

Clear association between obesity and vitamin D deficiency

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(PhysOrg.com) -- A study conducted at Uppsala University has demonstrated that obese people often suffer from serious vitamin D deficiency and poor calcium metabolism. The findings have been published in the Journal of Clinical Endocrinology and Metabolism. According to the researchers, the problem is underappreciated by the health care establishment.

Although several previous studies support a connection between obesity, poor calcium metabolism and vitamin D deficiency, the new study makes the point with much greater clarity. The study comprised a total of 108 obese subjects (76 women, 32 men), 70.4 per cent of whom suffered from vitamin D deficiency, which can lead to [osteoporosis](#), among other conditions. A conclusion is that obese people ought to take vitamin supplements.

“Vitamin D deficiency is not corrected by and may in fact become exacerbated following treatment of obesity by means of gastric by-pass surgery,” says Per Hellman, Professor of Surgery at Uppsala University and a senior physician at Uppsala University Hospital, who, together with Hella Hultin, a physician and doctoral student, carried out the study. “Unfortunately, this fact is underappreciated. Vitamin D supplements are important even in the aftermath of such surgery.”

The scope of the study extended beyond the issue of vitamin deficiency to encompass the body’s entire calcium regulation system. The findings support earlier assumptions that obese people are frequently

characterised by poor calcium metabolism, and that this impacts parathyroid function in a way that was not previously known. The specific mechanism that results in [vitamin D deficiency](#) has not been determined, but the researchers hold it to be probable that obesity causes the vitamin deficiency and not vice versa. A number of hypotheses have been proposed. Vitamin-D, which is fat-soluble, may be taken up by fat tissue and thereby rendered unavailable for bodily processes. There may even be a link to inadequate exposure to sunlight, given that obese people tend to spend less time outdoors. The researchers assert the importance of adequate follow-up in connection with treatment of obese patients, especially in view of the osteoporosis risk.

“Patients at the Uppsala University Hospital [obesity](#) unit now receive significant [Vitamin-D](#) supplementation,” says Per Hellman. “Increased awareness of the issues involved is necessary at the primary-care level. Today, many patients receive too little post-surgical follow-up care.”

The study is the first in a series that will be published in a variety of journals.

More information: Link to the article - jcem.endojournals.org/cgi/content/tract/jc.2009-2822v1

Provided by Uppsala University

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