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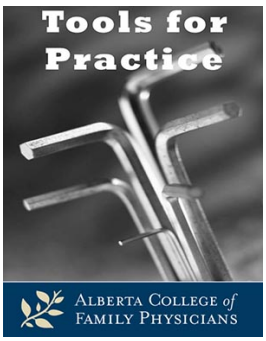

Stockpile, use during outbreaks, re-stock and repeat

Clinical Question: How effective are oseltamivir and zanamivir at decreasing post-exposure transmission of influenza?

Bottom Line: For institutionalized seniors, six weeks of oseltamivir or 14 days of zanamivir or will prevent one additional influenza case in every 25-27 treated. For every 7-8 households given post-exposure prophylaxis (PEP), one household will avoid anyone developing influenza.

Evidence:
Mostly unpublished, industry-sponsored, Randomized Controlled Trials (RCTs)[1] (from 1990s) and two systematic reviews.[2,3] Results all lab confirmed, symptomatic influenza.

- Institutionalized seniors:
  - Zanamivir: PEP during influenza outbreak (ten cases or 10% with influenza):
    - Two RCTs of 14 days of zanamivir 10 mg/day versus rimantadine (was standard of care) or placebo in 385 (98% vaccinated) and 489 (9% vaccinated) residents, respectively.
      - Influenza at 15 days:
        - 2.9% versus 7.4% (rimantidine); statistically significant.
        - 6.3% versus 9.2% (placebo); not statistically different.
          - Pooled (by authors): 4.6% versus 8.3%, Number Needed to Treat (NNT)=27.
  - Oseltamivir: Six weeks of oseltamivir 75 mg/day or placebo in 548 (69% vaccinated) patients when influenza "noted in the community."
    - Influenza at eight weeks: 0.3% versus 4.4% (placebo), NNT=25.
- Households:
  - Three clustered (by household) placebo-controlled RCTs when household member diagnosed with influenza-like illness. Contacts' mean ages 24-33 years (children excluded), <15% vaccinated:
    - Zanamivir: Ten days of zanamivir or placebo; households with ≥1 new influenza case at 11 days (pooled): [1,4]

        - 4.6% versus 20.5% (placebo), NNT=7.
    - Oseltamivir: Seven days of oseltamivir 75 mg/day or placebo; households with ≥1 new influenza case at 21 days: [1,5]
        - 2.1% versus 14.6% (placebo), NNT=8.
- Other outcomes:
    - Hospitalizations: No difference.[2,3]
    - Adverse effects: Multiple analyses performed.[3]
        - Oseltamivir: Psychiatric events Number Needed to Harm (NNH)=95; headache NNH=32; nausea NNH=25.[2,3]
        - Zanamivir: No difference in treatment trials.[3]
- Limitations: Inconsistent outcome definitions, selective reporting.[2]

Context:

- Canada stockpiles ~60 million doses of primarily oseltamivir, ~50% expire before use.[6]
- Guidelines recommend:
    - Closed facility outbreaks:
        - Treating index case and vaccinating the unvaccinated.[7]
        - PEP for 14 days or seven days after the onset of symptoms in the last infected person, whichever is longer.[8]
    - Household contact: PEP only if vaccination contra-indicated.[7]

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Tools for Practice is a biweekly article summarizing medical evidence with a focus on topical issues and practice modifying information. It is coordinated by G. Michael Allan, MD, CCFP and the content is written by practising family physicians who are joined occasionally by a health professional from another medical specialty or health discipline. Each article is peer-reviewed, ensuring it maintains a high standard of quality, accuracy, and academic integrity. If you are not a member of the ACFP and would like to receive the TFP emails, please sign up for the distribution list at http://bit.ly/signupfortfp. Archived articles are available on the ACFP website.