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Detection of odorous compounds in breath

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Abstract

Previous studies have demonstrated that hydrogen sulfide and methyl mercaptan play a major role in oral malodor. In the present study, we tested the hypothesis that other compounds found in mouth air can also contribute to halitosis. Mouth air of 40 healthy volunteers and 40 persons with halitosis was analyzed and compared by gas chromatography-mass spectrometry, two sulfur monitors, and organoleptically. Nearly 700 different compounds were detected. Hydrogen sulfide, methyl mercaptan, dimethyl sulfide, di- and trisulfide were increased in persons with breath odor. These compounds were all significantly correlated with the organoleptic score. We concluded that hydrogen sulfide, methyl mercaptan and, to a much lesser extent, dimethyl sulfide, di- and trisulfide can contribute to oral malodor. The role of other compounds, such as amines and organic acids, seems insignificant.

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