

Human Swine Influenza

Crystal Raymond
Pharmacy Intern
April 2009

Swine flu is an Influenza Type A virus that is thought to have been transmitted into humans from pigs to cause flu like symptoms. The respiratory illness is known to cause vomiting, fatigue, sore throat, loss of appetite, coughing and fever.

The virus causing the illness is identified to be the H1N1 Influenza A subtype. The annual flu shot does cover H1N1, however, this is a new strain to enter the human population. Because it is a new strain we have no immunity built up to the virus. The annual flu shot containing a number of different strains may NOT cover this strain. A vaccine can be developed, however, it generally takes approximately 6 months after the identification of a strain to develop and test a new vaccine.

Prevention

Protect yourself from Swine flu the same way you would protect yourself from any common cold or flu:

- Wash hands thoroughly with soap and warm water, or use hand sanitizer
- Cough and sneeze in your arm or sleeve
- Get your annual flu shot
- Keep doing what you normally do, but stay home if sick
- Check www.fightflu.ca for more information
- Check www.voyage.gc.ca for travel notices and advisories
- Talk to a health professional if you experience severe flu-like symptoms

Treatment

There are currently 4 antiviral medications available for use against Influenza. Oseltamavir (Tamiflu) and Zanamivir (Relenza) are effective against the H1N1 strain. Amantadine and Ramantadine are not as a result of resistance development. Stockpiles of antivirals are available in Canada and are distributed provincially on a per capita basis. They are available through pharmacies by prescription, but will need to be ordered and are becoming difficult to get.

Indication for prophylaxis/prevention:

Ideally antivirals should be taken for the entire duration of a community outbreak to decrease the risk of resistance. Selection criteria for prophylaxis/prevention should be strict because the rate of resistance for is very high. Swine flu in Canada and the United States has not caused serious life-threatening illness in infected individuals at this point in time. Antivirals for prophylactic use should be reserved for:

- Persons at high risk of serious illness and/or complications.
- Long-term care facility residents, regardless of vaccination status, when an outbreak has occurred in the institution.
- Unvaccinated household contacts of someone who was diagnosed with swine flu.

Table 1. Recommended Daily Dosage of Influenza Antiviral Medications for Treatment and Prophylaxis—United States. Pharmacotherapy; A Pathophysiological Approach 2008.

<http://www.accesspharmacy.com.cyber.usask.ca/popup.aspx?aID=3184992>

Antiviral	Age Group (y)				
	1–6	7–9	10–12	13–64	At Least 65
Zanamivir					
Treatment	N/A	10 mg twice daily for 5 days	10 mg twice daily for 5 days	10 mg twice daily for 5 days	10 mg twice daily for 5 days
Prophylaxis	Ages 1–4, N/A	Ages 5–9, 10 mg once daily ^a	10 mg once daily ^a	10 mg once daily ^a	10 mg once daily ^a
Oseltamivir					
Treatment ^b	According to weight ^c	According to weight ^c	According to weight ^c	75 mg twice daily for 5 days	75 mg twice daily for 5 days
Prophylaxis ^b	According to weight ^d	According to weight ^d	According to weight ^d	75 mg once daily for 10 days to 6 weeks	75 mg once daily for 10 days to 6 weeks

^a 2 inhalations = 10mg for 28 days. Begin within 5 days of outbreak

^b Dose reduction recommended in those with creatinine clearance less than 30 mL/min.

^c Treatment dosing of oseltamivir for children weighing 15 kg is 30 mg twice daily; for those >15 kg to 23 kg, the dose is 45 mg twice daily; for those weighing >23 kg to 40 kg, the dose is 60 mg twice daily; and for those >40 kg, the dose is 75 mg twice daily.

^d The prophylactic dosing of oseltamivir for children weighing 15 kg is 30 mg once daily; for those >15 kg to 23 kg, the dose is 45 mg once daily; for those weighing >23 kg up to 40 kg, the dose is 60 mg once daily; and for those >40 kg, the dose is 75 mg once daily.

Recent studies have shown that oseltamivir resistance is becoming more common.

The virus cannot be spread by eating pork. Cooking pork kills any bacteria or viruses that can cause illness. The main concern is the spread of the illness from human to human, although, it is likely that it can be spread from human to pig and vice versa. Direct contact with pigs should include increased precautions to prevent transmission.

For more up to date information please visit the Health Canada website: www.hc-sc.gc.ca

References:

Access Pharmacy. Pharmacotherapy: A Pathophysiological Approach. Chapter 113; Influenza. [online] URL: <http://www.accesspharmacy.com.cyber.usask.ca/content.aspx?aID=3184913> [April 2009]

Public Health Agency of Canada. FAQ. [online] URL: http://www.phac-aspc.gc.ca/alert-alerte/swine-porcine/faq_rg_swine-eng.php#faq1 [April 2009]