



4th International Congress on

Infectious Diseases

May 11-12, 2017 Barcelona, Spain

Keynote Forum

Day 1

Infection Congress 2017

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Prevalence of human papillomavirus genotypes in UAE

Infection with human papillomavirus is the cause of cervical cancer which is one of the leading causes of death in women. Infection is common in developing countries. For primary prevention, vaccines are available. For secondary prevention cytological examination has been recommended which has recently been modified to contesting with molecular detection of virus. Information on genotype distribution in UAE is scanty. We used a multiplex PCR test (Seegene, South Korea) to examine simultaneously cytological examination and human papillomavirus (HPV) genotype. Study was carried out to document the prevalence of genotypes in women attending clinics for routine screening. A total of 178 were included in the analysis. Sample for Pap smear or liquid-based cervical cytology carried out. For persons submitting Pap smear, an additional sample in eNAT was collected for HPV detection and genotyping while if Thin Prep LBC was available, the fluid was used. Of the 178 samples tested for HPV, 74 were from women under 30 years of age and 104 from those over 30 years, the age of persons studied ranged from 18 to 65 years. 79 HPV genotypes belong to 20 different genotypes were identified from 60 patients. 48 were Hr HPV genotypes and 31 were lr HPV. 33 were from persons below 30 years of age and 46 were from women over 30 years of age. The high risk genotype 16 was commonest (12) while lr genotype 42 (8), lr 6 (7) and lr 61 (6) were next in frequency. Hr genotype 18 (4) was fourth among the high risk genotypes after 52 (5) and 53 (5). Other hr genotypes detected were 66 (4), 68 (4) and 39 (4). 32 women were infected by one genotype while dual infection was observed in 12; multiple genotypes (three or more) were detected in seven women. Using the dual strategy of primary prevention by vaccination of females below 25 years and secondary prevention of five yearly screening by contesting, it is conceivable to have zero cervical cancer by 2020 in UAE, thus preventing a preventable cancer and providing the best preventive healthcare in the world.

Biography

Ashok Rattan has expertise in Microbiology, Immunogenetics and Molecular Biology and held important positions in academics (JN Medical College, Aligarh; AIIMS, New Delhi; Sharjah Medical College and Mahatma Gandhi Medical University, Jaipur); in industrial research (Ranbaxy New Drug Discovery and Fortis Clinical Research Ltd) and in diagnostic labs (Religare SRL Diagnostics and Star Metropolis). He has published over 100 research papers in peer reviewed international journals. He has contributed more than a dozen chapters in different books and has conducted workshops on WHONET in all nine SEARO countries.

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Imran H Khan

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Tuberculosis translational research: Integrative approach in non-human primates to TB patients

Approximately, two billion people worldwide are infected with *Mycobacterium tuberculosis* (*M. tb.*), the etiologic agent of tuberculosis (TB). A tenth of the infected individuals develop active disease. Active pulmonary TB is an inflammatory disease and is increasingly viewed as an imbalance of host immune responses to *M. tb.* infection. The current frontline diagnostic methods including sputum smear (SS) microscopy, and X-ray, are insensitive, inefficient, cumbersome or too expensive. The most widely used test, SS microscopy (WHO standard), test has a low sensitivity. Therefore, there is an urgent need for low cost, efficient, high-throughput and accurate diagnostic approaches. We have developed multiplex antibody biomarker based TB diagnostic system in pre-clinical research in non-human primates and tested it in TB patients. Data on immune biomarkers, microbiology, and CT imaging from proof-of-concept and subsequent field studies have shown that this approach will enable a scalable, flexible and cost effective model for diagnostic applications. In addition, we have published that 10 plasma cytokine/chemokine biomarkers representing host immune-responses in TB patients, are not only gender biased but concentrations of some of these biomarkers (e.g., IP-10, MIG, IL-16, IFN- α and G-CSF) progressively decreased in patients which responded to anti-tuberculosis treatment (ATT) with a cocktail of several drugs (isoniazid, rifampin, ethambutol, and pyrazinamide or streptomycin - WHO Standard). This decrease is strongly correlated with treatment success and can be used for monitoring efficacy of therapy. This is important because ATT is a drawn out process (at least six months), and early detection of patients who may not respond to therapy is important. One possible reason for not responding to ATT could be due to infection with multi-drug resistant (MDR) strain of *M. tb.* The standard culture based drug sensitivity testing can take several weeks. Therefore, there is a need for rapid molecular tests. A test, based on multiplex gene amplification (multiplex PCR), of several *M. tb.* genes involved in drug resistance, and multiplex detection of the relevant gene mutations to detect resistance against four TB drugs will also be discussed.

Biography

Imran H Khan completed his PhD in Molecular and Cellular Biology at Albert Einstein College of Medicine, USA. His research program has focused on "Infectious diseases, intracellular signaling pathways and molecular biology for over 15 years". Since 2002, he has worked on developing highly efficient and high throughput multiplex approaches for infectious disease biomarkers (e.g., tuberculosis). His research includes simultaneous analysis of multiple key components of cell signaling pathways in a single reaction vessel. In addition, he has employed novel approaches to study disease related biomarkers (e.g., immune biomarkers) in bodily fluids (e.g., plasma/serum) by combining the power of multiplexing systems and computational modeling.

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