

Down regulation of microRNA-155 may underlie age-related hypertension

September 8 2016

Hypertension and cardiac disease are common consequences of aging. Unfortunately, many elderly individuals do not respond to current therapies for reducing blood pressure, and the factors that drive age-related hypertension are poorly understood.

In this issue of *JCI Insight*, researchers led by Iris Jaffe of Tufts Medical Center provide evidence that age-related reductions of a microRNA (miR-155) underlie age-associated hypertension. Mice that lack mineralocorticoid receptors in [smooth muscle cells](#), which regulate blood pressure, are protected from developing high blood pressure as they age.

Jaffe and colleagues determined that compared to aged wild type mice, aged animals lacking [mineralocorticoid receptors](#) have elevated levels of miR-155, less oxidative stress, and fewer hypertensive characteristics. Moreover, restoration of miR-155 in aged wild type mice improved blood pressure parameters.

Importantly, in a small cohort of healthy older adults treated with a mineralocorticoid receptor inhibitor, reduced levels of miR-155 were associated with beneficial changes in [blood pressure](#). Together, these results indicate that miR-155 should be further explored as a biomarker and therapeutic target for age-related hypertension.

More information: Jennifer J. DuPont et al, Vascular mineralocorticoid receptor regulates microRNA-155 to promote vasoconstriction and rising blood pressure with aging, *JCI Insight* (2016).

[DOI: 10.1172/jci.insight.88942](https://doi.org/10.1172/jci.insight.88942)

Provided by JCI Journals

Citation: Down regulation of microRNA-155 may underlie age-related hypertension (2016, September 8) retrieved 25 April 2024 from <https://medicalxpress.com/news/2016-09-microrna-underlie-age-related-hypertension.html>

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