

# How does DPP-4 inhibition affect liver function?

January 27 2015

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(HealthDay)—Dipeptidyl peptidase-4 (DPP-4) inhibition may attenuate hepatic steatosis and insulin resistance induced by the Western diet (WD) through hepatic lipid remodeling and modulation of hepatic mitochondrial function, according to research published online Jan. 20 in *Diabetes*.

Annayya R. Aroor, M.D., of the University of Missouri in Columbia, and colleagues assessed hepatic function in 4-week-old C57Bl/6 mice who were fed a high-fat, high-fructose WD versus those who were fed the WD containing the DPP-4 inhibitor MK0626 for 16 weeks.

The researchers found that insulin suppression of hepatic glucose output was enhanced in mice receiving the DPP-4 inhibitor and the WD. Accumulation of hepatic triacylglycerol (TAG) and diacylglycerol (DAG) content also was reduced. Mitochondrial incomplete palmitate

oxidation was reduced, and indices of pyruvate dehydrogenase activity, tricarboxylic [acid](#) cycle flux, and hepatic TAG secretion were increased. Following DPP-4 treatment, plasma uric acid levels decreased in WD-fed mice.

"These studies suggest that DPP-4 inhibition ameliorates [hepatic steatosis](#) and [insulin resistance](#) by suppressing hepatic TAG and DAG accumulation through enhanced mitochondrial carbohydrate utilization and hepatic TAG secretion/export with concomitant reduction of uric acid production," the authors write.

Two authors disclosed financial ties to Merck, which partially funded the study and manufactures MK0626.

**More information:** [Abstract](#)  
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