

Rabies In A Two -And -A-Half Month's Old Puppy In Uyo- A Case Report.

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Abstract

In one of our ambulatory visits, a puppy of about two-and-half –Months of age was presented with excessive salivation, irritability and an uncontrollable crying and biting. The aggressive behavior resulted in her bruising herself in the process. Her motor functions were impaired within an hour of observation but her biting and teeth grinding continued. The puppy died two hours later biting unto a shrub.

A direct visual observation of the antigen-antibody reactions was used to diagnose rabies as was suspected. It was discovered that, the dam was a stray dog, so she was not vaccinated so her had no immunity to confer on her puppy at birth. The puppy was also infected on exposure. It is advised to always vaccinate dogs so they will confer on their puppies maternal immunity up to three months of age.

Keywords: Rabies; Puppy; Vaccination; Maternal Immunity

1. Introduction

Rabies is a virus disease that can be transmitted to all animals. It is believed that the virus may be transmitted through the inoculation of saliva or an infected nervous tissue into an opening into the skin or the mucous membranes. Since the virus has an affinity to the nervous tissues, many factors may come into play between the time of exposure and the manifestation of the first clinical signs of the rabies virus infection. Such factors may include the virulence of the virus, the size of the animal victim, the site of inoculation or bite and the proximity of the infective bite to the head and the immune status of the victim.

Rabies is a serious zoonotic disease of public health importance, and all warm blooded animals are susceptible. The virus can remain viable in the carcass for several days at 20°C and longer at colder temperatures [1] and [2]. Hence the necessity of proper disposal of carcass suspected with rabies.

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Rabies has no cure, in humans there has been very few cases of success in the treatment of rabies. Ever since Dr. Rodney Willoughby developed the “Milwaukee protocol” [3] in 2004, 35 attempts have been made to save people’s lives from rabies disease. Only about 5 of the patient have benefited from the said protocol. Rabies can only be prevented through vaccinations. It is believed that maternal immunity protects dogs up to and about 3 months of age thereafter they have to be given vaccination that will protect them against the disease.

An unvaccinated bitch with anti rabies vaccination will not confer on her puppies any immunity against rabies virus infection. They are therefore susceptible to the disease no matter the age of exposure.

2. Materials and method

During our regular ambulatory visits in Uyo, Akwa Ibom State, puppy of about two and half months of age was presented with pica, salivation and inappetence. On closer clinical examination it was discovered that the puppy was aggressive and could not respond to her name, but was biting anything that was on her way and had bruised herself in this process, and after 2 hours she eventually died while biting on to a shrub while we watched. The dog’s head was severed off and sent to the laboratory for confirmation since rabies was suspected.

3. Results and discussion

The staining technique based on direct visual observation of the antigen-antibody reaction was used to confirm rabies disease in the puppy. Dogs (puppies) of three months and above may have lost their maternal immunity, thus susceptible to rabies especially those dogs without maternal immunity.

Rabies disease in the case of this puppy, it was reported that the mother (bitch) was not vaccinated against rabies and the sire was a stray dog as she was just found pregnant as a free roaming bitch. It is therefore clear that there was no maternal immunity anywhere in the puppy thus it was very easy to establish rabies in the puppy as early as two and half months of age when exposed. This result confirmed by [4] that dogs with no history of vaccinations has no rabies neutralizing antibody in their system. The puppy too like the bitch is a free roaming dog, thus may have had a bite from a rabid dog roaming the street perhaps at night.

In a similar report from the Canada [5], the authors described the puppies as a uniquely susceptible group because of their age and the fact that they have not yet receive vaccination against rabies. Vaccines available in Nigeria include the type made from the NVRI (VOM), Plateau State, Canvac[®] from (Dyntec spol.sr.o., Pržská 328, 411 55 Terezin, Czech Republic); Pfizer Animal Health, USA, Novabiovac, Biocan[®] R also from Czech Republic and many others. Live attenuated vaccines sometimes revert their virulence because of breakage in the cold storage chain during transportation and poor handling by the vaccine merchants. There have been reports of vaccine reactions in dogs vaccinated with these imported vaccines. It is a common practice here in Nigeria to vaccinate puppies against rabies from 3 months of age and thereafter, once yearly for those with proper maternal immunity.

In a report evaluating vaccination against rabies in dogs between 3-6months of age in Uyo (the city where this case was reported), it was discovered that between 2007-2011, a total number of 260dogs were vaccinated against rabies [6]. The result above represented 67% of the total number of dogs registered in the clinic within this period as against the 70% vaccination rate recommended by [7].

In the city of Uyo, most dog owners do not see the vaccination of their dogs against rabies as a priority except when being lead to the understanding of the dangers of not doing so by the Veterinarians. As the city is growing with the influx of people into the area, the number of dogs is also increasing. There is therefore a need to educate the general public on the dangers of rabies and the necessity of dog vaccination as at when due. Since there is no rabies surveillance system in the area, there is a greater chance that cases of rabies in dogs occurs without notice. Those keeping the local breeds (Mongrels) do not even bother to de-worm them as to even consider vaccinations. Most times, these groups of dogs roam the streets and return home at will. This alone is believed to have been exposing the dogs to wild rabies host and bites from rabid dogs.

4. Conclusion

It is advised that any dog that has no history of pre-immunity from its dam should be vaccinated against rabies disease in the case of any exposure. All dogs must be prevented from rabies disease by vaccination of the pregnant bitch from two weeks before parturition, and the puppies from such a dam could be protected for up to three months of age after birth especially in Nigeria where the disease is endemic [3]. Therefore all puppies from stray bitches should be vaccinated against rabies at about two months of age since rabies could be seen in about three months old puppy. It is therefore advisable to vaccinate all dogs against the disease as control and stray dogs should be euthanized.

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References

- [1] A. I. Wandeler, Rabies Virus. In; Appel. M, J. editor. Virus Infections of Canivores. Amsterdam: Elsevier; 1987. Pp; 449-456.
- [2] M. Fekadu, Cannine Rabies. In: Baer, G. M. editor. The Natural History of eabies (2) Boca Ratin: CRC Press; 1991. Pp: 368-375.
- [3] Rodney Willoughby. Milwaukee Protocol., 2004. [<http://newscientist.com/>].
- [4] A. A. Dzikwi, J. U. Umoh, J. K. P. kwaga, A. A. Ahmad (2011). Rabies Vaccination and Immune status of Owned dogs in Zaria, Nigeria.
- [5] W. J. Taylor, S. M. Wolfram, K. L. and O'Conner, B. P. Rabies in a 10-week-old puppy. Canadian Veterinary Journal 48(9) 2007. [<http://ncbi.nlm.nih.gov>].
- [6] E. E. A. Offiong, Essien, C. A., Eyo, G. D. and M. Emmanuel. Evaluation of Antirabies Vaccination Programme for dogs at Eddie Veterinary Clinic, Uyo, Akwa Ibom State. Nigeria. Bulletin of Animal Health and Production in Africa. Vol. 60 (4) 2013. Pp: 559.
- [7] WHO 1987. Guidelines for Dog Rabies Control VHP/83.43. Rev. 1. Pp: 53.
- [8] C. M. Frase and A. Mays (1986). The Merck Veterinary Manual- a handbook of diagnosis, therapy and disease prevention and Control for the Veterinarian. Sixth Edition. Merck & Co., Inc. Rathway, N. Y. USA.
- [9] WHO (2005). WHO Expert Consultation of Rabies. WHO Technical Report Series 931. 561.