

New pathogen from pigs' stomach ulcers

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Scientists have isolated a new bacterium in pigs' stomachs thanks to a pioneering technique, offering hope of new treatments to people who suffer with stomach ulcers, according to research published in the June issue of the *International Journal of Systematic and Evolutionary Microbiology*.

The bacterium that commonly causes stomach ulcers in humans is called *Helicobacter pylori*. Extensive research has been carried out on this bacterium and the two scientists who discovered it were awarded the Nobel Prize for Physiology and Medicine in 2005.

However, in a small percentage of biopsies a similar but previously unidentified bacterium is present. Numerous research papers have described failed attempts to culture this microbe in the laboratory since it was first observed in 1990. Now, scientists from Belgium have succeeded.

"We have developed a new method to cultivate these bacteria and can now study their main characteristics and virulence properties," said Professor Dr Freddy Haesebrouck from Gent University in Belgium. The researchers had to recreate aspects of the bacterium's natural habitat, the stomach. They used acid, which kills other microbes but is needed for these bacteria to grow. Charcoal was used to remove substances that are toxic to the stomach bacterium. Genetic analysis revealed that it is a new species related to the common stomach ulcer bacterium *Helicobacter pylori*. Its name, *Helicobacter suis*, comes from the Latin for "of the pig".

H. suis has been associated with stomach ulcers in pigs, which may cause sudden death: a big problem for farmers. "The economic losses for the pork industry and the risk of the bacteria infecting humans justify the need for further research," said Dr Margo Baele from Gent University in Belgium. "Data shows that people in close contact with pigs have a higher risk of infection; this suggests H. suis is a zoonotic agent, capable of being transmitted from animals to humans."

"We know very little about how the bacterium infects humans and pigs and how it causes disease. Thanks to this research, pure isolates of H. suis are now available, bringing new perspectives to the study of this organism and its interaction with the host," says Professor Dr Freddy Haesebrouck.

The new technique will allow researchers to determine whether the bacterium is resistant to antibiotics. This will lead to better treatment strategies, both in pigs and humans. The researchers hope it may also result in the development of an effective vaccine.

Source: Society for General Microbiology

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