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Discussion

Reply to comment on "Halitosis associated volatiles in breath of healthy subjects" by S. van den Velde et al. [J. Chromatogr. B 853 (2007) 54–61]

The authors appreciate the attempt of Dr. Jayaratne to further substantiate the results.

Many aspects are so evident for those in the medical field that they were not described in detail in our paper. The department has a longstanding expertise in breath odor assessment and thus all volunteers enrolled had to, as part of the standard procedure, refrain from any intake of alcoholic drinks, garlic, onions, perfume for 24 h. GC–MS measurements are very sensitive to ethanol and thus any infringement would have been detected. Only non-smoking subjects were enrolled. However, as mentioned in the discussion we did not ask the volunteers to follow a diet or to refrain from their normal oral hygiene, as we wanted a global view of the population. If you lay on too many restrictions, you create an optimal population, which is not representative anymore for the general population.

With the term healthy, the authors meant the general health where indeed one cannot solely rely on the subject's perception but, as routinely done in the hospital environment in which the investigation took place, by thorough questioning and in case of any doubt, exclusion. It also meant the oral health of the volunteers. The latter was checked by a periodontologist. None had overt gingivitis or periodontitis or any other oral pathology. Because almost everyone in the general population has a tongue coating in some extent, volunteers with only a hardly visible coating were enrolled. As it was mentioned it were really symptomless volunteers. They showed no halitosis on the morning of the measurement. Organoleptic evaluation is in this centre a standardized procedure which has been described in detail [1]. Halitosis can fluctuate from one day to another and therefore the volunteers were also questioned on their own perception. The fact that the results show very low concentrations for the sulfur compounds (GC–MS (mouth air): dimethyl sulfide mean 4.29 ppb, dimethyl disulfide mean 0.069 ppb and dimethyl trisulfide mean 0 ppb; OralChroma: hydrogen sulfide mean 11.78 ppb and methyl mercaptane mean 9.7 ppb), which are generally reported as the main contributors of oral malodor, also indicates that orally healthy volunteers were enrolled.

The authors would like to mention that because of the nature of the journal they rather focused on the chromatographic results. They were happy to be able through this letter to give further clarifications on the clinical and oral parameters.

Reference

[1] D. van Steenberghe, Breath Malodor: A Step-by-Step Approach, Quintessence, Copenhagen, 2004.

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