

Leptospirosis

It took tropical storm "Pharma" and typhoon "Ketsana" in the Philippines to remind health authorities around the world that there is a deadly infectious disease caused by the bacterium *leptospira*, lurking in the shadows of streets and lanes of our cities.

It is transmissible to humans and can degenerate into meningitis, kidney damage, liver failure and even death. The alarm bells rang when more than 150 deaths were reported in the Philippines within a short period of 1 month.

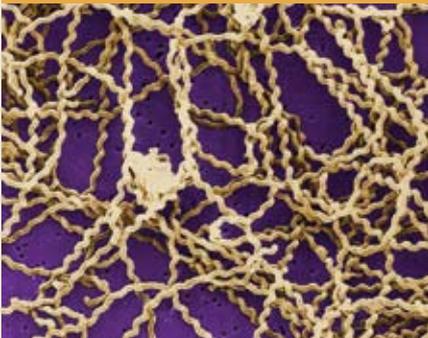
Leptospirosis is caused by exposure to water contaminated with the urine of infected animals. Weil's disease is the most severe form of leptospirosis transmitted in rat urine. Rodents have weak bladder and they will urinate where they feed. In the case of the Philippines health experts are pointing most specifically to rats as the culprits for the outbreak because the rat population in Metro Manila alone is estimated to be 100 million which is larger than the country's total human population of 92 million.

What are the symptoms? These are usually flu-like, i.e. high fever, chills, muscular pains, vomiting, diarrhea and severe headache. Sometimes they are accompanied by dark-coloured urine and jaundice (yellow skin and eyes).

The incubation period is normally between 1 to 2 weeks.

If these signs develop, medical advice should be sought immediately as early antibiotic treatment gives a better chance of a good recovery.

How do you get infected? The bacteria can enter your bloodstream through open wounds, the mouth, nose, lungs and even female sex organs. Care must be taken to ensure that on contact, we wash off polluted or flood water from our body as soon as possible. Treat body



Scanned electron micrograph of *Leptospira sp.* bacteria (courtesy of Rob Weyant)

cuts and open wounds with an antiseptic cream or gel and have them well covered with waterproof dressing, especially when we travel overseas.



The innocent looking host is not affected by the *Leptospira sp.* bacteria it carries.



Rat urine fluoresces under Ultra-Violet Light, a technique used to detect its presence.

How can we be protected? Besides preventing them from getting into our bloodstream, the bacteria can be killed by heat (boil drinking water for at least 5 minutes), disinfectant, acids and alkalis.

Exercise discretion when eating out. In Singapore choose to patronise the food and beverage outlets graded "A" and "B" by National Environment Agency (NEA). You do not want to know why a place is graded "C" and "D".

When sipping from a can of softdrink, use a clean straw or you clean the opening of the can before contact with your mouth.

Singapore's Ministry of Health has not listed leptospirosis as a disease detected here. Credit must go to NEA's relentless surveillance on the control of rodent infestation.

But this does not mean that we do not have rodents in Singapore. These are highly intelligent and adaptable vectors and they will take advantage of any lapses in sanitation practices. Residents must continue to ensure that they do not create conditions that support an infestation by making food easily available to these nocturnal creatures which we call "commensal rodents" because they will survive on the same food as humans.