

## VIROLOGY Quarterly report (January to March 2007)

### RESPIRATORY VIRUSES

#### *Influenza virus*

- 5 influenza viruses were reported from laboratory-based surveillance (2006, 7).
- 2 were identified as influenza A from Canterbury.
- 3 were identified as influenza B, 1 from Canterbury, 1 from Hawks Bay and 1 from Waikato. The influenza B from Waikato was further typed as B/Malaysia/2506/2004.

#### *Respiratory Syncytial Virus and parainfluenza viruses*

- 4 cases of respiratory syncytial virus were reported (2006, 7).
- 1 parainfluenza type 2 and 2 parainfluenza type 3 were reported (2006, 1).

### ADENOVIRUSES AND ENTEROVIRUSES

#### *Adenoviruses*

- 125 adenoviruses were reported (2006, 47).
- 113 adenoviruses were serotyped as adenovirus type 1 (1), type 2 (4), type 3 (21), type 4 (2), type 5 (1), type 7 (2), type 8 (75), type 15/29 (2), type 21 (1), type 37 (1) and untypable (3). Adenovirus type 8 was the predominant serotype.

#### *Adenovirus type 8 outbreak*

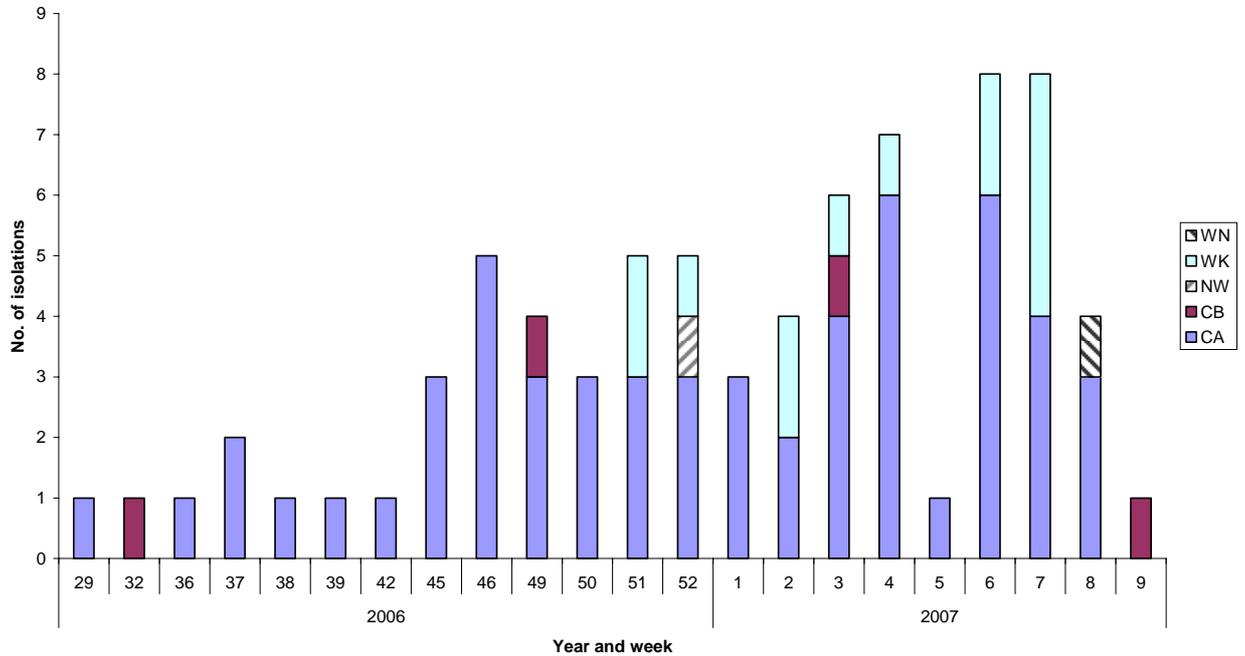
Adenoviruses comprise 49 serotypes that are classified into six subgenera (A-F). They are DNA viruses that infect a variety of clinical conditions. Conjunctivitis may be caused by a broad array of adenoviruses, whereas epidemic keratoconjunctivitis (EKC) has been associated with serotypes 8, 19a, and 37 (subgenus D). Adenovirus type 8 (Ad-8) was first described by Jawetz and coworkers (Jawetz et al., 1958) who studied a merchant seaman who travelled from the Far East to San Francisco, presenting to the eye clinic with a severe conjunctivitis.

EKC has been recognized for a century as nonpurulent conjunctivitis associated with a characteristic keratitis that can spread rapidly within a community (Gottsch, 1996). EKC is a severe, painful, and highly contagious eye infection, which often causes outbreaks in settings where people seek ophthalmological care (Vainio, Borch, and Bruu, 2001). The infection is frequently transmitted by the ophthalmologist's hands, contaminated instruments, or eye drops. EKC can last for as long as four weeks and is predominantly caused by Ad-8.

This is a short summary of the biggest adenovirus type 8 outbreak reported during the first quarter of January to March 2007. A total of 75 HAdV-8 cases were reported from whom the specimens were collected during a period from July 2006 to Mar 2007 (Figure 1). The first case of Ad-8 occurred in a 2-month-old baby girl from Central Auckland in July 2006. The Ad-8 activity increased during the summer period from November 2006 to March 2007 and the highest reported cases (8 cases each in weeks 7 and 8) occurred in the middle of February 2007. The majority of cases occurred in Auckland (56, 74.7%) with occasional cases reported in Waikato (13, 17.3%), Canterbury (4, 5.3%), North-West (1, 1.3%) and Wellington (1, 1.3%). For 75 patients from whom HAdV-8 viruses were isolated, 33 were male and 42 were female

(M/F ratio: 0.79:1). Their median age was 40 years, ranging from 6 weeks to 82 years. The main clinical presentation of the patients was conjunctivitis.

**Figure 1 Laboratory confirmed Adenovirus type 8 isolations, 2006-2007**



Gottsch, J. D. (1996). Surveillance and control of epidemic keratoconjunctivitis. *Trans Am Ophthalmol Soc* **94**:539-87. (Write to the Help Desk NCBI | NLM | NIH Department of Health & Human Services Privacy Statement | Freedom of Information Act | Disclaimer Apr 4 2007 12:47:27).

Jawetz, E., Hanna, L., Nicholas, A., and Hoyt, R. (1958). Some biological characteristics of adenovirus type 8. *Am J Hyg* **67**(3), 276-85. Write to the Help Desk NCBI | NLM | NIH Department of Health & Human Services Privacy Statement | Freedom of Information Act | Disclaimer Apr 4 2007 12:47:27.

Vainio, K., Borch, E., and Bruu, A. L. (2001). No sequence variation in part of the hexon and the fibre genes of adenovirus 8 isolated from patients with conjunctivitis or epidemic keratoconjunctivitis (EKC) in Norway during 1989 to 1996. *J Clin Pathol* **54**(7), 558-61. Write to the Help Desk NCBI | NLM | NIH Department of Health & Human Services Privacy Statement | Freedom of Information Act | Disclaimer Apr 4 2007 12:47:27.

### *Enteroviruses*

- 31 enteroviruses were reported (2006, 35)
- Echovirus type 18 was the predominant serotype.
- 15 enteroviruses were serotyped as Coxsackie B5 (1), Coxsackie A9 (3), Coxsackie A16 (1), Echovirus 6 (3), Echovirus 18 (4), and Enterovirus type 71 (3).