

Summary

A) Olfactory evaluation using perfumed markers

In our work we focused on creation of a new, cheap and orientation method of olfactometry. To assess olfactory function we decided to use perfumed markers, available in stationery, made by company Centropen. These markers are designed for use by children. We projected four individual studies to create a new technique of examination using perfumed markers and to evaluate its function.

1. In a pilot study we examined 100 subjects (50 healthy and 50 suffering from olfactory loss). Examination technique consisted of two parts, discrimination of odorants and identification. The results of this test were in concordance with generally used subjective olfactometry tests.
2. Due to huge time consumption of technique used in the pilot study, we decided to find simpler and faster technique of examination. Five different techniques were created and compared with standard olfactory test Sniffin' Sticks (part threshold and identification). In total 189 subjects were included in this study. The technique with the best results considering sensitivity and specificity for screening anosmia was named Odourized Markers Test (OMT). The subjects were asked to spontaneously name the odorants first and then to choose the most proper name for an odorant from four options. This technique was further evaluated in following studies.
3. To exclude the influence of the colours of the markers, we decided to compare the results of OMT using coloured and white perfumed markers. In total 198 subjects took a part in this study, 128 and 70 were tested using coloured and white markers, respectively. Olfaction was currently assessed by Sniffin' Sticks in all subjects. Results of this study didn't proved statistically significant difference in screening anosmia using coloured or white perfumed markers.
4. To evaluate olfaction using OMT without assistance of examiner, the same technique was adapted for use by subjects themselves. 210 subjects were included in this study, 128 were tested using standard technique of examination and 82 subjects measured olfactory ability themselves. No statistically significant difference was found out between both groups in screening anosmia.

New screening method of olfaction using perfumed markers (OMT) was created and evaluated in several studies. Influence of colours on screening anosmia was not found. The test can be performed by patients themselves.