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Abstract (oral session)

**Evaluation of the Xpert Flu test and comparison with in-house real-time RT-PCR assays for detection of influenza virus from 2008 to 2011 in Marseille, France and prospective study using Xpert Flu in two point-of-care laboratories during 2011-2012 season**

N. Salez*, L. Ninove, C. Zandotti, X. de Lamballerie, R.N. Charrel (Marseille, FR)

Background: Rapid documentation of respiratory specimens for influenza virus impact the management of patients. Rapid antigen tests are limited because negative results need to be verified by a confirmatory technique. Real-time RT-PCR assays are not amenable to point-of-care laboratories. The Cepheid Xpert Flu assay allows determination of Flu A and Flu B infection and identification of 2009 H1N1 in less than 75 min. It is well POC-adapted because of integration (extraction, amplification and detection within a single-use disposable cartridge), easy to use, and has theoretically performances that render confirmatory tests unnecessary. Objectives: We compared retrospectively the results of the Xpert Flu assay to three real-time RT-PCR assays routinely used in our laboratory on a panel of 127 specimens positive for influenza virus RNA (A/H3N2, A/H1N1-2009, B). We also analyzed prospectively the availability of Xpert Flu test in two POC laboratories during the 2011-2012 season through an observational and descriptive study. Methods: A panel of nasopharyngeal samples, collected between 2008 and 2011, positive using the real-time RT-PCR was tested using the Xpert Flu with 150µL of thawed material preserved by -70°C freezing. The initial extraction was done using the EZ1 Virus Mini Kit v2.0 onto the EZ1 Advanced XL Biorobot (Qiagen). For the prospective study, the analysis will take into account several parameters such as satisfaction questionnaires for the clinicians, real-life performances of the Xpert Flu test, length of hospital stay, use of antibiotics. Results: A total of 127 specimens were included in the study (Flu A = 75 of which 52 had been typed as A/H1N1-2009, Flu B = 52). The Xpert Flu assay exhibited respective sensitivity (Se) and specificity (Sp) at 100% and 100% for the detection of Flu A, 98.4% and 100% for H1N1-2009, and 80.7% and 100% for the detection of Flu B. The relatively low Se for detection of Flu B requires to continue the testing on a larger panel of samples since this finding contrasts with the results of a recent study (Popowitch et al 2011 J Clin Microbiol). In contrast the relatively low Se on H1N1-2009 observed by Popowitch was not confirmed in our study. The first studies indicate that the Xpert Flu assay has performances that are compatible with utilisation in POC laboratories, provides results very rapidly, and does not require confirmatory testing. Routine use of the Xpert Flu based on POC approach will be described.