Supplementary file

Abstract

This is the supplementary information for the main article. It includes the methods and results of validation test for definition of hospitalisation-related SLE flares. In addition, the methods and results of association study between other 7 common respiratory viruses and hospitalisation-related SLE flares were included.

Validation study for definition of hospitalisation-related SLE flares

Methods

To confirm reliability of definition of hospitalisation-related SLE flares, we performed additional validation test using medical records in our hospital (St. Vincent hospital of catholic university in South Korea). First, we selected patients who were hospitalised for more than 2 days with M32 SLE code. Second, their medical charts were reviewed to see whether they were hospitalised due to flares or not. Finally, validation test was performed if they were satisfied with the two options – 1) admission and 2) additional medium to high-dose steroid treatment.

Results

Among 83 SLE patients who were hospitalised between Jan 2012 and Dec 2015 (the same period in this study), 49 was hospitalised due to flares, and 34 was hospitalised due to other reasons such as operation or infection. Sensitivity and specificity of the definition of hospitalisation-related flare were 61.4% and 91.2%, and positive predictive and negative predictive value were 94.1% and 96.9%, respectively.

Supplementary Table S1. The associations between 7 respiratory viruses except influenza virus and hospitalisation-related SLE flares.

Viruses	% change of risk per 1 unit change of exposure	95% confidence interval	*p*-value
Adenovirus	-1.30	-2.85, 0.27	0.103
Bocavirus	-0.14	-2.5, 2.28	0.909
Coronavirus	-0.01	-1.4, 1.39	0.984
Metapneumovirus	0.09	-1.81, 2.03	0.926
Parainfluenza virus	-1.00	-2.05, 0.05	0.061
Respiratory syncytial virus	-0.86	-1.99, 0.29	0.143
Rhinovirus	0.13	-0.96, 1.24	0.815

Association between 7 common respiratory viruses and hospitalisation-related SLE flares

Methods

We investigated 7 common respiratory viruses related to upper and lower respiratory tract infections through CDC. Viruses investigated were as follows; Adenovirus, Bocavirus, Coronavirus, Metapneumovirus, Parainfluenza virus, Respiratory syncytial virus, and Rhinovirus. A time series analysis was conducted using same model as well as confounding factors used in the main manuscript.

Results

When examining the association between virus detection rate and hospitalisation-related SLE flare rate, 7 types of virus showed no significant association with hospitalisation-related SLE rates. We have added this to the results section.