

# Caloric restriction normalizes bile acid, cholesterol deficiency

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"The results suggest that hepatic BAs and cholesterol are deficient in morbid obesity," the authors write. "Caloric restriction rapidly counteracts these deficiencies, normalizing BA and [cholesterol synthesis](#) and circulating PCSK9 levels, indicating that overproduction of [cholesterol](#) in enlarged peripheral tissues cannot explain this phenotype."

**More information:** [Abstract](#)  
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(HealthDay)—Acute caloric restriction normalizes hepatic bile acid (BA) and cholesterol deficiency that is seen in morbidly obese women, according to a study published online March 6 in the *Journal of Internal Medicine*.

Sara Straniero, Ph.D., from Karolinska University Hospital in Stockholm, and colleagues monitored 10 morbidly obese women on days zero, three, seven, 14, and 28 after initiating a low-calorie diet. They collected serum and determined liver size and fat content. The results were compared with those from 54 non-obese women who served as controls.

The researchers found that, compared with controls, the obese group had elevated synthesis of both BAs and cholesterol and [serum levels](#) of BAs and proprotein convertase subtilisin/kexin type 9 (PCSK9) at baseline. BA and cholesterol synthesis and serum BA and PCSK9 levels normalized after three days on the low-calorie diet, while [low-density lipoprotein cholesterol](#) increased. There was no change in fibroblast growth factor 19 and triglyceride levels, and a 10 percent decrease was seen in liver volume.

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