MANAGEMENT OF FADING PUPPY SYNDROME

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Eight cases of “Fading Puppy Syndrome” were diagnosed on basis of history of sudden death of healthy littermates, low body temperature, continuous crying and failure to suckle. Pups were found to have very low rectal temperature and hypoglycaemia. Pups were treated with 5% DNS, antibiotic, oxygen therapy, hot water enema and infrared therapy. Seven out of eight pups recovered successfully within 5 days.

When there is no known cause, pups that are normal and healthy generally fade from the second day after birth onward, with most pups dying between days 3 and 5 referred to as fading puppy syndrome (Gary, 2010). This is a common problem encountered by many dog breeders in which high neonatal mortality occurs despite of all possible treatments and nursing care (Amita, 2010). The etiology of fading puppy syndrome include a whole range of causes, like poor mothering, inadequate nutrition, inadequate colostrum, trauma and congenital anomalies, low birth weight and infections (Sturgess, 2006). Pups usually shows symptoms of laying away from the group, crying constantly, failing to nurse, low body temperature, diarrhoea and breathing difficulties (Indrebo et al., 2007). Because of the immature status of the new-born puppy, a sick neonate may rapidly become hypothermic, hypoglycaemic, dehydrated and hypoxic and then die so immediate detection and treatment are key to survival (Gunn-Moore, 2006).

Case history and Observation
A total of 8 pups (5 Labrador and 3 German Shepherds) aged between 2 days to 15 days and weighted between 600 grams to 1 Kg. were presented in Medicine Clinic of TVCC, CVAS, Bikaner. All the pups have history of normal birth from well-managed, properly dewormed and vaccinated primigravid bitches. The pups have history of sudden death of other healthy littermates. Coldness, failure to suck, decreased activity, continuous crying, restlessness and diarrhoea were observed in three pups. On detailed examination pups were found to have severe hypothermia (rectal temperature was too low to register on the thermometer), weak heart sound, shallow respiration, listlessness, unresponsiveness, continuous crying, hypoglycaemia (blood sugar <40mg/dl) and cold extremities. On basis of history and clinical symptoms cases were tentatively diagnosed as “Fading Puppy Syndrome”.

Treatment
All the pups were treated symptomatically with 5% DNS @20 ml/kg b.wt s/c, antibiotic cefetiofur @ 2.5 mg/kg b.wt s/c, oxygen therapy, hot water enema and infrared therapy to raise body temperature, twice a day on first and second day. On third day all the pups were stable and were kept on oral antibiotic cefotaxime @ 5 mg/kg b.wt OD, Dignyondrops @5 drops/ kg b.wt BID and Zerol drops @ 5 drops / kg b.wt OD. Owners of pups were advised to maintain pups environment warm and to feed them every two hourly.

Results and Discussion
The pups were moribund and very cold to touch when presented at the clinic. They improved over four hours with gradual warming became active, mobile and hungry except one pup that rapidly deteriorate, crying in pain and died after passing watery stools on fourth day.

Signs of illness included generalized weakness,dehydration, hypothermia and weak sucking responses from day one or two and restlessness, progressive weight loss, plaintive and persistent crying, lateral recumbency with limb paddling, inability to
stay on the teat and occasionally rigours with progression to signs of generalised weakness and death as also reported by Gill (2001) and Valeria (2007).

As diverse etiology, exact diagnosis of most of the root cause is a difficult task and multiple etiologies in a given case may also be possible as also mentioned by Valeria (2007). Hypothermia is a primary environmental or contributing cause of many neonatal deaths. In their first week of life puppies are essentially poikilothermic. The ability to shiver develops after day 6 and by the age of two weeks, pup starts generating heat from increased metabolism as also recorded by Amita (2010). Hypothermia quickly resulted in a deterioration of cardiovascular, respiratory, and gastrointestinal function, which can rapidly cause death as also reported by Johnston et al. (2001). In addition, hypothermic neonates do not nurse, are unable to digest food, and develop ileus. Since a pup has very limited energy reserves, it becomes hypoglycaemic (blood glucose level <30-40 mg/dl) soon after food deprivation. Low birth weight is also an important risk factor for neonatal mortality as also mentioned by Lawler (1995). Poor mothering in primigravid dams is another common cause of fading puppy syndrome as also recorded by Moon et al. (2001). Within first 24 hours of birth colostrum intake is essential and colostrum deprived pups are more prone for various infections results in their low survival rate as also reported by Amita (2010). Environmental toxins can cause fading puppy syndrome as neonatal skin is thin, and chemicals can be more readily absorbed transcutaneously than in an adult as also mentioned by Chiu and Blume-Peytavi (2004). Genetic causes of fading pup include congenital defects like abnormalities of mouth, anus, skull and heart as also recorded by Davidson (2003). Highly inbred pups have poor growth rate and chances of survival. Infectious causes include specific agents like canine herpes virus, canine parvovirus, canine distemper virus, some protozoal diseases and opportunistic organisms that colonize a compromised neonate as also reported by Amita (2010).

Supplementary feeding with every 2 hours interval, raising the body temperature, adequate hydration and other reactive methods may be employed to correct the symptoms that the pup is showing. Antimicrobial preparations may be considered in neonatal illness as sick neonate is highly susceptible to colonization from commensal organisms as also mentioned by Gary (2010). If the puppies are too weak to suckle, an injection of 5% glucose s/c to prevent hypoglycaemia @ 1 ml per 30 gms. body weight every 12 hourly should be given as also recorded by Davidson (2003) and Indrebo et al. (2007). Oxygen therapy helps overcome hypoxia and is useful to reverse acidosis as also reported by Gary (2010).

Preventive measures included good prepartum nutrition and proper deworming and vaccination of dam, maintaining room temperature around 30°C for first week of life and around 25°C to 27°C for older puppies as also mentioned by Davidson (2003) and proper nursing care. Affected pup should be separated from rest of puppies to avoid chances of spreading infection as also recorded by Amita (2010).

References


to The University of Sydney for the
degree of Doctor of Philosophy.
Neonatology: They look normal when
they are born and then they die.
Proceedings of the 31st WSAVA Congress,
Canine Neonatal Mortality in Four Large
Breeds. ActaVeterinariaScandinavica;
49(Suppl I): S2.
Johnston, S.D., Root, K.M.V. and Olson
P.N.S. (2001). The Neonate—From Birth
to Weaning. In: Canine and feline
Moon, P.F., Massat, B.J. and Pascoe, P.J.
Clinics of North America: Small Animal
Practice. 31: 343-365.
83-94.
Clinical Veterinary Advisor: Dogs and
Cats. (cd. Michelle A. Kutzler) Mosby