Abstracts of the Scientific Posters, 2011 AACC Annual Meeting

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Organizing Committee Note: Posters can be viewed in the Exhibit Hall. All posters will be posted for two and one-half hours. The presenting author will be in attendance during the final hour. Poster numbers not listed in this document have been withdrawn by the authors.

Tuesday, July 26, Poster Sessions

10:00am-12:30pm

Animal Clinical Chemistry A2
Cancer/Tumor Markers A4
Electrolytes/Blood Gas/Metabolites A22
Factors Affecting Test Results A29
Management A40
Pediatric/Fetal Clinical Chemistry A48

2:00pm-4:30pm

TDM/Toxicology/DAU. A53
Molecular Pathology/Probes A70
Mass Spectrometry Applications A81
Nutrition/Trace Metals/Vitamins A88

Wednesday, July 27, Poster Sessions

10:00am-12:30pm

Cardiac Markers A96
Automation/Computer Applications A107
Clinical Studies/Outcomes A115
Lipids/Lipoproteins A129

2:00pm-4:30pm

Point-of-Care Testing A135
Proteins/Enzymes A146
Technology/Design Development. A154
Infectious Disease A161

Thursday, July 28, Poster Sessions

9:30am-12:00pm

Endocrinology/Hormones A177
Hematology/Coagulation A197
Immunology A205

Author Index A219

Keyword Index A229

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Investigation of methylation patterns of APC gene in lung cancer with a novel fluorescence melting curve analysis assay

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Background: To identify methylation patterns in the promoter region of APC gene in lung cancer cell lines and two lung cancer patients by fluorescence melting curve analysis assay.

Methods: After bisulfate treatment, DNA samples of lymphocytes from cord blood without and with trans-methyl treatment were amplified. The amplicons were then cloned into plasmid vector and employed as negetive and positive controls. A pair of general primes were designed to amplify the target sequence in the p APC gene romoter region comprising 21 CpG sites. DNA melting curves were acquired by measuring the fluorescence of a double-stranded DNA-binding dye (SYBR Green I) during the dissociation stage. The methylation patterns of 4 lung cancer cell lines and 2 lung cancer patients' tumor tissue cells were determined by comparison of melting temperatures (Tm) with negetive and positive controls and sequencing.

Results: Melting curve analysis showed that three of four lung cancer cell lines (NCI-H446,SPCA1,NCI-H520) displayed a melting temperature 83°C as low as the unmethylated negetive control, while the other one (NCI-H460) displayed 2 melting peaks of 83°C and 88 °C which were corresponding to the Tm of unmethylated negetive control and fully methylated positive control, respectively. Sequencing reports were all in accordance with the melting curve analysis. The Tm values of two lung cancer patients were both between the values of negetive and positive controls.

Conclusion: The APC promoter region methylation patterns of NCI-H446 and SPCA1 and NCI-H520 are described as unmethylated alleles, while NCI-H460 cells exhibit monoallelic methylation. Two lung cancer patients' tumor tissue cells display partial methylation in APC promoter region. Integration of PCR and fluorescence melting analysis may be useful for simple and cost-effective detection of aberrant methylation patterns.

D-84

Multiplex fluorescence quantitative polymerase chain reaction for simultaneous detection of hepatitis B virus, hepatitis C virus and Human immunodeficiency virus

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Objective: To construct a multiplex fluorescence quantitative polymerase chain reaction (MFQ-PCR) system for simultaneously detecting hepatitis B virus (HBV) DNA, hepatitis C virus (HCV) cDNA and human immunodeficiency virus (HIV) cDNA for reducing the false positive and false negative results, therefore increasing the efficacy and accuracy of donor blood testing. The feasibility of the MFQ-PCR system was assessed by testing 58 clincial serum samples from hospitalized patients.

Methods: TaqMan probes designed specifically for the detection of HBV, HCV and HIV viruses separately were put into the same MFQ-PCR tube, and co-amplificated with the HBV target DNA, HCV target cDNA and HIV target cDNA.

Results: In this new MFQ-PCR system, the detection limits are about 10 copies for each of standard plasmid DNA of HBV, HCV or HIV. In the test of 58 clicial serum samples, 22, 16 and 3 samples were positive with HBV, HCV and HIV viruses respectively by this new MFQ-PCR system. Compared with the traditional ELISA method, which showed that 23, 16 and 3 samples were positive for HBV, HCV and HIV respectively, the consistency rate of the new system for all positive samples is 97.6%.

Conclusion: MFQ-PCR has the advantage of simultaneous detection of HBV, HCV and HIV viruses in clinical serum samples with high efficacy and accuracy.

D-85

ColOff: a new device to collect fecal specimens

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Background: Both diagnosis and treatment of parasites from the intestinal tract depend on the recovery and identification of the etiologic agents, thus making the correct collection of fecal specimens important in terms of clinical relevance and patient care. Nevertheless the collection procedure is frequently neglected and the patients often perform the fecal collection using makeshift materials e.g. newspaper or aluminum foil. We aimed to validate ColOff® a new device to collect fecal specimens. ColOff® is a coating developed for toilet seat especially for assistance in the collection of fecal specimens.

Methods: 200 patients with a specific causative agent previously indentified by routine laboratory procedures were invited to collect a new fecal specimen using the ColOff® before starting treatment. All preparations and microscopic identifications were done by a skilled parasitologist from our laboratory following CLSI M28-A2. The results of the fecal specimen collected with ColOff® were compared to the first specimen previously indentified by routine laboratory procedures, by Pearson correlation. Statistical significance was set at R squared > 0.950.

Results: A non significance was observed for *Giardia lamblia*, *Entamoeba histolytica and Entamoeba coli* ($r < 0.950$), probably because some diarrheic feces were drained away from the device, as the ColOff® fabric was devised to facilitate elimination of contextual urine in patients with bladder stasis.

Conclusion: Considering that several laboratories are still orienting patients to inappropriate fecal specimen collection, we conclude that devices like ColOff® might represent a more suitable tool, in order to eliminate possible sources of errors. Nevertheless for a fully appropriate device for feces collection some improvements are to be made, particularly to allow collection of diarrheic feces, a frequent event in patients affected by intestinal parasites.