CWD Latest update – 8th June 2017

Summary

BDS is aware that researchers in Alberta have experimentally infected macaques with chronic wasting disease via oral gavage with infected cervid brain or muscle tissue. However, other researchers at the Rocky Mountain Laboratory have failed to infect macaques orally. These apparently contrary results suggest that more research is required to better understand the infection risk that infected deer products pose to primates. The European Food Safety Authority recently published a scientific opinion that stated that while there was no absolute barrier to transmission of CWD to humans, epidemiological studies of humans have not linked Creutzfeldt-Jakob disease to exposure to CWD.

Full report

Chronic Wasting Disease: CFIA Research Summary Embargoed until May 23, 2017 - Research Findings

Chronic Wasting Disease (CWD) is a progressive, fatal disease of the nervous system of cervids including deer, elk, moose, and reindeer that is caused by abnormal proteins called prions. It is known as a transmissible spongiform encephalopathy (TSE). Other TSEs include scrapie in sheep, bovine spongiform encephalopathy (BSE) in cattle, and Creutzfeldt-Jakob disease (CJD) in humans.

A limited number of experimental studies have demonstrated that non-human primates, specifically squirrel monkeys, are susceptible to CWD prions. An ongoing research study has now shown that CWD can also be transmitted to macaques, which are genetically closer to humans. The study led by Dr. Stefanie Czub, a scientist at the Canadian Food Inspection Agency (CFIA), and funded by the Alberta Prion Research institute has demonstrated that by orally administering material under experimental conditions from cervids (deer and elk) naturally infected with CWD, the disease can be transmitted to macaques.

In this project, which began in 2009, 18 macaques were exposed to CWD in a variety of ways: by injecting into the brain, through contact with skin, oral administration, and intravenously (into the bloodstream through veins). So far, results are available from 5 animals. At this point, two animals that were exposed to CWD by direct introduction into the brain, one that was administered infected brain material by oral administration and two that were given infected muscle by oral administration have become infected with CWD. The study is ongoing and testing continues in the remaining animals.

The early results will be presented at PRION 2017, the annual international conference on prion diseases, in Edinburgh, Scotland, May 23 to 26, 2017.

Potential impacts of the new findings

Since 2003 Canada has a policy that recommends that animals and materials known to be infected with prions be removed from the food chain and from health products. Although no direct evidence of CWD prion transmission to humans has ever been recorded, the policy advocates a precautionary approach to managing CWD and potential human exposure to prions. These initial findings do not change Health Canada's Health Products and Food Branch (HPFB) position on food and health products. A precautionary approach is still recommended to manage the potential risks of exposure

to prions through food and health products. Measures are in place at federal, provincial and territorial levels to reduce human exposure to products potentially contaminated by CWD by preventing known infected animals from entering the marketplace. While Federal and P/T government's animal disease control policies continue to divert known CWD-infected animals away from entering the food and feed supply, research and development of sensitive detection methods including live-animal sampling techniques remain crucial for ensuring an accurate diagnosis. In addition, consistent federal, provincial and territorial communications of appropriate precautionary measures for hunters and indigenous communities are required.

Next Steps

The CFIA will continue to collaborate with national and international partners to develop and validate new diagnostic techniques. The CFIA will also continue to offer confirmatory testing services and reference laboratory expertise to provincial and territorial partners on demand. Currently, CFIA laboratories are leading or collaborating on several research projects to understand the potential for CWD to infect humans. These projects use non-human primates, genetically modified mice, and cell-free amplification approaches. Given the present findings, CFiA encourages continued research into TSEs. The results of this study reinforce the need to redesign the federal program to foster greater adoption of risk mitigation measures for farmed cervids. Federal and provincial government collaboration will continue as new program options are assessed.

The results of Dr. Czub's research into CWD will be of interest to scientists, governments, industry and people who consume cervid products. After the presentation at PRION 2017, the research will follow the normal steps of completion, peer review and publication. The Government of Canada will monitor the response to this research and determine whether further review of the science is required. Other studies underway by other researchers may also become public as a result of the presentation of Dr. Czub's research. The Public Health Agency of Canada, Health Canada, CFIA and other Federal partners are working together to assess what policies or programs need further review as well as preparing other communications about the research and health policy and advice to Canadian.

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Canada http://prion2017.org/programme/ WEDNESDAY, MAY 03, 2017 *** First evidence of intracranial and peroral transmission of Chronic Wasting Disease (CWD) into Cynomolgus macaques http://chronic-wasting-disease.blogspot.com/2017/05/first-evidence-of-intracranial-and.html Wednesday, May 24, 2017 PRION2017 CONFERENCE VIDEO UPDATE 23 – 26 May 2017 Edinburgh UPDATE
1 http://prionprp.blogspot.com/2017/05/prion2017-conference-video-update-23-26.html TUESDAY, APRIL 04, 2017 Please Support Funding for CDC and NPDPSC's Prion Disease Programs http://creutzfeldt-jakob-disease.blogspot.com/2017/04/please-support-funding-for-cdc-and.html tss