

ORAL ABSTRACTS

131. Changes in clinical presentation and epidemiology of respiratory pathogens associated with upper respiratory infection in military trainees following reintroduction of adenovirus vaccine

Adam Young, DO¹; Sandra Valtier, PhD²; Lisa Lott, PhD³; Thomas L. Cropper, DVM¹; Heather C. Yun, MD⁵; ¹Internal Medicine, San Antonio Military Medical Center, Joint Base San Antonio-Fort Sam Houston, TX; ²Center for Advanced Molecular Detection, 59MDW/ST, Joint Base San Antonio-Lackland, TX; ³Center for Advanced Molecular Detection, 59 MDW/ST, Joint Base San Antonio-Lackland, TX; ⁴Trainee Health Surveillance Flight, Joint Base San Antonio-Lackland, TX; ⁵Infectious Disease, San Antonio Military Medical Center, Joint Base San Antonio-Fort Sam Houston, TX

Session: 38. Respiratory and Staphylococcal Infections

Thursday, October 9, 2014: 10:30 AM

Background. Adenovirus (Ad) has long been a cause of upper respiratory infection (URI) in military trainees, resulting in morbidity and occasional mortality. In 2011, a live oral Ad vaccine including serotypes 4 and 7 was reintroduced into US basic military training populations. Changes in clinical presentations and current epidemiology of non-vaccine Ad serotypes and other respiratory pathogens have not been reported.

Methods. The Center for Advanced Molecular Detection at Joint Base San Antonio-Lackland prospectively collects demographic, clinical, and PCR data from respiratory specimens (throat swab and nasal wash) among consenting Air Force trainees presenting for clinical care of URI. Data were examined from June 2008 to August 2013.

Results. 2712 trainees with URI enrolled and 2660 were tested for selected respiratory pathogens by PCR (median age 20, 87% male); 72% before vaccine introduction (VI) and 28% post-VI. Ad vaccine was introduced week 48 of 2011.

Days of URI symptoms (median, IQR)	Pre-VI (n=1952) 3 (2, 6)	Post-VI (n=759)* 6 (4, 6)
Symptoms		
Subjective fever	1845 (95%)	289 (38%)
Myalgia	1319 (68%)	281 (37%)
Malaise	1136 (58%)	379 (50%)
Vomiting	306 (16%)	65 (9%)
Diarrhea	214 (11%)	43 (6%)
Cough	1698 (87%)	700 (92%)
Sinus congestion	1532 (79%)	664 (87%)
Coryza	1258 (65%)	593 (78%)
Vital signs		
Oral temperature	101.3 (100.7, 102.0)	98.4 (98.1, 98.8)
Heart rate	96 (86, 104)	81 (69, 91)
Pathogens		
Pan-Ad	1266/1850 (68%)	21/754 (3%)
Ad4	1242/1778 (70%)	9/754 (1%)
Ad7	92/1182 (8%)	0/754 (0%)
Ad14	78/1492 (5%)	0/754 (0%)
Ad3	16/1060 (2%)	1/754 (0.1%)
Influenza A	69/1854 (4%)	7/754 (0.9%)
Rhinovirus	335/1880 (18%)	262/754 (35%)
Coronavirus OC43	11/1639 (0.7%)	47/754 (6%)
Human parainfluenza type 3	19/1859 (1%)	18/754 (2%)
<i>Mycoplasma pneumoniae</i>	14/1855 (0.8%)	16/754 (2%)
No pathogen detected	260/1906 (14%)	383/754 (51%)

* all p values < 0.01

No changes were seen in detection of Ad 2, 5, 11, 21.

Conclusion. URI in military trainees post-VI is associated with decreased severity of subjective systemic symptoms, and reduced fever and heart rate. Marked reductions in frequency of all Ad and vaccine serotypes are seen, with no observed serotype shift. However, detection of other respiratory pathogens, most notably rhinovirus, is observed in increasing proportions.

Disclosures. All authors: No reported disclosures.