



EUROPEAN COMMISSION
HEALTH & CONSUMER PROTECTION DIRECTORATE-GENERAL

Scientific Steering Committee

Opinion on

Chronic Wasting Disease
and tissues that might carry a risk
for human and animal feed chains

SCIENTIFIC STEERING COMMITTEE
MEETING OF 6 – 7 MARCH 2003

MANDATE

The TSE/BSE ad hoc Group was invited to prepare a scientific report to serve as the basis for addressing the following questions about chronic wasting disease (CWD):

1. Do there exist scientific bases to exclude certain tissues from animals that carry a CWD risk from the human food and animal feed chain? If so, which tissues could pose a risk? Is there a basis for defining SRM?
2. Is there a reason for concern that imports from countries where CWD has been observed pose a risk to animal and/or consumer health in Europe? If yes, what measures are likely to be proposed?
3. Is CWD also occurring elsewhere, e.g. Europe?

OPINION

EXECUTIVE SUMMARY

Chronic wasting disease (CWD) is a transmissible spongiform encephalopathy (TSE) of certain species of native North American deer: mule deer (*Odocoileus hemionus*) and white-tailed deer (*Odocoileus virginianus*) and Rocky Mountain elk (*Cervus elaphus nelsoni*). A number of States/Provinces in the USA/Canada (North America, NA) have reported cases in free-ranging and farmed cervids. There are no reports of CWD in areas outside NA with the exception of a single animal imported into Korea from Canada.

The natural host range of CWD has so far remained confined to cervids. On-going experimental transmission studies have still not been able to show transmission of CWD from deer to cattle. Additionally, genetic studies show a relatively large phylogenetic difference in PrP sequence between Cervidae, Bovidae and Humans. Those differences suggest an appreciable species barrier for possible transmission of CWD to cattle and

humans. However, since the basis of the transmission barrier in relation to the TSE is complex and not solely a function of PrP sequence of donor and recipient it remains theoretically possible that the CWD-agent could infect humans. Infected animals have a widespread tissue distribution of disease-specific PrP and presumably also infectivity in those tissues from an early stage in the incubation period.

Epidemiological data have shown that CWD is readily spread by lateral transmission in cervid populations. In experimental studies, oral exposure to only very small doses of infective material resulted in disease in cervid animals.

Surveillance data do not as yet provide information on accurate figures of the prevalence of the disease in NA and the risk factors are not well understood. Some control measures for farmed deer are in place. However, movement of free-ranging deer provides a major difficulty for control strategies. The origin of the disease is unknown and the lack of any connection with other animal TSEs provides no clues as to the potential for CWD to be pathogenic for man.

Available information indicates that there is only negligible trade in live cervids originating in NA to EU but there are indications of imports of small annual tonnage of edible products from game. It is unclear what, if any, trade exists in antler, embryos or semen from cervids between NA and EU countries.

Research and surveillance programs on CWD in farmed or wild Cervidae in Europe did not exist until recently and thus the available data do not allow to draw conclusions about CWD in the Cervidae population in Europe.

CONCLUSIONS

With regard to the initial question of the mandate, a theoretical risk for prion transmission to humans consuming products of CWD affected-cervids of all ages in countries where CWD exists cannot be excluded. Similarly, transmission risk of prions to domestic animals cannot be excluded. There is therefore a scientific basis on which to exclude tissues from animals that carry a CWD risk, from human or animal feed chains.

However, the early and widespread involvement of tissues in CWD infected animals does not allow to define a SRM list, neither to define any lower age cut off as has been defined for cattle in relation to BSE. Neither is there sufficient knowledge to define

exclusions or amendment of any SRM rule on the basis of relative genetic resistance to infection as has been proposed for sheep and goats in the event that evidence would indicate the probable natural occurrence of BSE in these species ¹.

Although available information indicates imports of live Cervidae from NA to EU and trade in meat products from cervid species as being negligible, it is important to reach certainty that no transfer of risk takes place through trade of live cervids and its derived products.

At present, there are no scientific data that CWD is occurring in Cervidae elsewhere than in those countries from which it has been previously reported. However, systematic TSE surveillance of cervid populations has either been absent or has only just started in European countries. Until results of such surveillance become available no conclusion can be drawn with regard to the occurrence of CWD or similar TSE in the cervid population of Europe.

RECOMMENDATIONS

Given that the possible risks of exposure relate to the tissues of cervids from NA, reinforced protection of the cervid population and animal and public health in Europe could be considered.

Moreover, systematic surveillance is essential to establish the probability of occurrence and incidence of CWD in the Cervidae populations of Europe. Because of the complexity of conducting such surveillance on a statistical basis throughout the EU, initial research should address the susceptibility of European cervid species to TSE's. Furthermore, a surveillance programme, which might initially target the examination of cervids dying in or culled from zoological collections and fallen stock in farmed cervid populations, prior to decisions on the screening of free-ranging cervids, is recommended.

¹ Opinion on the safety of small ruminant products should BSE in small ruminants become probable/confirmed (adopted on 18-19 October 2001).