



Study Identifies Biomarker Associated With Atrial Fibrillation



A new microRNA biomarker has been identified that may have a strong association with the incidence of atrial fibrillation. The findings were presented today at Heart Rhythm 2017, the Heart Rhythms Society's 38th Annual Scientific Sessions in Chicago.

See Also: [New Source of Electrical Instability in the Heart](#)

Researchers from Intermountain Medical Center Heart Institute in Salt Lake City have been seeking microRNA markers to help diagnosis and treatment of heart conditions such as atrial fibrillation and heart failure. Oxana Galenko, PhD, clinical research senior scientist in cardiovascular research at Intermountain Medical Center Heart Institute explains that the researchers were interested in seeking out biomarkers that could specifically predict the occurrence and severity of atrial fibrillation (AF). They wanted to generate specific profiles of the molecules to see if they would be able to distinguish between the risk of atrial fibrillation in different patients.

They identified microRNAs that negatively control gene expression at the post-transcriptional level and could indicate AF patients that may benefit from ablation.

Atrial fibrillation can have significant impact on a patient's quality of life and can cause heart palpitations, fatigue and pain. Risk of stroke in patients with atrial fibrillation increases five-fold. The two most common type of AF include paroxysmal AF which is episodic and persistent AF which lasts longer and has different severity levels. The researchers sought to identify specific microRNAs that could help discriminate these two sub-types.

For the purpose of the study, the researchers used very small amounts of plasma from the Intermountain Medical Center Heart Institute's bio bank. They examined samples from 140 atrial fibrillation patients out of which 93 suffered from paroxysmal AF and 47 suffered from persistent AF. 50 of the sample population had no identified heart disease and served as a control group. Several miRs that had been associated with AF were examined including 21, 291, 133a, 133b, 150 and 328. Researchers found that the risk of AF increased as levels of miR21 decreased. miR21 was not associated with any differences between paroxysmal and persistent AF.

"As atrial fibrillation progresses, we know there's more fibrosis in the left atrium," said Dr. Jacobs. "We have theories of what causes the harmful fibrosis, including which pathways are activated to causes fibrosis. But we really don't know the cause yet. It's unclear if the microRNA carries the signals then it progresses to fibrosis or vice versa."

Source: [Intermountain Medical Center](#)

Image Credit: Intermountain Medical Center Heart Institute

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