Abstract 7205

Evaluation of Myco-TBTM kit for decontamination of urine and stool specimens to detect mycobacteria

Roberta Grossi*[1], Angela Careddu[1], Rosario Nicotra[2], Maurizio Sanguinetti[1;2], Michela Sali[1;2]

[1]Dipartimento di Scienze di Laboratorio e Infettivologiche, Fondazione Policlinico Universitario Agostino Gemelli IRCCS, Rome, Italy, [2]Istituto di Microbiologia, Università Cattolica del Sacro Cuore, Rome, Italy

Background:. During the last decade, remarkable progress has been made in the diagnostics of pulmonary tuberculosis; however, diagnostic challenges in extra-pulmonary tuberculosis (EPTB) remain to be addressed. Diagnosis of EPTB is difficult due to the pauci-bacillary nature of disease. Most of the extra-pulmonary specimens (such as body fluids, aspirates, pus, urine and stool) need decontamination but certain decontaminating agents eliminate a substantial number of mycobacteria together with the contaminants, while others are too weak to destroy them. The resulting consequence is a costly delay in detecting the tubercle bacilli thereby slowing down the process of initiation of therapy.The aim of this study was to evaluate Myco-TB™ (Copan Italia, Brescia) in sample pretreatment, compared to the N-acetyl-L-cysteine–sodium hydroxide (NALC-NaOH) decontamination and fluidization method, for the detection of the *Mycobacterium tuberculosis* complex (MTBC) and Non Tuberculous Mycobacteria (NTM) in urine and stool specimens.

Materials/methods: A total of 120 urine and 90 stool specimens has been collected from clinically suspected cases of EPTB. Each sample has been divided into two equal parts and decontaminated by using the ready-to-use kit Myco-TB™ kit and classical NALC-NaOH decontamination protocol then investigated using Ziehl-Neelsen method, the Lowenstein-Jensen culture and the Real-Time PCR Anyplex MTB/NTM test.

Results: Stool and urine treated with Myco-TB system shown a significant reduction in bacteria load compared to NALC-NaOH decontamination (reduction of 11% for urine and 20% for stool). The Anyplex MTB/NTM test underlined an improvement in for samples treated with Myco-TB system. Furthermore, no contamination was detected following the treatment with this innovative system.

Conclusions: Our findings suggest that Myco-TB is an effective and faster decontamination tool for extrapulmonary clinical specimens as urine and stool. Particularly, this approach allows to reduce microbial contaminants and to efficiently remove inhibitors for molecular assays increasing the specificity and significantly reducing the invalid tests.

Presenter email address: roberta.grossi@policlinicogemelli.it