47° Congresso Nazionale della Società Italiana di Biochimica Clinica e Biologia Molecolare Clinica (SIBioC - Medicina di Laboratorio)

Firenze, 26-28 ottobre 2015

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Nota dell'Editore: i riassunti sono stati riprodotti senza alcuna revisione dal materiale direttamente fornito dagli autori.

P025

USE OF GAS CHROMATOGRAPHY ORAL CHROMA™ IN THE ASSESSMENT OF VOLATILE SULFUR COMPOUNDS FOR BREATH'S ANALYSIS IN ORAL AND GASTRIC AFFECTIONS

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Introduction: Breathomics (Breath-based metabolomics) is a new biotechnology approach that allow us to diagnose some human diseases by the oral breath analysis.The method is based on the identi#cation and quanti#cation of volatile organic compound (VOC) in breath, by a new portable gas chromatography's tools such as Oral Chroma®. This instrument is able to detect and quantify three different volatile sulfur compounds, VSC (H2S, CH3S ,(CH3)2S) in 5 ml of oral breath, in fast time and with good analytical accuracy. In addition, different authors recently have been described as a comparative analysis of VSC could be useful in the diagnosis of different oral or systemic diseases such as: (i) oral tongue halitosis or/and gastric affection such as Helicobacter pylori infection.
Methods: In the present study we have investigated the role of VSC profile in a court of 50 patients that reported oral halitosis and 30 subjects without any breath problem, aged from 10 to 60,recruited from the Department of Dental Disease Prevention (University of Cagliari).
For each patient, three different molecular analysis have been done: (i) Breath VSC analysis (ii) Detection of halitogen bacteria on tongue swab by real time PCR, (iii) a breath test, Helico Kit® that confermed the presence of H. pylori on the stomach.
Results. The results showed that a positive correlation was observed for H2S amount and the presence in tongue biofilm specimen of halitogen bacteria DNA ($p < 0.01$), of positive samples most representative bacteria identified were: Tannerella forsitya (70%) and Prevotella intermedia (5%) The presence of (CH3)2S was positively associated with chronic gastric affections and 31% of these subjects resulted positive for breath test HelicoKit®.
Conclusion: A hight number of Sardinian patients was found positive for VSCs in the oral breath, (just 35 positive periodontal cases out of 50). H2S was the most representative (62 % of the VSC positive specimens) indicating a clinic oral Halitosis. Our experience suggests that this approach is suitable for a rapid laboratory diagnosis for oral (tongue) halitosis or for detect gastric infection due at H. pylori.
Dadamio J, Laleman I, De Geest S, et al. Usefulness of a new malodour-compound detection portable device in oral malodour diagnosis. J Breath Res 2013;7:046005.

P026

DESIGNING OF A RT REAL TIME PCR ASSAY BASED ON NS1 GENE FOR RAPID DETECTION OF USUTU VIRUS (USUV).

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Introduction: Usutu virus belongs to the Japanese encephalitis virus group (the isolates exhibited 97% identity) within the family Flaviviridae closely related to West Nile virus (WNV). Both share in nature an enzootic infectious cycle between avian hosts and mosquito vectors (i.e. Culex spp.). The distribution areal is expanding in several European countries, including Italy; the simultaneous spatial and temporal co-circulation of new flaviviruses require a new approaches in the laboratory diagnosis for Flaviviridae infection in humans
Methods: Primers for real time PCR were designed using 14 NS1 sequences extracted from the NCBI database GenBank of USUV complete genome, from KF573410 to EF206350 accession numbers. Possible oligonucleotide dimer formation, self-complementarity and the annealing temperatures of the real time PCR were calculated using the Oligo program vers. 6 (MedProbe, Oslo, Norway). The real time PCR primers amplified a region of NS1 gene, coding for a inhibitor of signal transduction for host innate immunity. The theoretic melting temperatures of the different PCR amplicons (Tms) were calculated using module 1 of the DNA hybridization prediction algorithm program "HYTHER" with the following sets of parameters: (i) monovalent cation concentration at 0.05 mol/L, (ii) Mg2+ at 0.004 mol/L, (iii) a concentration of PCR products (Top/Bottom strands) at 10-7 mol/L and (iv) hybridisation temperature at 50 °C.
Results: In silico results, by using of a cDNA fragment corresponding to PCR amplicon, have demostrad that procedure is suitable for a direct laboratory diagnosis for (USUV).
Conclusion: (USUV) is a mosquito-borne flavivirus that emerged few years ago in Europe in wild birds and in humans. A based surveillance for this virus by a direct diagnosis in clinically symptomatic humans and in vectors could be important in Italy for public health for the reason that it provides data about USUV activity and distribution. Further studies will be conducted to estimate "in field" the sensitivity and the specify of the method.
Vazquez A, Jimenez-Clavero M, Franco L, et al. Usutu virus: potential risk of human disease in Europe. Euro Surveill 2011;16(31).