

Drug-resistant bacteria top agenda of medical convention

September 18 2011, by Jean-Louis Santini

The emergence of bacteria resistant to antibiotics and efforts by scientists trying to cope with the problem top the agenda at a medical convention under way here this weekend.

"The emergence of antibiotic-resistant bacteria worldwide is clearly the hot topic because one can observe bacteria becoming more resistant everywhere," and more frequently outside of hospitals, said Doctor Laurent Poirel, a specialist in [infectious diseases](#) at Kremlin-Bicetre Hospital near Paris.

Many studies of such bacteria are presented to the 51st convention of the Interscience Conference on [Antimicrobial Agents](#) and Chemotherapy (ICAAC), which brought together 9,000 participants, including 6,000 researchers from around the world.

"If we do not do something soon, we will lose the war against [microbial resistance](#), which would pave the way to the next [pandemic](#)," warned Doctor Jean Cardet, consultant to the [World Health Organization](#), which in April launched an initiative against it, advocating moderate use of antibiotics.

Cardet cited the E.coli bacteria responsible for the deaths of 51 people this year in Europe, especially in Germany, where it displayed super-resistance.

It was similar to the super-bacteria that last year came from India and

was named NDM-1.

In fact, the bacteria had a gene that produces an enzyme capable of destroying antibiotics, a mechanism that is now observed in other [microbes](#).

Speaking to AFP in Chicago, Doctor Cardet cautioned that it was important to make a distinction between bacteria known as Gram-positive such as golden staphylococcus and Gram-negative, such as E.coli, salmonella and [pseudomonas](#).

The latter account for 60 percent of all infections and have been the pathogens against which the "current arsenal of antibiotics has had the greatest difficulty coping."

They are responsible for most hospital-acquired [lung infections](#) as well as those of blood and the urinary tract.

Efforts to make hospitals cleaner and the use of special [new antibiotics](#) against Gram-positive bacteria such as golden staphylococcus have helped reduce the number of cases involving drug-resistant bacteria, particularly in France, noted Cardet.

Gram was the name of a Danish scientist who developed this bacteria-fighting technique in the late 19th century. It refers to a process of membrane staining in bacteria to distinguish them. Gram-negative bacteria have a thicker membrane and are therefore more resistant.

"Gram-negative bacteria are becoming highly resistant, resistant to multiple antibiotic classes," Doctor Karen Bush from the University of Indiana at Bloomington told a news conference.

But she also noted that scientists had found "many newer types of

compounds ... targeting the novel anti-bacterial enzymes."

Bush also pointed out that pharmaceutical companies were becoming "more interested in early stage drug discovery."

"There is also cooperation between academic scientists and government scientists," she said.

The company Cubist Pharmaceuticals in Boston has been at the forefront of the fight against Gram-negative bacteria in contrast to other major laboratories that believe this area of science has low profit margins.

In August, the firm conducted its final test of the antibiotic CXA-201 that targets Gram-negative bacteria.

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