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# Enamel Hypoplasia In Canine Distemper Recovered Pup : A Case Report

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Canine Distemper (CD) is a severe life threatening disease with a worldwide distribution caused by a Morbillivirus of the family Paramyxoviridae similar to the human Measles virus, transmitted between susceptible hosts and the dog still remains the most important reservoir for the infection (Leisewitz *et al.,* 2001). The disease affects mainly domestic dogs but has become a serious problem in a wide range of hosts, threatening captive and free-ranging wildlife populations including several marine mammals such as seals, dolphins and whales (Visser *et al.,* 1993). Dogs show signs of severe tooth enamel damage or enamel hypoplasia during the course of the disease particularly in young puppies whose teeth have not fully developed.

## Case History and Observations

A seven month old, male, non descript pup was brought to Veterinary University Peripheral Hospital, Madhavaram Milk Colony, Chennai with the primary complaint of non-eruption of permanent teeth following the fall of milk teeth. Examination of oral cavity revealed absence of teeth (incisors, canine, molar and premolars) in both the jaws and the entire dental pad appeared smooth. The dog appeared lean with the tongue protruded (about 2 inches) out of oral cavity on the right side. History revealed that about two months earlier the dog had a recovery from an exposure to Canine Distemper virus. Radiograph of the skull revealed absence of incisors and canine tooth while the premoloars and molars in both the jaws appeared less in number and irregular (Fig.1). Haematological and serum biochemical values were within normal range and are as follows: haemoglobin 10.8 g/dl, packed cell volume 31.5 %, red blood cell 5.15 $X10^6$/cmm, white blood cells 13,600 /cmm, differential count – N 75%, L 18%, M 6 %, E 1 % B nil, blood urea nitrogen 8.64 mg/dl, creatinine 0.96 mg/dl, alanine aminotransferase 36 IU/dl, total protein 5.6 g/dl, Albumin 2.7 g/dl, calcium 12.39 mg/dl, phosphorus 7.09 mg/dl, blood parasites – Negative and no abnormalities were detected in the blood picture.

**Fig. 1 :** Radiograph showing irregular and less number of premolars and molars in both the jaws (incisors and canine tooth – absent)

**Treatment and Discussion**

In the present case radiograph of the skull revealed absence of incisors and canine tooth while the premolars and molars in both the jaws appeared less in number and irregular. Hence not much could be done about the dentition the owner was advised to feed on liquid or semi-liquid diet until the eruption of the premolars and molars tooth. Canine Distemper Virus (CDV) infection during early developmental stages, before the eruption of permanent dentition, can infect tooth buds and ameloblasts causing clear enamel hypoplasia (Bittegeko *et al.,* 1995 and Hale, 2005).

Dogs naturally infected with distemper virus while the adult teeth are developing often have defects in the enamel when the adult teeth emerge ranging from focal depressions in the enamel to segmental lack of enamel formation, while dental structures developing in the convalescent period after infection develop and function normally (Greene and Appel, 1990).

Diffuse enamel hypoplasia is usually the result of systemic disease with pyrexia or direct infection of the actively enamel producing ameloblasts by microorganisms. Canine Distemper Virus (CDV) infection, due to the epitheliotropic nature of the virus, produces diffuse enamel hypoplasia with direct infection and destruction of the ameloblasts in addition to the effects of fever (Mannerfelt and Lindgren,2009).

**References:**


Bittegeko, S.B., Arnbjerg, J., Nkya, R., Tevik, A. (1995). Multiple dental developmental abnormalities following canine distemper infection. *J. Am. Anim. Hosp. Assoc.*, **31** : 42–45.

Greene, C.E. and Appel, M.(1990). Canine Distemper In: *Infectious diseases of the dog and cat.*, Greene, C.E. (ed.), W.B. Saunders, Philadelphia, pp. 226 – 241.

Hale, F.A. (2005). Juvenile veterinary dentistry.*Vet. Clin.Nr. Am. Sm. Anim. Pract.*, **35 :** 789 – 817.

Leisewitz, A.L., Carter, A. Van Vuuren, M and Van Blerk, L. (2001). Canine distemper infections, with special reference to South Africa, with a review of the literature. *S. Af. Vet. Assoc.,***72** : 127 – 136.

Mannerfelt, T. and Lindgren, P. (2009). Enamel defects in standard Poodle dogs in Sweden. *J. Vet. Dent.,***26** : 213 – 215.

Visser, I.K., Van Bressem, M.F., Barrett, T. and Osterhaus, A.D. (1993). Morbillivirus infections in aquatic mammals. *Vet. Res.,***24 :** 169 – 178.


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