O0278 Performance of cobas Liat, Idylla, and Fast-Track Respiratory 21 kit in detecting influenza A/B and respiratory syncytial virus in primary care patients with influenza-like illness

Katherine Loens*[1,2], Veerle Matheeussen[2], Jan Verbakel[3,4], Christopher Butler[5], Kevin Jacobs[1], Mandy Kuijstermans[1], Diana Koletzki[6], Herman Goossens[1,2], Margareta Ieven[1]

[1] VAXINFECTIO, University of Antwerp, Antwerpen, Belgium, [2] Department of Microbiology, University Hospital Antwerp, Edegem, Belgium, [3] Nuffield Department of Primary Care Health Sciences, University of Oxford, Oxford, United Kingdom, [4] Dept. of Public Health and Primary Care, KU Leuven, Leuven, Belgium, [5] University of Oxford, United Kingdom, [6] Johnson & Johnson, Belgium

Background: Influenza A/B (IFV) and respiratory syncytial virus (RSV) are highly contagious viruses, causing acute respiratory infections and are often encountered in primary care. An accurate, quick and easy to use decentralised test for IFV and RSV would enable primary care providers to distinguish these aetiologies from other pathogens causing influenza-like illness (ILI) to better target antiviral treatment and other management decisions.

Materials/methods: Nasal and oropharyngeal swabs were obtained from 124 children and nasopharyngeal swabs 604 adults (728 patients) presenting with ILI in primary care in a prospective multicentre study as part of the PREPARE project. The analytical performance of 2 decentralised test platforms (Idylla^{TM} (Biocartis) and Cobas Liat® (Roche Diagnostics) for diagnosing IFV/RSV, and a laboratory based platform, the Fast-Track Respiratory 21 kit (FTD, Fast-Track Diagnostics) was estimated. Samples with discordant results were analysed additionally by the RespiFinder 2Smart (PathoFinder). An expanded gold standard (EGS) was used to calculate sensitivities and specificities (positive by at least 2 tests).

Results: The Idylla, Cobas Liat and FTD detected 307, 317 and 305 IFVA positives/312 EGS IFVA positives, 149, 162 and 160 IFVB positives/160 EGS IFVB positives, and 25, 30 and 27 RSV positives/27 EGS RSV positives, respectively. H1N1 was positive in 123 and 126 specimens/127 EGS H1N1 positives by Idylla and FTD respectively. RespiFinder 2Smart was used to analyze a further 33 specimens to solve discrepancies. 229 specimens were overall negative by the EGS. Sensitivities and specificities are shown in Table 1. Both Idylla and Cobas Liat required minimal training and expertise. Time to result for Cobas Liat and Idylla, was within 22 and 50 minutes respectively.

Conclusions: Idylla and Cobas Liat are promising decentralised test platforms for detection of IFV and RSV in primary care settings, provide fairly rapid results with excellent analytic performance.

	Idylla **IFVA/IFVB/RSV**	**Liat** **IFVA/IFVB/RSV**	**FTD** **IFVA/IFVB/RSV**
True positives	307/149/25	312/160/27	305/158/26
False negatives	5/11/2	0/0/0	7/2/1
True negatives	416/568/701	411/566/698	416/566/700
False positives	0/0/0	5/2/3	0/2/1
Sensitivity (%)	98.4/93.1/92.6	100/100/100	97.8/98.8/96.3
Specificity (%)	100	98.8/99.6/99.6	100/99.6/99.9