

Oseltamivir use in hospital outbreaks

Heath Kelly

Doherty Epidemiology

National Centre for Epidemiology and
Population health , ANU

The antiviral M2 protein inhibitors (amantadine, rimantadine) and neuraminidase inhibitors (zanamivir, oseltamivir) have proven efficacy in treating and preventing influenza illness; however, their role in the prevention and control of influenza in the acute hospital setting remains to be more fully studied.

Fred Hayden, Lancet Infectious Diseases 2002

Recommendations of the Advisory Committee on Immunization Practices (ACIP) 2011

- Treatment of patients with severe influenza (such as those requiring hospitalization) presents multiple challenges
- Recommendations in this report ... are based on published expert opinion and observational studies and are subject to change
- Initiation of antiviral treatment as early as possible is recommended for hospitalized patients
- Antiviral treatment might be effective in reducing morbidity and mortality in hospitalized patients even if treatment is not started until >48 hours

How common is hospital acquired infection?

- Rhone-Alpes, France 2004-7
 - Attack rate (cumulative incidence) of lab-confirmed hospital acquired influenza was 6/10,000 patients at risk (30/10,000 for ILI)

Vanhems et al. *Arch Int Med* 2011

- Australia 2010-11
 - 26/598 (4%) of influenza confirmed infections in hospitalised patients were acquired in hospital

Macesic et al. *Med J Aust* 2013

Use of oseltamivir in hospital outbreaks of influenza

- Extrapolation from use in hospitalised patients to use in outbreaks in hospitalised patients
- Recommended for hospitalised patients based on
 - Observational studies showing early oseltamivir use reduces the risk of mortality in hospitalised patients
 - Caveat: most of these studies are from the 2009 pandemic
 - Argument about methodology and Roche sponsorship of review studies persists
 - Earlier (pre-pandemic) studies supporting decreased risk of mortality had more methodological problems

Oseltamivir in hospitalised patients for treatment

- Pandemic H1N1
 - Melbourne, Australia: 93/112 (83%) patients were prescribed oseltamivir. Fever persisted a median of 1 day after initiation of treatment. [Denholm et al. MJA 2010](#)
 - ICU, Spain: all 32 patients received oseltamivir. 10 patients received high dose. [Rello et al. Crit Care 2009](#)
- Current Australian recommendations are consistent with ACIP 2011
- Used in nursing home outbreaks for treatment and prophylaxis