

Weekly update on oseltamivir resistance to pandemic influenza A (H1N1) 2009 viruses

09 June 2010 -- For this reporting week (02 - 09 June 2010), six additional cases of oseltamivir resistant pandemic influenza A (H1N1) 2009 viruses have been reported (occurring from September 2009 to January 2010). It brings the cumulative total to 298¹ so far. All but one of these² have the H275Y substitution and are assumed to remain sensitive to zanamivir.

Table 1: Summary of reported oseltamivir resistant cases during the week 02 - 09 June 2010

Clinical Background / Preliminary report	Number of reported cases
Association with treatment	3 ³⁴⁵
No known association with treatment, or likely person to person transmission	1 ⁶
Preliminary report*	2
Total cases	6

*Preliminary report: laboratory confirmed and reported oseltamivir resistant cases, details not yet available

Table 2: Geographical distribution of oseltamivir resistance by the WHO regions (as of 9 June 2010)

	WHO Region					
	AFRO	EMRO	EURO	PAHO	SEARO	WPRO
Number of oseltamivir resistant isolates	0	1	99	82	0	116

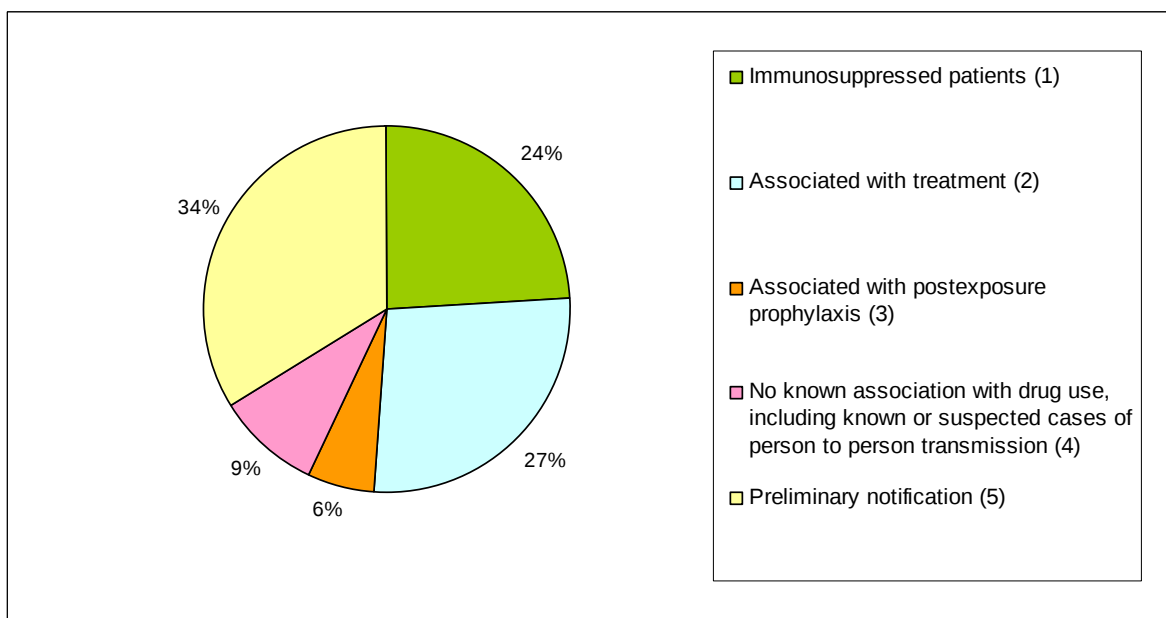


Figure 1: Proportion of the clinical background of reported cases of oseltamivir resistance (as of 9 June 2010). Cases are classified first by identifying those that occur in severely immunocompromised patients (1). The remaining cases are then classified as either occurring during or after oseltamivir treatment (2), associated with post-exposure prophylaxis (3), or occurring in patients who had not used antiviral drugs prior to occurrence of the resistant virus (4). The balance of cases (5) are those where insufficient clinical information is available.

¹ The totals reported here are based on confirmed reports from several sources, and include case reports published in medical journals, as well as reports from national ministries, health agencies and laboratories.

2 WHO Euro region report a case of pandemic A(H1N1) 2009 virus that developed in an immunocompromised child with reduced susceptibility to zanamivir and oseltamivir due to an amino-acid mutation at position 223 in the neuraminidase. The clinical implications of this A(H1N1) 2009 variant are being assessed and a publication is expected. The report is available at http://www.euroflu.org/cgi-files/bulletin_v2.cgi

3 Ministry of Health, Labour and Welfare, Japan. Press release. Available from: <http://www.mhlw.go.jp/kinkyu/kenkou/influenza/houdou/2010/03/dl/infuh0325-02.pdf>

4 Ministry of Health, Labour and Welfare, Japan. Press release. Available from: <http://www.mhlw.go.jp/kinkyu/kenkou/influenza/houdou/2010/03/dl/infuh0324-02.pdf>

5 Esposito S, et al. Oseltamivir-induced resistant pandemic A/H1N1 influenza virus in a child with cystic fibrosis and *Pseudomonas aeruginosa* infection. *Journal of Clinical Virology*, Vol. 48, No.1, May 2010.

6 Ministry of Health, Labour and Welfare, Japan. Press release. Available from: <http://www.mhlw.go.jp/kinkyu/kenkou/influenza/houdou/2010/03/dl/infuh0324-01.pdf>