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Session 111: Expiration, exhalation and exhaustion: measures of dynamic volumes, breath analysis and respiratory muscles - Sunday, 08.09.2013 - 12:50-14:40 - HALL 1-38


... (AD n = 18, 21), (HC n = 19, 16). EB condensate and human lung tissue were analyzed for different Abeta species, tau-protein using ELISA. EB was analyzed for volatile organic compounds (VOC) s by patterns (Cyranose 320, IMS) and by single VOCs (IMS). Results: By Cyranose 320R we could differentiate with the leave-one-out cross-validation between healthy control and AD patients with a sensitivity of 69.8 % and a specificity of 68.7 %. Based on single identified substances with IMS a decision ...

Session 90: Asthma - Sunday, 08.09.2013 - 12:50-14:40 - HALL 1-15

850: Electronic nose breathprints reflect BALF inflammatory cell counts in asthma; N. Fens, K. F. van der Sluijs, M. A. van de Pol, R. Lutter, P. J. Sterk (Amsterdam, Netherlands)

... capture markers of peripheral airway inflammation as derived from bronchoalveolar lavage fluid (BALF) in mild allergic asthma. METHODS Breathprints, exhaled NO and inflammatory cell counts in BALF were obtained from 13 mild allergic, steroid-naive asthmatics and 11 healthy non-allergic controls. eNose (Cyranose 320) breathprints were analyzed by principal component (PC) analysis. The relationship between breathprints, NO and BALF inflammatory cell counts was analyzed using multivariate regression analysis (Sidak correction for multiple testing). RESULTS Breathprints were significantly related to BALF neutrophils and eosinophils in all subjects. ...

Session 205: Epidemiology, screening and diagnosis of lung cancer - Monday, 09.09.2013 - 08:30-10:30 - Room 2,3

... group of patients with COPD, asthma, pneumonia, bronchiectasis and healthy volunteers (no cancer group) was examined. Subjects inspired VOC-filtered air by tidal breathing for 5 minutes, and a single expiratory vital capacity was collected that was sampled by electronic nose (Cyranose 320) within 5 minutes. Smellprints were analyzed by support vector machine. Age, smoking history (pack years) and ambient temperature C were included as continuous predictors of the diagnosis. Patients were devided into 75 %training and 25 %test group. Cross-validation, class accuracy ...


... patients, mixed group of patients with COPD, asthma, bronchiectasis and healthy volunteers (no cancer group) was examined. Subjects inspired filtered air by tidal breathing for 5 minutes, and a single expiratory vital capacity was collected and sampled by electronic nose (Cyranose 320). Maximum (Rmax ), AUC (0-60") and tgalpha0-60" of the curves were analyzed by support vector machine. Age, smoking history (pack years) and ambient temperature C were included as continuous predictors of the diagnosis. Results 40 patients with stage 1 or ...


... breath of morphologically verified lung cancer patients (cancer group) and mixed group of patients with COPD, asthma, pneumonia, bronchiectasis and healthy volunteers (no cancer group) was examined. Exhaled air was collected using standardized method and sampled by electronic nose (Cyranose 320). Optimal detector parameter combination and mathematical model for discrimination of lung cancer was calculated by MLRA backward stepwise method. Sensitivity, specificity, positive (PPV) and negative predictive value (NPV) of the method in the training group of smokers and nonsmokers was calculated. ...


... group ), COPD patients without verified lung cancer (COPD group) and healthy volunteers (control group) was examined. Subjects inspired VOC-filtered air by tidal breathing for 5 minutes, and a single expiratory vital capacity was collected that was sampled by electronic nose (Cyranose 320). Optimal detector parameter combination and mathematical model for discrimination of lung cancer were calculated by MLRA backward stepwise method. Age, smoking history (pack years) and ambient temperature C were included as continuous predictors of the diagnosis. Percentage of correct prediction cases was calculated. ...

Session 303: Asthma and COPD: diseases with different phenotypes - Monday, 09.09.2013 - 14:45-16:45 - Room 2.3

3041: Unbiased cluster analysis of severe asthma based on metabolomics by the U-BIOPRED electronic nose platform; P. Brinkman, A. Wagener, H. Knobel, A. Vink, N. Rattray, S. Fowler, M. Santonico, G. Pennazza, P. Montuschi, P. Sterk, U-BIOPRED Study Group (Amsterdam, Eindhoven, Netherlands; Manchester, United Kingdom; Rome, Italy)
Methods. This was a cross-sectional analysis of the U-BIOPRED cohort. Severe asthma was defined by IMI-criteria [Bel Thorax 2011]. Exhaled volatile organic compounds (VOCs) trapped on adsorption tubes were analysed by centralized eNose platform (Owlstone Lonestar, Cyranose 320, Comon Invent, Tor Vergata TEN) with 190 sensors in total. Ward clustering followed by one-way ANOVA was done in R. Results. Data were available for 57 patients (age 55 ±13yr, 39 %male, 47 % of smokers, >1000 ...