RESULTS FROM THE 2018/2019 INFLUENZA SEASON IN THE VALENCIA REGION OF SPAIN

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Site presentation

Hospital General Castellón
Population: 281,200

Hospital La Fe
Population: 285,066

Hospital Doctor Peset
Population: 278,344

Hospital General Alicante
Population: 274,122

Methods

The Valencia Hospital Network for the Study of Influenza (VAHNSI) conducts annually a prospective, active-surveillance, hospital-based study on admissions with diagnoses possibly related to influenza.

From September to August, all hospitalized patients were included in the study in case they:
- Gave written informed consent
- Were resident in one of the hospitals’ catchment area
- Were not institutionalized
- Were not discharged from a previous hospitalization in the last 30 days
- Satisfied the ECDC ILI-case definition (required only for patients ≥5 years old)
- Were hospitalized within 7 days of the onset of symptoms

Clinical information was collected through interview and by medical records reviews.

Information related to vaccination was obtained from the Valencia Region Vaccine Information System. Swabs were tested by real-time reverse transcription polymerase chain reaction (RT-PCR) in a centralized laboratory in FISABIO. Influenza Vaccine Effectiveness (IVE) was estimated by a Bayesian logistic regression following the test-negative design.

Results

Respiratory viral infections

Screened: 11,883
Included: 4,218
PCR-positive: 1,559

Influenza: 322; RSV: 394; HMPV: 109; PIV: 27; HRV: 609; AdV: 30; Bov: 17; CoV: 109

Influenza vaccine effectiveness (in ≥65 years old)

Overall 39% (95% CrI: 14, 59)
A(H1N1)pdm09 50% (95% CrI: 10, 75)
A(H3N2) 28% (95% CrI: -6, 55)

Geneic characterization of viruses

All the A(H1N1)pdm09 isolated viruses corresponded to the clade 6B.1 as the recommended A/Michigan/45/2015 vaccine virus, but encoding several amino acid substitutions characteristic for diversification in several distinct subclades.

There were similar proportions of A(H3N2) viruses from subclades 3C.2a1b and 3C.3a, which were both predominant. None of the sequenced isolates corresponded to the 2018/19 NH clade 3C.2a1 recommended vaccine virus A/Singapore/INFIMH-16-0019/2016.

Key aspects & challenges

Circulation of influenza A(H1N1)pdm09 and A(H3N2) with no B cases.

The influenza peak was reached at week 2019-08.

Highest influenza incidence rate was detected in 85+.

Highest RSV and RfV incidence rates were detected in <1.

IVE was moderate against overall influenza and A(H1N1)pdm09 with no significant protection against A(H3N2).

All the A(H1N1)pdm09 isolated viruses belonged to the vaccine virus clade. None of the A(H3N2) isolated viruses corresponded to the vaccine virus recommendation.

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Funding: This study was funded by FISABIO-Public Health, CIBER-ESP (ISCIII) and Sanofi Pasteur.