

Study has shown to reverse obesity, body fat and improve insulin sensitivity in mice

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(Medical Xpress) -- Scientists used the ACE inhibitor captopril (CAP)—commonly used for the treatment of hypertension and cardiac conditions—and found that it can reduce the body weight of mice maintained on a high-fat diet.

Initially, mice were put on a high fat diet for 12 weeks to produce mice with diet-induced [obesity](#). During the subsequent 12 weeks treatment period, the mice were allowed access to the high-fat diet and either water containing CAP or plain tap water (the control).

"From the first week of treatment, food intake and body weight decreased in the mice treated with CAP compared with the control mice.

"Both peripheral [insulin sensitivity](#) and hepatic insulin sensitivity were improved in CAP treated mice compared with the control, which means there was an improvement in the handling of blood sugar," says Dr. Shirmila Premaratna, lead researcher from the La Trobe's Faculty of Science, Technology and Engineering.

Previously, studies have shown that treatment with CAP prevented diet-induced obesity in rats and mice however this new research has extended those findings by showing that CAP treatment could also reverse diet-induced obesity, reduce inflammation and improve insulin sensitivity.

"Weight loss was maintained throughout the treatment period of the study in mice, in addition, CAP improved peripheral insulin sensitivity and decreased the rate of storing fat and glucose in the liver," says Dr. Premaratna.

Obesity is becoming a major epidemic of the 21st Century with approximately 1.6 billion adults worldwide overweight and 400 million fulfilling the obesity criteria.

Obesity is associated with a number of other diseases such as type-2 diabetes, cardiovascular disease and certain cancers. A common emerging link is chronic systemic inflammation.

"The results of the current study indicate that in [mice](#) with diet-induced obesity, CAP treatment reduced food intake and [body weight](#), improved glucose tolerance, thus, CAP may be a viable treatment for obesity, insulin resistance and inflammation," says Dr. Premaratna.

More information: *Angiotensin-converting enzyme inhibition reverses diet-induced obesity, insulin resistance and inflammation in C57BL/6J mice*, is published in the *International Journal of Obesity*.

Provided by La Trobe University

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