprotective effects of adiponectin are well established, it is still not certain whether higher levels of adiponectin are associated with a reduced risk of MI in patients with NAFLD.