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Relationship of fetuin-A with non-alcoholic fatty liver

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Core tip

Some studies showed, fetuin-A is associated with an increase in the prevalence of with non-alcoholic fatty liver.

One of the common causes of death is chronic liver disease. The non-alcoholic fatty liver disease (NAFLD) signifies any hepatic fatty infiltration which is not caused by alcohol abuse. NAFLD is highly widespread in the general populace and is a risk factor for type 2 diabetes and heart and vessels diseases (1–6). Liver fat is associated with impaired fasting glucose. The prevalence of NAFLD in the Western countries is reported between 20%-30% and 15% in Asian countries (1,2). Obesity and type 2 diabetes are the main causes of NAFLD (3). These two conditions are associated with insulin resistance and impaired glucose tolerance. The primary mechanism of the disease consisted of two stages; in the first stage, excessive accumulation of triglycerides in the liver cells and the resistance to insulin play a role, and in the second phase, the oxidative stress is associated with the expression of several inflammatory factors and the adipocytokines (3). If NAFLD is not treated, it might progress to liver dysfunction or liver cancer (3,5). In a cross-sectional study conducted by Hung et al, 5219 participants from two Shanghai community were selected. The purpose of this study was to determine the relationship between fatty liver with fetuin-A in patients with non-alcoholic fatty liver. The results showed an increase in the level of fetuin-A and an increase in the prevalence of NAFLD (6) (Figure 1).

In a study by Huang et al, 111 patients with NAFLD and 131 controls participated. In patients treated with metformin at a 6-month period, the fetuin-A level was evaluated in relation to body mass index (BMI). The results showed fetuin-A is associated with an increase in the NAFLD ($P<0.001$). Additionally, in patients treated with metformin, there was a decrease in the levels of fetuin-A ($P<0.008$). Likewise,

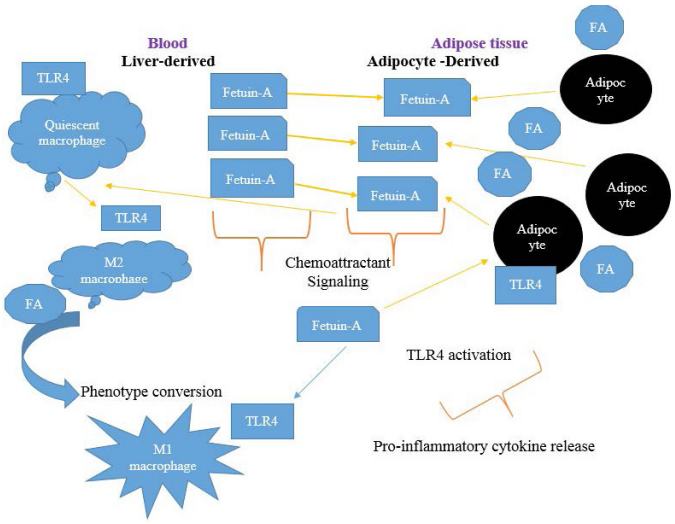

Figure 1. Fetuin-A in liver and adipocyte tissue and its role in promoting inflammation. Abbreviation: Toll-like receptor 4 (TLR4)

in a study conducted by Cui et al, 79 NAFLD patients participated. All the participants were Chinese. They were annually assessed. The results showed that levels of fetuin-A are associated with an increase in the prevalence of NAFLD (7). It is possible that fetuin-A plays an essential role in the pathogenesis of various conditions such as NAFLD. Nevertheless, additional studies in this context are necessary.

Authors' contribution

MA and HNayeri searched the data and prepared the draft of the manuscript. HN edited and finalized the paper. All authors read and signed the final manuscript.

Conflicts of interest

The authors declared no competing interests.

Ethical considerations

Ethical issues (including plagiarism, data fabrication, double publication) have been completely observed by the authors.

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