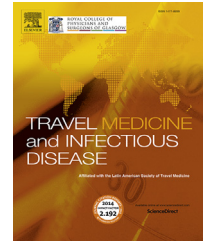




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CORRESPONDENCE

Infections in symptomatic travelers returning from the Arabian peninsula to France: A retrospective cross-sectional study



KEYWORDS

Travel;
Pilgrims;
Hajj;
MERS coronavirus;
Influenza

Dear Editor,

Many returning travelers from the Arabian peninsula to France are Hajj pilgrims, often presenting with respiratory infections, which is of particular concern for older travelers with comorbidities [1]. Millions of Muslims from over 180 countries participate in the pilgrimage to Mecca, Saudi Arabia annually. The Hajj has been linked to an acquisition to viral respiratory pathogens [2,3]. After the MERS-Coronavirus outbreak in 2012, there was widespread fear of a massive outbreak [4], resulting in the Saudi Arabian government restricting numbers of pilgrims [5]. Whilst these fears did not realize, with only eight Umrah-associated MERS-coronavirus reported [6], there is a need to identify the pathogens causing respiratory illnesses in returning travelers [7]. A study in Marseille, France in 2013 did not identify any MERS-Coronavirus during systematic screening of 129 pilgrims, but noted a high prevalence of influenza in nasal swabs (7.8%) [8].

We therefore performed a retrospective, cross-sectional study on ill travelers returning from the Arabian peninsula or neighboring countries from January 2013 through December 2015.

Forty-one patients were included, of which 33 (80%) were Hajj pilgrims (24 (59%) were female, median age 58 years). Of note, 12 (29%) were >65 years and 49% had a comorbidity (either chronic respiratory condition, diabetes or immunodepression). Countries of exposure were Saudi Arabia (34 (83%)), United Arab Emirates (4 (10%)), Qatar (2 (5%)) and Israel (1 (2%)). The majority (33 (80%)) traveled for religious purposes. All but four patients (90%) had a documented fever >38.5 °C and 39 (95%) patients had a cough (Fig. 1). The majority (37 (90%)) were in-patients (average length of stay 2.5days) and no patients died.

Despite the innate limitations of a small cohort, respiratory pathogens were identified in 78% (32), but no MERS-Coronavirus (Fig. 1). Half of patients (49%) had influenza. This underlines the need to implement rapid laboratory documentation in parallel to the MERS-Coronavirus specific search. A significant proportion of patients were infected with pathogens accessible to treatment (oseltamivir/zanamivir for influenza viruses, antibiotics for bacteria). Our results are in accordance with previous studies of pilgrims or travelers returning from the Middle East with respiratory symptoms [9–12]. The high proportion of influenza positive patients in our patients may be linked to the low uptake of the flu vaccine before travel (only two patients had documentation of flu vaccination) which here is partly due to limited documentation, but also to the regulations preventing access to vaccines in France during the March–October period [13].

We highlight the prevalence and variety of common respiratory viruses amongst unwell returning pilgrims from the Arabian Peninsula, a population of increasing age and high morbidity. We recommend the annual flu vaccination for pilgrims traveling to the Hajj, alongside standard hygiene precautions and education for respiratory illness prevention. Despite no MERS-coronavirus cases reported in the literature amongst Hajj pilgrims [6,14], continued efforts to raise awareness and preparedness amongst pilgrims are recommended [15], alongside testing of returning travelers at risk of MERS-CoV to better understand its transmission and epidemiology, now extended to the site of the recent outbreak in the Republic of Korea.

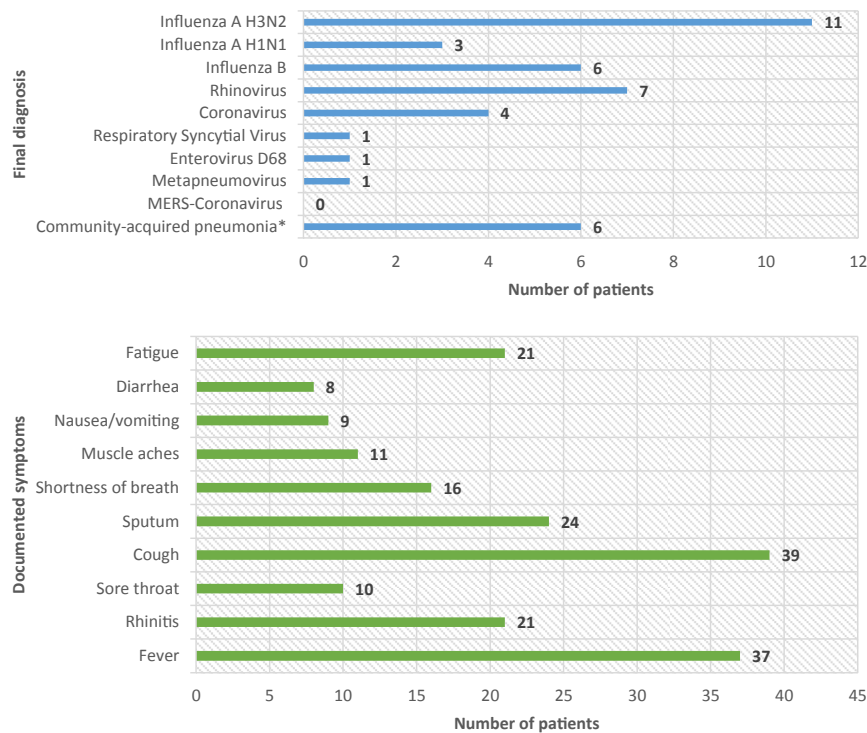


Figure 1 Diagnosis and documented symptoms of returning travelers from the Arabian peninsula and neighboring countries 2013–2015. * Six patients (15%) were treated for a community acquired pneumonia, one documented *Streptococcus pneumoniae*, and two were treated for an atypical pneumonia, one rapid test positive for *Mycoplasma pneumoniae*. Other diagnoses were without etiological documentation.

Conflict of interest

The authors declare no conflicts of interests.

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