Funding Acknowledments: Fonds FO116000 (AWL) University Hospital Basel, ENT Dept.
FCOI Declarations: None

MONDAY, 9:00 PM - 11:00 PM

P236 Top-down olfactory processing in subjects with olfactory loss

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Objective: To investigate top-down olfactory processing in patients with congenital (CA) or idiopathic anosmia (IA) in comparison to normosmic controls (NC) during expectancy and reading of odor associated words. Method: We investigated 3 different groups: CA (n=14) with a life-long inability to smell; IA with past experience of smell (n=8) and NC (n=16). Within the MR scanner (3T, Siemens Prisma) participants were shown words with or without olfactory associations, e.g. banana or a chair. Blocks with odor-associated words were alternated with blocks of neutral words. Data was analyzed in terms of (A) expectancy (instruction to read odor- associated words) and (B) response when reading odor associated words.
Results: For analysis A, expectancy, NC and IA subjects showed more activations as compared to CA participants in the anterior cingulate gyrus along with the middle frontal gyrus of prefrontal cortex. For analysis B, overall CA patients exhibited more activation in the right insular cortex and right caudate compared to IA and NC. Conclusion: Neuroimaging results suggest a group difference during expectancy and reading of odor related words. IA and NC subjects show more activation in anterior cingulate gyrus and in the middle frontal gyrus, suggesting their olfactory related experience. On the other hand, activations in CA patients seem to indicate that the anterior insular cortex is strongly involved in the processing of olfactory information even if there was no previous experience with odorous stimuli.
Funding Acknowledments: Dept. Of ORL at the Technical University of Dresden, Germany.
FCOI Declarations: None

MONDAY, 9:00 PM - 11:00 PM

P237 AN ITALIAN POPULATION-BASED STUDY OF THE PREVALENCE OF OLFACTORY IMPAIRMENT

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The loss of sense of smell decreases quality of life and may contribute to the failure in recognizing hazardous substances. Given the relevance of olfaction in the daily life, it would be important to recognize undiagnosed olfactory dysfunction in order to prevent these possible complications. Up to now, the prevalence of smell disorders in Italy is unknown because of a lack of epidemiological studies. The aim of the present study is to present the current data on the prevalence of olfactory dysfunction in an Italian sample to provide random, population-based data of olfactory dysfunction in adults, based on psychophysical testing and to relate dysfunction to age, sex, cognitive abilities, cognitive reserve and depression level. A total of 703 participants (mean age: 50.6; SD: 19.5; range: 18–94) from eight different Italian regions took part in the study. The sample was stratified in proportion to sex and six age groups: 18–29 (N = 127); 30–39 (N = 115); 40–49 (N = 105), 50–59 (N = 115), 60–69 (N = 89); >70 (N = 152). Olfactory function, cognitive abilities, cognitive reserve and depression were assessed respectively with: "Sniffin' Sticks" Identification Test, Montreal Cognitive Assessment, Cognitive Reserve Index and the Beck Depression Inventory. Additionally, sociodemographic data, medical history, and health-related lifestyle information was collected. About 38% of our sample presented olfactory impairments. Multiple regression analysis revealed that age, sex, cognitive abilities, cognitive reserve and depressive symptoms explained a total of 28.5% of the variance in olfactory scores. Higher odor identification scores were associated with female sex, lower age, higher level of cognitive functioning, higher cognitive reserve but, surprisingly, more depressive symptoms.
Funding Acknowledments: No grants
FCOI Declarations: None

MONDAY, 9:00 PM - 11:00 PM

P238 Presence of undetected olfactory loss in the general population- based on a large sample of 9139 subjects

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Presented data were analyzed to provide up-to-date and more detailed normative data based on a large-scale sample to in-

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