Abstract Book

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Comparison of throat swabs, oral fluid collection devices (Oracol) and FTA® cards for the molecular detection and genotyping of measles virus  
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The genetic characterization of measles viruses is an important tool for measles surveillance. Among the obstacles to genotyping are the reverse cold chain requirements for transportation of samples to reference laboratories and the restrictions placed on shipping infectious material. FTA® cards facilitate transport of virologic samples at ambient temperature as non-infectious material; however, the utility of FTA® cards for detection and genotyping of measles virus from clinical samples had not been evaluated. Throat swabs (TS) and oral fluid samples (OF) were collected from 238 suspected measles cases in the Democratic Republic of the Congo. Virus detection by RT-qPCR and genotyping were compared for samples that were either transported using the reverse cold chain or on FTA® cards. Virus detection by RT-qPCR showed excellent positive agreement for TS and OF (95.3%, CI [91.6, 97.4]), while the positive agreement for TS and OF on FTA® cards was 79.4% (CI 73.5, 84.3) and 85.5% (CI 80.2, 89.6) respectively, compared to TS or OF. Based on genotyping results obtained for a subset of samples, an estimated 77.3% of all TS samples and 71.0% of OF samples would have had sufficient viral loads for genotyping, compared to 41.6% of TS and 41.3% of OF samples on FTA® cards. Similar results were found for a small subset of 16 measles-negative samples that were serologically positive for rubella infection. In outbreak settings, FTA® cards can be used to transport virologic samples if the reverse cold chain is not available; however, this method has limited utility for transportation of virologic samples of sporadic cases of measles.

P018  
Molecular detection of fifteen respiratory viruses in hospitalized children - first year results of four-year prospective study from Croatia  
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Background: To determine the viral incidence, and clinical significance of viral detection in hospitalized children with respiratory tract infection (RTI), four-year prospective study was started in March 2017.  

Material and Methods: During one-year period, a total of 239 children aged from one week to 18 years admitted to the Children’s hospital Zagreb with RTI of suspected viral aetiology were included. Nasopharyngeal swabs were collected and tested for the 15 most common respiratory viruses. Multiplex PCR and cDNA synthesis in one-step reaction, followed by detection of PCR amplicons using microchip electrophoresis was performed.  

Results: Viral aetiology was proved in 75.3% of the patients. The median age of children with detected respiratory virus was 3.5 years, and male to female ratio 1.6:1. The highest positive detection rate was recorded in the 3 to 5 years old group of children. Ninety-six patients showed symptoms of upper RTI, and 84 had symptoms/signs of lower RTI. A single virus was diagnosed in 67.2% of the patients, while coinfection with two and three or more viruses in 25.3% and 7.8% of the patients, respectively. The most commonly detected virus was rhinovirus (56.1%), followed by adenovirus (24.4%), respiratory syncytial virus A and B (17.7%), coronaviruses 229/OC43 and OC43 (11.1%), influenza viruses A and B (7.7%), human bocavirus and enteroviruses with equal frequencies (7.2%), parainfluenza viruses 1-4 (6.6%), and metapneumovirus (5.5%).  

Conclusion: Observed incidence of some respiratory viruses was related to the age of the patient, the localization of the infection and the season.