Trench fever among homeless people in Marseille, France: a seroprevalence survey

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Trench fever disappeared in industrialised countries after the first world war. However, between 1992 and 1994, there were cases reported in industrialised countries. Some have been reported in HIV infected patients, but most are among homeless people. Epidemiological data on Bartonella quintana infection, the transmission of which is favoured by poor housing and hygiene conditions, are scarce in western countries. We describe the results of a seroprevalence survey among homeless people living in Marseille, France.

Method
Between January and April 1995, the eight major charitable organisations in Marseilles which take in homeless people participated in the study. Four of these were able to provide healthcare. Each subject who found shelter for a couple of days was asked to fill in a questionnaire and to give a blood sample (by micro puncture). They were clearly informed about the aims of the research and were free to refuse to participate. All blood samples were evaluated at the National Reference Centre for Rickettsiae by indirect immunofluorescence. This technique has been tested and validated.

The serology was considered positive when the IgG titre was above 1/100.

Results
Altogether 221 homeless people agreed to fill in the questionnaire and to be tested for B. quintana—94% were men, 40% were aged less than 40, and 51.4% originated from France. Four subjects had an IgG titre above 1/100.

The seroprevalence rate was estimated at 1.8% (95% confidence interval 0.05, 3.55). None of the four seropositive subjects had symptoms and their clinical examination was considered normal. They were aged above 40 years, and two had been born in France, one in Algeria, and one in the Comoro Islands (see table 1).

Among these four subjects, one had a titre higher than 1/3200, which might reflect recent contamination or a severe infection, or both. Statistical analysis did not show significant associations between housing and hygiene conditions and seropositivity for B. quintana.

Discussion
Because of the lack of data on homeless persons and the absence of a sampling base, it is not possible to ascertain the representativeness of the sample. Although no subjects were found to be seropositive in a sample of 250 blood donors of the same age group in the same city (personal results), this survey identified four subjects seropositive for B. quintana among 221 homeless persons, as in a survey in Seattle, USA. Physicians who take care of homeless people living in conditions of poor hygiene should be aware of the possibility of B. quintana infection. Organisations which take in the homeless must implement preventive strategies and health education programmes that are designed to be acceptable to homeless people. This pilot study should prompt public health professionals to pursue investigations into B. quintana infection in the homeless.

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