

## News Summary

### **P1-582: Natural hormone offers hope for treatment of the metabolic syndrome**

Angiotensin 1-7, a hormone in the body that has cardiovascular benefits, improves the metabolic syndrome in rats, according to a new study. The results will be presented Wednesday at The Endocrine Society's 91st Annual Meeting in Washington, D.C.

"No specific form of medical therapy for the metabolic syndrome presently exists," said the study's lead author, Yonit Marcus, MD, a PhD student at the Weizmann Institute of Science in Rehovot, Israel. "But an estimated 20 to 25 percent of the world's adult population has the metabolic syndrome."

The metabolic syndrome is a cluster of risk factors that raise the risk of developing heart disease, stroke and diabetes. A diagnosis of the metabolic syndrome comes from having at least three of the following: increased waist circumference (abdominal obesity), low HDL ("good") cholesterol, high triglycerides (fats in the blood), high blood pressure and high blood glucose (blood sugar).

The renin-angiotensin system and its key player, the hormone angiotensin II, normally help control blood pressure, but when overactive, this hormone likely contributes to the development of obesity and the metabolic syndrome. A product of angiotensin II metabolism, a hormone called angiotensin 1-7, counteracts many of the negative effects of excess angiotensin II, including high blood pressure, kidney disease, heart failure and cardiac arrhythmia (abnormal heart rhythms), according to Marcus.

With the other researchers, Marcus examined whether angiotensin 1-7 has a beneficial effect on the metabolic syndrome, using an established model of the syndrome, "the fructose-fed rat." In this model, rats are fed a diet heavy in fructose sweetener, and over time they develop similar characteristics to the human metabolic syndrome.

One month of treatment with angiotensin 1-7, administered by an infusion pump, did not affect body weight in the fructose-fed rats. However, treatment did significantly lower the high fasting insulin levels that the fructose diet raised, the investigators reported. Angiotensin 1-7 also significantly improved components of the metabolic syndrome, by greatly decreasing triglycerides and blood sugar levels, compared with those of control rats that received no angiotensin 1-7 treatment.

"These results offer a new potential hope to treat the metabolic syndrome," Marcus said.

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