(PCT) and its effects and important for quickly distinguishing between bacterial and viral infections in children and infants.

Results: We found that the procalcitonin (PCT) concentrations increases in bacterial infections but remains low in viral infections and inflammatory diseases. The change is rapid and molecule is stable, making it a potentially useful marker for distinguishing between bacterial and viral infections.

Discussion: Its advantages over CRP, IL-6 and INF alpha are clear but it doesn’t mean that those methods, despite some disadvantages earlier explained, should be rejected.

Conclusion: PCT may be useful in an emergency room for differentiation of bacterial from viral infections in children and for making decisions about antibiotic treatments. The change is rapid and the molecule is stable, making it a potentially useful marker for distinguishing between bacterial and viral infections. Comparing PCT with CRP (C reactive protein), interleukin 6, and interferon alpha demonstrates increased values for PCT than for the others for and thus may be better for differentiation between bacterial and viral infections.

doi:10.1016/j.ijid.2008.05.1302

70.002

Diagnostic Value of Brucella ELISA (IgG and IgM) in Patients with Brucellosis in Kashan, Iran - 2004

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Keywords: Brucellosis; Wright; Coombs Wright; 2ME; ELISA (IgM; IgG)

Objectives: Brucellosis is an important disease with many complications that is almost frequent in Kashan. This study was designed to compare the diagnostic value of ELISA test (IgM, IgG) with that of serologic agglutination tests (Wright and Coombs Wright) in patients with brucellosis in Kashan. Early diagnosis of disease is very important and these tests very useful. Method and material: This study was a case control study and 31 patients with brucellosis and 29 controls were enrolled. ELISA and Wright and Coombs Wright tests were done before and end of treatment and the results were analyzed

Results: Sensitivity of ELISA IgM and IgG were 76% and 75% respectively and specificity of them was 100%. Positive predictive value of both was 100% and negative predictive value of them was 80% and 79% respectively.

Conclusion: Thus ELISA test considering sensitivity and specificity of it is a reliable and appropriate test in the diagnosis of patients with Brucellosis. Therefore, ELISA can be used for better diagnosis.

doi:10.1016/j.ijid.2008.05.1303

70.003

Prevalence of Typhoid Fever in Kathmandu Valley and Its Rapid Diagnosis by Detection of IgM Antibodies, Using Commercial Kit

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Keywords: Salmonella typhi; Immunochromatography; Culture; Widal test

Background: Aim of this study was to find out effectiveness of commercial testing kit for Salmonella typhi IgM in early diagnosis of enteric fever.

Methods: A total 81 patient 34 females and 47 males and age group between 5 to 78 years, during 25 July 2006 to 30 December 2006 were subjected to study. All samples were tested for S. typhi IgM (Enterochek-WB testing kit), total WBC count, hemoglobin and alanine aminotransferase (ALT) and subjected to culture for salmonella

Results: Among all suspected typhoid fever clients, the disease was confirmed bacteriologically in 11 (13.6%), where as 20 (24.7%) were considered to have typhoid fever on clinical backgrounds and rise or fall in the titer of salmonella antigens through widal test. The Enterocheck-WB showed its diagnostic specificity and sensitivity 57% and 71%, respectively which were lower than those of widal test (70% and 95%, respectively), but combined culture and S. typhi IgM assay (sensitivity 96% and specificity 98%) were superior to combined culture and widal test (sensitivity 87% and specificity 95%).

Conclusion: The major advantages of the dipstick assay are; easy to use, not require special equipment or training, and uses stabilized components. It therefore, has a potential high degree of acceptability for patients with suspected typhoid fever but cultures are negative or in areas where culturing facilities are not available.

doi:10.1016/j.ijid.2008.05.1304

70.004

Detection of E.coli O157:H7, V.cholerae, and S. typhimurium by Multiplex PCR

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Escherichia coli O157:H7, Vibrio cholerae, and Salmonella typhimurium are pathogenic bacteria found in contaminated water and food. No assay method is currently available on simultaneous detection or identification of all the three pathogens. Our aim was to develop a rapid and reliable method for this purpose. A protocol for sample collection, and a PCR procedure was designed specifically for the assay. Selected fragments of 239 bp, 432 bp, and 360 bp for E. coli O157 lipopolysaccharide (LPS) gene (rfbE), V.cholerae cholerae toxin gene (ctx), Salmonella typhimurium putative cytoplasmic protein gene (STM4497) respectively, were amplified from the extracted bacterial DNA samples in a single tube by multiplex PCR. The multi-
plex PCR products were analyzed by gel electrophoresis. All unknown samples were verifiably identified. The assay was sensitive enough to detect and identify as few as 100 cells of E. coli O157:H7, V. cholerae and Salmonella typhimurium. The presence of other bacteria did not interfere with the analysis. This assay is a specific and reliable tool that allows cost-effective detection of all three bacterial pathogens in one reaction tube.

