

Toxic food sources are one likely explanation for recurrent cases of hind limb polyneuropathy in horses throughout Norway, according to research published in the *Journal of Veterinary Internal Medicine* in February.

Seventy-five horses located on 27 different premises throughout the country were evaluated between 1995 and 2004 for hind leg weakness, knuckling, and paralysis related to polyneuropathy.

In polyneuropathy, multiple peripheral nerves--those which branch out from the brain and spinal cord--are simultaneously affected, causing pain and/or loss of sensation.

Researchers reviewing the individual cases determined that the Norwegian syndrome appeared to be related to the ingestion of fungi and mycotoxins present in bales of silage or, occasionally, hay. Most of the cases developed in late winter or early spring, when the horses were entirely dependent on forage. This forage might have been stored for long periods, according to Siv Hanche-Olsen, DVM, lecturer in equine internal medicine at the Norwegian School of Veterinary Science and co-author of the study.

"Initially we suspected that the main problem was 'extensive management,' with a big bale of 400 kg (880 lbs) set out in the field and left there for the horses to finish," she said. "But this seems to be true only in a few cases."

The exact link between the syndrome and the forage remains unclear, she said.

"It is common for feed-related illnesses to be associated with the growth of various fungal species on the feed, either in the field before harvesting or after storage of the feed," said Alexander de Lahunta, DVM, PhD, Dipl. ACVIM (Neurology), Dipl. ACVP, professor emeritus at Cornell University's College of Veterinary Medicine, who commented on the study. Although the toxicity comes from a mycotoxin produced by the fungal agent, the fungus itself is harmless, he said.

Horses were graded on a scale of I to IV, ranging from intermittent knuckling of the fetlocks during exercise to total paraplegia in the hind legs. Some progressed to Grade IV within hours of onset, whereas others remained at intermittent grades for weeks. All the horses appeared bright and alert and had healthy appetites, and none of them had clinical signs evident in other parts of the body. Breed, age, and sex appeared to have no role in the onset or severity of the disease, according to Hanche-Olsen.

Forty of the horses were euthanized.

Surviving horses fully recovered to normal health after five to six months of rest and a change in diet, Hanche-Olsen said.