

The surveillance and control programme for Chronic Wasting Disease (CWD) in wild and captive cervids in Norway 2011

Turid Vikøren

Ståle Sviland

Petter Hopp

Sylvie Lafond Benestad



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Project managers at the Norwegian Veterinary Institute:
Ståle Sviland and Hege Hellberg

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Norwegian Veterinary Institute
PO Box 750 Sentrum
N-0106 Oslo
Norway

Fax: + 47 23 21 60 01

Tel: + 47 23 21 60 00

E-mail: postmottak@vetinst.no

www.vetinst.no

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Authors:

Turid Vikøren, Ståle Sviland, Petter Hopp, Sylvie Lafond Benestad

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Chronic wasting disease (CWD) was not detected in any of the animals tested in 2011.

Introduction

CWD is a transmissible spongiform encephalopathy (TSE) of cervids (1, 2, 3). A few species of the family *Cervidae* are known to be naturally susceptible to the disease: mule deer (*Odocoileus hemionus*), white-tailed deer (*O. virginianus*), Rocky Mountain elk (*Cervus elaphus nelsoni*), and moose (*Alces alces shirasi*). Chronic wasting disease occurs in free-ranging and captive cervids in North America, and has also been diagnosed in captive deer in South Korea in connection with deer imported from Canada. The disease is yet to be diagnosed in cervids in Europe.

Four cervid species are prevalent in natural populations in Norway: moose (*Alces alces*), red deer (*Cervus elaphus*), roe deer (*Capreolus capreolus*), and reindeer (*Rangifer tarandus*). Red deer predominate along the west coast, whereas moose and roe deer mainly inhabit other areas of the country. The wild reindeer live in dispersed populations in separate high mountain areas in southern Norway. The number officially hunted in 2010 was: 36,400 moose, 39,100 red deer, 28,900 roe deer, and 5,450 wild reindeer. Additionally, Norway has a semi-domestic reindeer population, mainly kept in the northern parts of the country, presently counting about 250,000 animals. There are approximately 85 deer farms in Norway, and 85% of them keep red deer, whereas the rest keep fallow deer (*Dama dama*).

Norway has large free-ranging populations of various cervids, a number of them grazing in regions where scrapie is detected, and a passive surveillance programme for CWD in Norwegian wild and captive cervids has been running from 2003. In addition, samples from slaughtered semi-domestic reindeer from several regions in the country have been tested for CWD. Norway performed an EC survey for CWD in cervids in 2006 and 2007 according to Commission decision 2007/182/EC. All samples were negative for CWD.

Aim

The aim of the programme is to detect the possible occurrence of CWD in the Norwegian cervid population.

Material and methods

Material

Captive deer and wild cervids older than 18 months necropsied at the Norwegian Veterinary Institute were examined for CWD. Additionally, some wild cervids older than 18 months that died or were euthanized due to disease or injuries were sampled in the field. The number and species analysed for CWD in 2011 are given in Table 1.

Methods

A rapid test (either TeSeE[®] Bio-Rad or TeSeE Sheep & Goat[®] ELISA, Bio-Rad) was used to screen brain samples for detection of the PrP^{CWD}. All the samples were analysed at the Norwegian Veterinary Institute, which is the Norwegian Reference Laboratory for animal TSEs.

Results

None of the 38 samples analysed tested positive for CWD in the rapid test (Table 1).

Totally 21 of the tested animals were exclusively examined for CWD whereas the remaining 17 animals represent cases received at the Norwegian Veterinary Institute for routine necropsy (Table 1). Eleven of the tested animals were captive red deer and one was a captive rein deer in a wildlife park.

Table 1. The number of cervids tested in the Norwegian surveillance and control programme for Chronic wasting disease (CWD) 2011, distributed by reason for submission.

Species	Routine necropsy		TSE surveillance programme				Total
	Captive	Wild	Wild			Captive	
			Hunted	Traffic killed	Found dead or culled	Found dead or culled	
Moose	-	10	-	1	-	-	11
Fallow deer	-	-	-	-	-	-	-
Red deer	2	2	-	-	-	9	13
Reindeer	1	1	-	-	-	-	2
Roe deer	-	1	2	8	1	-	12
Total	3	14	2	9	1	9	38

Discussion

No animals were positive for CWD in 2011. Mainly wild cervids were tested.

Among the Norwegian cervid species, a higher risk for CWD can be assumed for red deer and moose since these species are among those known to be naturally susceptible to the disease (1- 4). Roe deer and reindeer have so far not been found naturally infected with CWD.

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The Norwegian Veterinary Institute has its main laboratory in Oslo, with regional laboratories in Sandnes, Bergen, Trondheim, Harstad og Tromsø, with about 360 employees in total.

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The NFSA advises and reports to the Ministry of Agriculture and Food, the Ministry of Fisheries and Coastal Affairs and the Ministry of Health and Care Services.

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