Mad cow disease: One in 2,000 in UK carry protein (Update)

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Around one person in 2,000 in Britain carries the protein linked to the human version of mad cow disease, a figure higher than previous estimates, a study said on Tuesday.

But how many people will actually develop the crippling and ultimately fatal disease is unknown, its authors say.

They also warn Britain to fight the risk of wider contamination through blood transfusions and surgical instruments.

The study, published online by the *British Medical Journal* (BMJ), is the most exhaustive attempt yet to quantify the risk to Britons from the variant form of Creutzfeldt-Jakob disease, or vCJD.

This is a brain-destroying disorder whose suspected cause lies with eating beef contaminated by mad cow disease, a bovine illness that erupted in Britain in the late 1980s and spread to other countries through cattle exports.

Culls to curb mad cow disease—official name bovine spongiform encephalopathy (BSE)—went into higher gear in the 1990s.

But experts have struggled to calculate the risk for people exposed to the rogue prion protein, called abnormal PrP.

The problem is that little is known about the incubation time for

Creutzfeldt-Jakob, although it is likely to be long, and not everyone who carries the prion may develop the disease itself.

Researchers led by Sebastian Brandner, a professor of neuropathology at University College London, analysed 32,441 appendixes that were removed at 41 British hospitals, and tested them for PrP.

Sixteen samples were positive, a figure that, when extrapolated across the United Kingdom's population equates to around one in 2,000.

This compares with a previous sample study that put the figure at an average of one in 4,000.

"Our study detected the presence of abnormal prions in the population," Brandner said in an email exchange with AFP.

"However, it is not possible to predict how many will ever develop the disease. Should anyone develop a disease, it may present differently from vCJD."

So far, an official count by British watchdogs gives a relatively tiny number of Creutzfeldt-Jakob cases, just 177 compared to the millions likely to have been exposed to abnormal PrP.

The positive samples came from people of all ages and geographical background.

Incubation the big unknown

The study suggests a broad range of Britons may carry the prion, on the basis of a genetic profile of the appendix samples and warns the authorities to maintain their guard.

So far, results indicate "the risks of transmission of vCJD by blood transfusion are low," it says.

However, "it is unclear how many blood recipients have sub-clinical disease and if their life expectancy is shorter than the incubation time.

"It is essential to continue research into tests to detect abnormal PrP in blood."

In a commentary, David Brown, a professor of biochemistry and former member of the British advisory panel on BSE, cautioned against over-reaction.

"This abnormal protein is not only present in vCJD but in all CJD - i.e. even that which has nothing to do with BSE," he told the Science Media Centre in London.

He added: "At most the report suggests that a broad range of people could be carriers of a prion disease, which was suspected anyway."

More information: www.bmj.com/cgi/doi/10.1136/bmj.f5675
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