Prevalence of variant CJD agent in Britain remains uncertain

May 21 2009

First results from a large tissue survey in Britain of the agent that causes variant Creutzfeldt-Jakob disease (vCJD) are unable so far to establish that the prevalence is lower than that given by previous estimates, concludes a study published on bmj.com today.

Although the risk of dietary exposure to the agent that causes vCJD has been virtually eliminated, uncertainty remains about how many people carry the infectious agent and will eventually develop the disease.

Calculations based on cases of vCJD to 2004 predicted between 10 and 190 further clinical cases over the next few decades. However, a study of appendix and tonsil tissues predicted a much higher level of cases - between 520 and 13,000.

To resolve this discrepancy, and ensure that proportionate public health measures are implemented, a research team led by Jonathan Clewley and Noel Gill at the Health Protection Agency in London, set out to establish a more accurate prevalence of disease-associated prion protein in the population of Britain.

They tested 63,007 anonymous tonsil samples from people of all ages who had had their tonsils removed between 2004 and 2008 in hospitals throughout England and Wales.

Of these, 12,753 were from people born between 1961 and 1985 (the group in which most vCJD cases have arisen) and 19,908 were from

people born between 1986 and 1995 who would have also been exposed to meat or meat products contaminated with the agent that causes bovine spongiform encephalopathy (BSE) in cattle.

Samples were screened for the presence of the prion protein (PrPCJD) - known to accumulate to relatively high levels in the tonsils of people with vCJD. Two sensitive immunological tests were used and any sample that showed reactivity underwent more comprehensive and specific testing to confirm whether or not the protein was present.

None of the samples was positive for the presence of the protein, suggesting that the prevalence of vCJD carriers in Britain may be lower than that given by previous estimates, with an upper limit of 289 per million in people born between 1961 and 1985, say the authors. This result is, however, still consistent with the earlier study of appendix tissue that showed a prevalence of 292 per million, they add.

They call for more data through continuing to archive and test tonsils, and other anonymous tissue samples, from people born before 1996. This will help guide a proportionate public health response to limit the threat of healthcare associated transmission of vCJD, they conclude.

An accompanying editorial argues that the chance that no one in the UK is incubating the disease is unlikely, but that the limited number of cases and diagnostic problems make accurate measurement difficult.

Maurizio Pocchiari, a neurology expert based in Rome, suggests that repeating surveys of prion protein in tissue specimens may not yield further information unless a more sensitive and specific test is developed. Therefore, the precautionary measures already in place must be maintained to avoid transmission of vCJD between humans and surveillance of disease in the UK and in the rest of Europe should remain alive.

He also says that public health authorities in other countries should not carry out such studies, as an enormous number of samples would be needed to yield useful information because exposure to the BSE agent in the rest of the world is probably much lower than in the UK.

Source: British Medical Journal (news : web)

Citation: Prevalence of variant CJD agent in Britain remains uncertain (2009, May 21) retrieved 6 May 2024 from
https://medicalxpress.com/news/2009-05-prevalence-variant-cjd-agent-britain.html

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