doi:10.1016/j.ijid.2008.05.1305

70.005

Multiplex Technology for Detection Respiratory tract Infection in Clinical Specimens

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Background: Respiratory tract infections are a significant cause of morbidity and mortality in young children, elderly subjects, and immunocompromised patients. Rapid diagnosis is important to patients on admission and implement proper infection control measures. Epidemic respiratory infections can be caused by a wide variety of pathogens, including bacteria, *Mycoplasma pneumoniae*, *Chlamydophila pneumoniae*, or viruses such as influenza virus, adenovirus, rhinovirus, or coronaviruses etc. Although various culture methods, molecular techniques, and serologic diagnostic tests exist, for many epidemics the causative microorganism(s) are never determined. Furthermore, there has been no practical method for examining the broad pathogens ecology of respiratory infections to dissect the complex polymicrobial interactions that occur during explosive outbreaks of disease. We have developed a method for rapid detection of multiple respiratory pathogens in clinical specimens.

Methods: Using specific tiny microspheres, multiplex PCR technology and Luminex xMAP (flexible Multi-Analyte Profiling) have combined for rapid detection of 14 respiratory pathogens(18 typing) by DNA or RNA

Results: The specificity of the diagnostic system have been validated by 15 pathogens (19 typing) from ATCC. There are not cross-reaction in each other. In 138 samples collected from clinical respiratory tract infections, Bacteria were detected in 26 (37.68%) of 69 pathogens from 112 bronchoalveolar lavage, including 13 (18.84%) *M. tuberculosis* infections and viral pathogens were detected in 44.93%. *M. pneumoniae* and *C. pneumoniae* were in 17.39%. Influenza A virus detected in bronchoalveolar lavage and 26 nasopharyngeal swab was 21 of 112 (18.75%) and 7 of 26 (26.92%) by flexible Multi-Analyte Profiling.

Conclusion: Luminex xMAP Multi-Analyte Profiling were highly sensitive and accurate, high throughput and increased assay speed for detecting multiple respiratory pathogens in clinical specimens. It is useful tool for epidemiology yet.

doi:10.1016/j.ijid.2008.05.1306

70.006

Evaluation of Agglutination as Serodiagnosis Test in Brucellosis

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Brucellosis which is a significant public health problem is a zoonotic disease that seen throughout the world as well as in Iran. This study was carried out to show the sensitivity and specificity of the serum agglutination test (SAT). Blood and serum sample were collected from 52 patients were included to the study. Blood cultures and SAT were performed from all the patients.50 patients with similar clinical presentation that the disease ruled out by blood culture and SAT and they were symptoms free without any medication for brucellosis in follow up, were as true negative samples. 54.2% of cases had positive unpasteurized dairy consumption history. Chief complaint was joint pain or fever 56.7% and 41.3% respectively. There was history of perspiration in 61.5% of patients. Brucella spp were isolated in 20 (38.4%) of patients. SAT was found positive in 50 samples (96.1%). When blood culture accepted as the gold standard, sensitivity, specificity, positive predictive value and negative predictive value of the test were calculated as follows: sensitivity 90%, specificity 75.7%, positive predictive value 36% and negative predictive value 98%. we found that SAT was still efficient method for serodiagnosis of brucellosis.

doi:10.1016/j.ijid.2008.05.1307

70.007

Pleural Fluid Cholesterol and Bilirubin Value in Diagnostic of Exudative from Transudative Pleural Effusion

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Background: Differentiating exudates from transudate is a primary step in examination of pleural effusion, besides it is a guide to determination of pathologic trend of background disease, differential diagnoses and diagnostic measures. Although criteria are considered as standard in differentiating exudates from transudate in some studies pleural fluid cholesterol, ratio of pleural fluid cholesterol to serum and ratio of pleural fluid bilirubin to serum have been suggested. This study has been performed in order to investigate the diagnostic efficacy of pleural fluid cholesterol and bilirubin in differentiating exudate from transudate.

Method: this study was performed in Al-Zahra Hospital, Isfahan in 2006, and 86 cases of pleural effusion were investigated by consecutive sampling method. First, after differentiation of exudates from transudate based on light’s criteria, parameters considered in this study were measured, and patient’s data were entered into SPSS-13 table, then using ROC (Receiver Operative Characteristics) curves, area under the curve was determined. Afterwards sensitivity, specificity and positive and negative predictive values were determined and results were tested by McNemar test and compared with each other.