

P0334

Paper Poster Session II

Non-culture based diagnostics

Copan new FecalSwab stabilize antigens, toxins and nucleic acids in stool specimens for the detection of adenovirus, rotavirus and *C. difficile*

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Objectives: Rotavirus and Adenovirus are the causing agents of viral gastroenteritis in children and adults. Appropriate specimen collection and transport devices are essential to improve diagnosis. The FecalSwab kit (FSK) (a flocculated swab and a tube with 2 ml semi-liquid medium), original produced in 2008, has now been improved to be in compliance with the new M40 guidelines for support gastro enteric pathogens viability. Stool samples collected in FecalSwab are processed on the Walk Away Specimens Processor (WASP) for bacteria culture, and can also be tested for the antigens and nucleic acids detection of viruses causing gastrointestinal infections. The objective of this study was to validate the performance of new FSK for the collection of stool samples for the detection of Rotavirus Adenovirus and *C. difficile* with rapid antigens and nucleic acid with real time PCR assays.

Methods: For this validation 130 clinical stools, submitted to the Synlab for the detection of Rotavirus, Adenovirus and *C. difficile* were used for this validation. The flocculated swab from the FSK was used to transfer the stools in the medium tube; duplicate samples were prepared from each sample. FecalSwab stool samples were tested for Adenovirus and Rotavirus and *C. difficile* antigen with the R-Biopharm RidaQuick Rota/Adeno comby kit, RidaQuick *C. difficile* toxin A/B, the Meridian Rapid Strip Rota-Adeno, the ImmunoCard Stat Rotavirus and ImmunoCard Stat Adenovirus and the Coris Rota Adeno combistrip rapid kits and for nucleic acids with the R-Biopharm RIDA@GENE Viral Stool panel II and RIDA@GENE Clostridium difficile & Toxin A/B.

FecalSwab stool samples were vortexed and the Flocculated swab from each sample was added to a tube containing buffer from each kit and tested as per kit package insert procedure. A 200ul aliquot of each FecalSwab sample medium was used for nucleic acid extraction. Five microliters of each extracted nucleic acids were tested by real time PCR on the ABI 7500 Real Time PCR System.

Results: Same results with 100% with correlation were detected in all FecalSwab stool samples tested with all the Adenovirus, Rotavirus and *C. difficile* rapid antigen and toxin kits. 34 Adenovirus positive, 43 Rotaviruses positive, 30 *C. difficile* positive and 23 negative were found. The FecalSwab did not interfere with the performance of the rapid antigens tests and had no inhibition of amplification with the R-Biopharm RIDA@GENE Viral Stool panel II or *C. difficile* Toxins A/B assays

Conclusions: Copan new FecalSwab kit is compatible with the R-Biopharm, Meridian, and Coris rapid antigen and toxin tests. Equivalent results were obtained with the R-Biopharm RIDA@GENE Viral Stool panel II and Clostridium difficile & Toxin A/B Real-Time PCR assays. The new FecalSwab can be used for the collection of stool or rectal swabs for the detection of Adenovirus, Rotavirus, *C. difficile*.