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Letter to Editor

Molybdenum supplementation may increase sulfides in the human colon

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To the Editor

I have observed what seems to be a rare but novel symptom that has not been documented in the medical literature, in a subject that I have been studying. The observation was a worsening of flatus and stool odor in this subject, a few days after the subject started an unphysiologically high dose of dietary molybdenum. The malodor was present every day for about two weeks and then was sporadic, with periods with and without the foul odor for about the next 6 mo. His flatus and stools had an intense sewer-like odor. The molybdenum compound taken was Mo glycinate chelate (Thorne Research, Inc., Drover, Idaho, U.S.A.) the dose was 1000 µg/d and the supplement was taken for 6 mo. The subject is a middle-aged Caucasian man, who suffered from the diarrhea-predominant subtype of irritable bowel syndrome.

Other individuals have had similar symptoms after supplementing with molybdenum. For example, the following messages have been posted on the Hydrogen Sulfide SIBO Support Group, "Does anyone know why Molybdenum can increase hydrogen sulfide gas??? . . .", and "I started taking molybdenum glycinate but caused severe bloating and gas . . . plus it can increase sulfur . .. ..." (https://www.facebook.com/groups/719384418270892).

The gases in the colon of these individuals are probably sulfides. Foul odoriferous gases that pass through the rectum in high enough quantities to be recognized by humans are hydrogen sulfide, methanethiol, and dimethyl sulfide. Hydrogen sulfide is the predominant gas of this gaseous mixture, then methanethiol and then dimethyl sulfide [1,2]. These gases are all volatile sulfur compounds [1]. Hydrogen sulfide, other volatile sulfur compounds, and ammonia gas are the gases that give the characteristic malodor attributed to sewers. In a blinded study, the human nose has been shown to correctly identify varying concentrations of hydrogen sulfide, methanethiol, and dimethyl sulfide gases; and it can also identify mixtures of these gases [2]. Given that humans can identify foul odoriferous gases that pass through the rectum, the gases in the colon of these individuals are probably sulfides. The sulfides are probably produced by bacteria in the colon. A possible bacteria involved in the production of sulfides is discussed in a mini-review titled, "Dietary Molybdenum may Stimulate the Growth of Colonic Sulfur Reducing Bacteria, Increasing Hydrogen Sulfide Levels in the Human Colon, and the Possible Health Effects of an Excess of Colonic Sulfides", in this edition of Archives of Clinical Gastroenterology.

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