

ABSTRACT:

INTRODUCTION

Acute respiratory tract infections (ARTIs) are a severe public health issue throughout the world and the leading cause of adult morbidity. Upper respiratory tract infections (URTIs) such as rhinitis, pharyngitis and laryngitis are among the most common infections in children. URTI can lead to acute asthma exacerbations, acute otitis media, and lower respiratory tract infection (LRTI) such as bronchitis, bronchiolitis and pneumonia.

AIMS & OBJECTIVE:

To find out the prevalence rate of viral & bacteriological etiology of acute respiratory tract infections in adults patients in tertiary care hospital by multiplex real time PCR molecular technique.

METHODS:

Consecutive throat swabs, sputum, tracheal aspirate, pleural fluid, BAL samples were collected from patients suffering from respiratory tract infections. A total of 135 samples collected for a period of two years and were analysed by multiplex PCR and culture methods.

RESULTS:

Out of 135 samples, 86 (63.70%) pathogens were detected by multiplex PCR. Fifty five samples were positive out of 86 (63.95%) for single viral infections. Among them, Influenza A, H1N1 (18.51%) was the most prevalent, followed by Rhinovirus (8.88%) causing the respiratory tract infections in adults. Mixed viral infections were seen in (4.44%) of patients studied. Mixed viral and bacterial infections were seen (11.85%) of patients. Out of 135 samples, 25 (18.51%) pathogenic bacteria were detected by culture methods. *Acinetobacter baumannii* was identified most frequently (48%) followed by *Klebsiella pneumoniae* (24%) in culture methods.

CONCLUSION:

Multiplex PCR techniques which are rapid and reliable may become main stay of diagnosis of respiratory tract infections. In our study using multiplex PCR Fasttrack Diagnostic 21 pathogen plus -kit , we were able to identify viral etiology of respiratory tract infections in which Influenza HINI (18.51%) followed by Rhinovirus (8.88%) were the predominant pathogens.

Keywords:

Acute respiratory tract infections, influenza virus, Streptococcus pneumoniae, Multiplex PCR, Fasttrack Diagnostic 21 pathogen plus kit