

Suspected post-vaccinal acute polyradiculoneuritis in a puppy

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ABSTRACT

A 4-month-old German shepherd puppy developed hindquarter weakness after vaccination with a multivalent vaccine. This is suggestive of post-vaccinal polyradiculoneuritis. To date, only 1 similar case has been reported, which may be due to the under-reporting of suspected adverse drug reactions.

Key words: adverse drug reaction, multivalent distemper-parainfluenza-parvovirus-adenovirus (type 2) modified-live vaccine, post-vaccinal polyradiculoneuritis.

Gehring R, Eggars B Suspected post-vaccinal acute polyradiculoneuritis in a puppy. *Journal of the South African Veterinary Association* (2001) 72(2): 96 (En.). Department of Pharmacology and Toxicology, Faculty of Veterinary Science, University of Pretoria, Private Bag X04, Onderstepoort, 0110 South Africa.

A healthy 4-month-old male German shepherd puppy was vaccinated for the second time with a combined distemper-parainfluenza-parvovirus-adenovirus (type 2) modified-live vaccine. A day later the puppy developed hindquarter weakness. Treatment was initiated with injectable calcium, amoxicillin and prednisolone (doses unknown) but the owner did not notice any improvement. Another veterinarian, consulted 6 days later, observed hindquarter weakness and a slight proprioceptive deficit in both pelvic limbs. Patellar and tibial reflexes were normal. A peripheral blood smear revealed mild monocytosis. However, no active monocytes or parasites were seen. Faecal flotation was negative. No other clinical abnormalities were detected.

The puppy was treated with doxycycline [mfr] (150 mg o.i.d for 10 days) for possible ehrlichiosis. Supportive therapy was also given, consisting of fluid therapy, a vitamin B1, B6 and B12 combination (Neurobion[®], Merck, 1 tablet daily), a combined corticosteroid and non-steroidal anti-inflammatory drug

(Dexa-Tomano[®], Bayer AH, 1 ml single dose).

The puppy started showing improvement approximately 7 days after vaccination and recovered completely within 3 weeks.

Acute polyradiculoneuritis is an inflammatory demyelinating and suspected immune-mediated polyneuropathy that is most pronounced in the spinal roots, limb plexuses and proximal nerve trunks¹. Clinical signs consist of rapidly progressive, and usually symmetrical weakness, combined with hyporeflexia. Typically, the weakness begins in the pelvic limbs and progresses cranially. As an immune-mediated neuritis, maximal effects are expected to occur 10 to 12 days following exposure to an antigen. This condition often carries a good prognosis.

Acute polyradiculoneuritis is known to occur in humans following upper respiratory tract infection, gastrointestinal illness and vaccination against rabies and influenza. It has been described as occurring in dogs 7–14 days after a raccoon bite or raccoon scratch, or after vaccination with modified live rabies vaccine¹.

To the authors' knowledge, only 1 case of post-vaccinal polyradiculoneuritis after vaccination with a combined distemper-parainfluenza-parvovirus-adenovirus

(type 2) modified-live vaccine has been reported¹. In that report, clinical signs of weakness in the pelvic limbs of a 4-month-old Bouvier puppy that appeared 2–3 days after vaccination and progressed to paralysis of the pelvic limbs and paresis of the thoracic limbs within 11 days are described. The diagnosis was confirmed using electromyography and motor nerve conduction velocity. The puppy recovered uneventfully within 28 days.

A literature search revealed an article in which Chetboul² also reported a case of post-vaccinal polyradiculoneuritis in 1989. Unfortunately this article could not be obtained and the type of vaccine used is therefore unknown.

The present case was reported to the Department of Pharmacology and Toxicology, Faculty of Veterinary Science, University of Pretoria, as a suspected adverse drug reaction. The clinical signs were suggestive of post-vaccinal polyradiculoneuritis and there was a temporal association between the administration of the product and the onset of the event. However, the diagnosis could not be confirmed and the relationship between the adverse event and the multivalent vaccine was recorded as possible.

Although apparently only 1 case of polyradiculoneuritis after vaccination with a multivalent vaccine has been reported, it is possible that more cases do occur but are not published or reported to adverse drug reaction monitoring centres. This case may therefore represent a condition that does occasionally occur but is rarely recognised or reported by veterinarians.

REFERENCES

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Received: September 2000. Accepted: March 2001.