Volatile Sulfur Compounds Reduced in vivo after Chewing Gum Containing Myrsine seguinii Extract – A Double Blind Crossover Test: A Pilot Study

Satomi ITO, Yuuichi MAEDA and Keishirou YOSHIDA
Lotte Co., Ltd. Central Laboratory

Abstract: We previously reported that Myrsine seguinii extract suppresses the production of volatile sulfur compounds (VSC) in vitro, which is considered to be the main cause of halitosis. The aim of this study was to assess the efficacy of a single session of masticating M. seguinii extract-containing chewing gum on VSC reduction and to clarify the effective quantity of M. seguinii extract. A double-blind crossover study was conducted involving 19 healthy subjects. The concentrations of VSC in the oral air were analyzed using gas chromatography before mastication of the chewing gum for 5 min (baseline), immediately after, 1 hour later, and 2 hours later. The test chewing gum contained 10.0, 5.0, or 2.5 mg of M. seguinii extract per tablet. Each subject masticated two tablets of the test chewing gum or the control chewing gum. The washout period was 1 week. In the high-dose group (20.0 mg/2 tablets), the concentrations of total VSC, hydrogen sulfide (H₂S), and methyl mercaptan (CH₃SH) were significantly decreased at 1 hour after mastication compared with those before mastication. In the middle-dose group (10.0 mg/2 tablets), the concentration of CH₃SH tended to decrease at 1 hour after mastication compared with that at the baseline. In the low-dose group (5.0mg/2 tablets), the concentration of CH₃SH was significantly decreased at 1 hour after mastication compared with that at the baseline. No significant changes in the concentration of VSC were noted in the control group. Thus, the single session of masticating M. seguinii extract containing chewing gum was temporarily effective to reduce VSC. The effective amount was more than 20.0 mg of M. seguinii extract.

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Reprint requests to S. ITO, Lotte Co., Ltd. Central Laboratory, 3-1-1 Numakage, Minami-Ku, Saitama, 336-8601, Japan
TEL: +81-48-837-0187/FAX: +81-48-837-0130/E-mail: itou_satomi@lotte.co.jp