

Viral etiology of acute respiratory infections among Iranian Hajj pilgrims, 2006

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Abstract

Background Every year more than 2 million pilgrims from different countries in the world including Iran participate in the annual Hajj in Saudi Arabia. Respiratory diseases have been the most common cause of illnesses among Iranian pilgrims. **Methods** Direct fluorescent staining and viral culture were performed on nasal wash specimens of Iranian Hajj pilgrims with symptoms of acute respiratory tract infections at Shiraz (a city in southern Iran) airport on return from the Hajj during December 2006 to January 2007. They were screened for influenza A and B, parainfluenza 1 to 3, adenovirus, and respiratory syncytial virus (RSV) by viral culture and immunofluorescent staining. Rhinovirus and enterovirus were diagnosed based on reverse transcription polymerase chain reaction methods. **Results** The patients aged between 19 and 82 years (mean: 52.4 years) consisting of 130 females and 120 males. Cough in 112 (82.0%) and sore throat in 209 (82%) were the most common symptoms. Eighty-three patients (32.0%) had viral pathogens: influenza in 20 (9.8%), parainfluenza in 19 (7.4%), rhinovirus in 10 (3.9%), adenovirus in 14 (5.4%), enterovirus in 0 (0%), and RSV in 1 (0.4%) and coinfection with two viruses in 1 patient (0.4%). Influenza virus was identified more in unvaccinated than in vaccinated pilgrims (16.0% vs. 9.2%) but statistically insignificant ($p = 0.19$). **Conclusions** According to the results, each of the above-mentioned viruses played a role in the development of respiratory diseases among Iranian pilgrims, with influenza virus as the commonest one. Because influenza vaccine could not prevent respiratory infections in Hajj pilgrims statistically, the possibility of the appearance of new drift variants not included in vaccine and also inappropriate vaccine handling and storage might be considered. So it is also advisable to check if the circulating influenza strains were different from the vaccine strains. © 2009 International Society of Travel Medicine.

Reaxys Database Information

Indexed Keywords

EMTREE drug terms: fluorescent dye; influenza vaccine

EMTREE medical terms: Adenovirus; adult; aged; airport; article; coughing; cross-sectional study; Enterovirus; female; human; immunofluorescence test; Influenza virus A; Influenza virus B; Iran; major clinical study; male; nonhuman; nose smear; Parainfluenza virus 1; Parainfluenza virus 2; Parainfluenza virus 3; pathogenesis; Respiratory syncytial pneumovirus; respiratory tract infection; reverse transcription polymerase chain reaction; Rhinovirus; screening test; sore throat; virus culture; virus detection; virus etiology; virus strain

MeSH: Adenoviridae; Adult; Aged; Aged, 18 and over; Cross-Sectional Studies; Female; Fluorescent Antibody Technique; Humans; Influenza A virus; Iran; Male; Middle Aged; Nasal Mucosa; Paramyxoviridae Infections; Questionnaires; Respiratory Syncytial Viruses; Respiratory Tract Infections; Reverse Transcriptase Polymerase Chain Reaction; Saudi Arabia; Travel; Virus Diseases; Young Adult

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