

EDITORIAL

Increased Circulating Fetuin-A Levels in Patients With Atrial Fibrillation: Are We Really There?

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Fetuin-A is a protein almost exclusively secreted by the liver. Circulating fetuin-A levels are elevated in humans with metabolic syndrome and insulin resistance, conditions that are associated with increased risk of cardiovascular disease.¹ Fetuin-A is a natural inhibitor of the insulin-stimulated insulin receptor tyrosine kinase and was shown to induce insulin resistance in rodents.^{2,3} Studies in humans have demonstrated that circulating fetuin-A levels are positively associated with fat accumulation in the liver, insulin resistance, and metabolic syndrome.⁴ To our knowledge, the potential association between fetuin-A and atrial fibrillation (AF) has not been studied to date. Therefore, the present study aimed to determine circulating fetuin-A levels in AF patients and revealed that higher plasma fetuin-A levels were associated with AF after adjustments for some confounding factors.

Fetuin-A seems to be involved in many normal and pathological processes, such as in response to systemic inflammation, hepatocyte-growth-factor activity and regulation of insulin activity, inhibition of unwanted mineralization, osteogenesis, and bone resorption.⁵

However, this study has some limitations such as the small number of patients included, and all patients were recruited from a single center. Thus, we cannot infer a causal relationship between fetuin-A elevation and AF. To clarify this issue, prospective large-scale studies, that begin before the onset of AF develops, are needed, as the authors state in the conclusion.⁶

Studies in humans have demonstrated that circulating fetuin-A levels are positively associated with fat accumulation in the liver, insulin resistance, metabolic syndrome, and diabetes mellitus, conditions that are associated with increased risk of cardiovascular disease and AF. Fetuin-A concentrations are strongly associated with the risk of myocardial infarction and ischemic stroke independent of standard risk factors. Additional research is warranted to elucidate the mechanisms by which fetuin-A influences the risk of cardiovascular disease and AF.¹

Despite the small number of individuals included, the study suggests the possibility of using fetuin-A concentrations in the prevention or early detection of cardiovascular events, such as AF, stroke, and their consequences.

Keywords

Increased Circulating Fetuin-A Levels, Atrial Fibrillation, Diabetes Mellitus, Insulin Resistance, Metabolic Syndrome

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