

## **A COMMUNITY OUTBREAK OF LEGIONNAIRES DISEASE IN PARIS IN 2006: evidence of a cooling tower as a source**

Campese C<sup>1</sup>, Bernard C<sup>2</sup>, Mathieu A<sup>3</sup>, Jarraud S<sup>4</sup>, Thos AL<sup>2</sup>, Cosson C<sup>2</sup>, Pavageau Y<sup>2</sup>, Tremblay C<sup>2</sup>, Forey F<sup>4</sup>, Che D<sup>1</sup>, Dejour Salamanca D<sup>3</sup>

<sup>1</sup> *Institut de veille sanitaire.*

<sup>2</sup> *Direction des affaires sanitaires et sociales de Paris.*

<sup>3</sup> *Cellule interrégionale d'épidémiologie Ile de France.*

<sup>4</sup> *Centre national de référence des Legionella*

At the end of August, the local health authorities (Paris) identified 10 cases of legionnaires' disease who had stayed or visited a small area in the 13<sup>th</sup> district around the Austerlitz railway station since July 28. During the same period, the local authorities were informed about high concentrations of *Legionella* in two cooling towers (site M and site P) which were immediately disinfected. Therefore environmental and epidemiological investigations were carried out to describe the outbreak and identify the source of infection in order to implement appropriate control measures.

Notified cases were traced and interviewed, using a standard questionnaire. The other districts in France and the European working group for *Legionella* infections (Ewgli) were asked for immediate notification of cases who had visited Paris and stayed in the identified area. Environmental investigation checked all potential contamination sources within the area, including cooling towers (CTs). Human and environmental strains were sent to the National Reference Centre (CNR) for *Legionella* for PFGE typing.

Twenty nine cases of legionnaires' disease (*Legionella pneumophila* serogroup 1 - Lp1), with onset between July 28 and September 3, were identified. Three deaths occurred. The median age of patients was 54 years. Among them, only six cases were living in Paris, the others including 2 foreigners had stayed or visited the area. Isolates were available for seven patients and among them six strains of *Legionella* were identical. Ninety five cooling towers in 25 sites were identified by the local environmental authorities. Isolates of Lp1 from three suspected sites (site M, site P, and site A previously unidentified) were analysed by the CNR, and strains from the 3 CTs of site A were identical to the 6 clinical strains.

Epidemiological, environmental and microbiological investigations have identified cooling towers from site A as the probable source of this outbreak. In December 2004, a new regulation concerning cooling towers was introduced and during the last years, the collaboration between all the partners involved in the surveillance system has been improved. Nevertheless the legislation of cooling towers is not yet fully adhered to and further efforts are necessary required.