

Community-acquired Legionnaires' disease outbreak in Poitiers (France) in August-September 2003

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On August 27 2003, 2 patients with Legionnaires's disease were admitted to Poitiers university hospital (CHU). They were the very first cases of an outbreak of 24 cases. From August 28, DDASS and CIRE conducted clinical, laboratory and environmental investigations to control the spread and to find the origin of these cases with the help of the hospital microbiology department. On August 28 and 29, the 5 cooling towers in the neighborhood were sampled then stopped. The absence of new case confirmed the effectiveness of the control measures.

The first clinical manifestations occurred between August 18 and September 3 for all the patients. All cases occurred among residents or people working in a urban area delimited by a circle of 2.5 km radius.

Patients were 14 men and 10 women; mean age of 58 years (28-84 years). 54 % of them were smokers; 21 % had cancer or hemopathy. No fatal case was reported.

L. pneumophila serogroup 1 was isolated from 7 patients. Clinical isolates were compared with AP-PCR method with 3 different primers by the university hospital laboratory. The 7 patterns were identical whatever the primer. *L. pneumophila* was isolated from 3 of the 5 suspected cooling towers. Characteristics of the environmental isolates are presented below :

TOWER	CONCENTRATION (CFU/L)	SEROGROUP	RAPD PATTERN
A	>100 000	Lp 8	-
B	1000 - 99 999	Lp 1	patients' pattern
C	100 - 999	Lp 1	other pattern

These results allowed us to confirm the outbreak and the infection source as being a cooling tower located in the South-East neighborhood of Poitiers close to the centre of the 2.5 km radius circle area. All the clinical, microbiological and environmental investigations took place within 15 days. Later, typing results were confirmed by the French National Reference Center in Lyon by pulsed field gel electrophoresis.

The rapid and concerted management of the outbreak permitted early identification of the cooling towers as the potential sources of the outbreak, which led to stop the towers immediately, to compare patients and environmental isolates and to confirm that the outbreak was linked to a cooling tower.