

New strain of MRSA superbug found in COWS

By Pallab Ghosh Science correspondent, BBC News

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A new strain of the MRSA "superbug" has been found in British cows and is believed to be infecting humans.

Environmental campaigners say the new strain has emerged because of the over-use of antibiotics by dairy farmers.

Dr Mark Holmes of Cambridge University, who led the research, said this was a "credible hypothesis".

The researchers, writing in the Lancet Infectious Diseases Journal, say there is no additional health risk from eating milk and dairy products.

'Financial pressure'

MRSA, or methicillin-resistant *Staphylococcus aureus*, is a drug-resistant form of a usually harmless bacterium which can be deadly when it infects wounds.

The 35 or so strains of antibiotic-resistant superbugs are genetically fairly similar. However, this new variety is very different and it is thought that it might have first emerged from cows.

Its discoverers have dubbed it "New MRSA"

Antibiotics are widely used by dairy farmers to treat cows with mastitis. However over-use means some bacteria become resistant and difficult to treat if humans become infected.

Dr Holmes said the problem might be exacerbated by financial pressures on dairy farmers.

"If you drive your cows harder to produce more milk you get more mastitis," he told reporters at a news conference.

The Soil Association has called for a complete ban on routine use of antibiotics in farming.

Soil Association director Helen Browning said: "Dairy systems are becoming ever more antibiotic-dependent. We need to get farmers off this treadmill, even if that means that milk has to cost a few pennies more".

National Farmers' Union chief dairy adviser Rob Newberry said the health and welfare of cows were of "paramount importance" to British dairy farmers.

"In the interests of human and animal health, and animal welfare, it is important that veterinary medicines are administered as little as possible but as much as necessary," he said.

"Any antibiotic or veterinary medicine being administered to a food producing animal has strict conditions of use, including milk and meat withdrawal times, and in general, under European law, would only be available under prescription."

Dr Holmes and his colleague Dr Laura Garcia-Alvarez discovered the new strain while studying a bacterium known to cause mastitis in cows.

They found that, like other MRSA strains, it was resistant to the most commonly used antibiotics. However, the bug was found to be genetically very different.

Subsequent research showed that the strain was also present in humans.

Dr Garcia-Alvarez says that finding a new strain in both in humans and cows is "very worrying".

"Workers on dairy farms are at higher risk of carrying MRSA but we don't yet know if this translates to a higher risk [of them becoming ill]," she said.

'Very low risk'

Dr Holmes said very few people had been infected with the new strain, probably fewer than 100 a year in the UK. "But it does appear that the numbers are rising," he says.

The Health Protection Agency said the risk of becoming infected with the new strain was "very low".

Dr Holmes and Dr Garcia-Alvarez will now investigate the prevalence of the new strain and whether it is more or less harmful than current strains.

They also plan to conduct studies on farms to look for more MRSA strains of this type and explore any potential risks to farm workers.

MRSA is often found in hospitals and was linked to 1,593 deaths in 2007.

Since then the number of suspected fatal cases has fallen dramatically. There were 1,290 in 2008 and 781 in 2009.

A Department of Health spokesman said: "From the available evidence, we understand this new form of MRSA is rare in the UK and is not causing infections in humans.

"However, our expert committee, ARHAI, will be reviewing this issue at their next meeting and will consider potential medical, veterinary and food safety issues."

A Food Standards Agency spokesman said the study did not provide direct evidence that humans were being infected with MRSA from cattle.

"The risk of contracting this new strain of MRSA through drinking milk is extremely low because the vast majority of cows' milk is pasteurised and the pasteurisation process destroys all types of MRSA," he added.

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