

Respiratory Illness Outbreaks: Is It Influenza?

Drinka PJ, Gravenstein S, Krause P, Langer EH, Barthels L, Dissing M, et al. Non-influenza respiratory viruses may overlap and obscure influenza activity. J Am Geriatr Soc 1999;47:1087-93.

Study Overview

Objective. To report the number and timing of influenza A and noninfluenza A illnesses and isolates.

Design. Prospective clinical surveillance for new-onset respiratory illness, followed by monitoring through viral cultures, during 7 separate influenza seasons between 1991 and 1998.

Setting and participants. A skilled nursing facility in Wisconsin for veterans and their spouses. During the study period, the average daily census was 712 patients; 79% of patients were men, and the average age was 76 ± 10 years.

Main outcome measures. Number and timing of clinical respiratory illnesses and cultures and of culture-confirmed viral isolates for the entire facility, in each season and overall.

Main results. Over the 7 seasons, 2652 cultures were performed and 19% of the cultures revealed a viral pathogen. There was significant variation in the number of influenza A cases (from 0 to 154) and the duration of activity (from 25 to 123 days). Noninfluenza isolates were encountered more frequently than influenza A isolates during 4 of the 7 seasons.

There was significant variation in respiratory illness and a wide distribution of influenza versus noninfluenza cases. For example, in December 1992 influenza B was cultured from 102 facility residents. Three years later, influenza A was cultured from 285 people statewide in Wisconsin, and a facility outbreak of respiratory illness was suspected to be influenza. However, cultures at the facility revealed 26 isolates of parainfluenza virus type 1 but no influenza isolates.

In 1991-92, an outbreak of respiratory syncytial virus (RSV) overlapped and extended beyond influenza A activity. Given the continued local respiratory illness, prophylaxis for influenza would have continued unnecessarily were it not for surveillance culturing.

Conclusion

Before declaring an outbreak of influenza, clinicians should consider cocirculating respiratory viruses as possible causes for the outbreak of illness. Clinicians can perform cultures to focus the timing and extent of chemoprophylaxis, thus saving health care costs.

Commentary

Across the United States, mortality associated with influenza has been shown to vary considerably from year to year [1]. Furthermore, it is difficult to foresee how contagious or virulent an influenza strain will be in a particular location. Given the variable nature of influenza outbreaks, health care providers at the local level should be prepared for local circumstances that differ substantially from regional or national trends.

Applications for Clinical Practice

The plethora of seasonal respiratory viruses (eg, influenza B, RSV, and parainfluenza) makes clinical recognition of influenza A difficult. As the authors suggest, local viral surveillance culturing can facilitate the most efficient health care response to outbreaks of respiratory illness. Cultures could be performed to confirm an influenza outbreak when clinical outbreak criteria are approached. Prophylaxis initiated in response to an outbreak within any specific geographic locale should be guided not only by national or regional trends but also by local laboratory monitoring. Culturing to evaluate for new respiratory illness could be done before the anticipated discontinuation of prophylaxis.

References

1. Prevention and control of influenza: recommendations of the Advisory Committee on Immunization Practices (ACIP). Centers for Disease Control and Prevention. MMWR Morb Mortal Wkly Rep 1998;47(RR-6):1-26.

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