



Management of Stargazing in a Goose

MOHANAMBAL KALIYANNAN, ENBAVELAN ANGAPPAN, RAMKUMAR PREMKUMAR, RAMPRABHU R

Department of Veterinary Medicine, Veterinary College and Research Institute, Tamilnadu Veterinary and Animal Sciences University, Tirunelveli.

Abstract | An eight month old goose weighing 4.6 kilo grams was presented with the history of frequent falling down, rolling in the ground and star gazing since two weeks to Medicine section of Teaching Veterinary Clinical Complex, Tirunelveli. Based on the clinical symptoms and history from the owner the condition was diagnosed as polioencephalomalacia due to thiamine deficiency. The goose was treated with injection thiamine (Tribivet) at 32 mg / kg body weight intramuscularly for five days and advised to continue the oral medication of thiamine (syrup. Multistar pet) next for 10 days. On 16th day the bird was recovered uneventfully.

Keywords | Star gazing, Thiamine, Tribivet, Multistar pet, Recovery

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***Correspondence** | K. Mohanambal, Assistant Professor, Department of Veterinary Medicine, Veterinary College and Research Institute, Tamilnadu Veterinary and Animal Sciences University, Tirunelveli; **Email:** mohanambalmvsc@gmail.com

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Thiamine deficiency reduces energy availability to the brain, which leads to a type of brain degeneration called Polioencephalomalacia. In birds, vitamin B1 (thiamine) deficiency is clinically and morphologically manifested with paralysis of limbs and muscle atrophy, beginning from the flexors of toes and ascending towards the extensors of legs, wings and the neck. The birds acquire a specific posture with flexed legs and the head drawn back (stargazing). Thiamine supplementation was the only source of recovery from acute deficiency. Hence, the B complex vitamin are not produced in birds body which was essential for proper functioning of nerve tissue so, it should be supplied through feed and drinking water as an additive (Ivan, 2007).

An eight month old goose weighing 4.6 kg was presented to the Medicine Unit of Teaching Veterinary Clinical Complex, Veterinary College and Research Institute, Tirunelveli, with the history of reduced feed, lethargy and water intake since couple of weeks, head shaking, started twisting its neck, looking up at the sky, difficulty in swimming and intermittently rolling back. Owner fed the birds

with polished rice, forages and improperly processed fish for past eight months. All the physical parameters were normal except posture and gait. No pain evinced on palpation of cervical region. This condition was tentatively diagnosed as neurological disorder called star gazing which was a pathognomonic posture in thiamine deficiency.

Polyneuritis seen in above 3 weeks old birds fed with thiamine deficient diet (Cynthia, 2010). Polished rice contains low level of thiamine and raw fish contains thiaminase enzyme, poorly processed fish meals contain thiaminase enzyme (Cynthia, 2010) it hinders with the thiamine absorption, which leads to polyneuritis. Thiamine is an essential nutrient for birds and other vertebrates. Thiamine deficient birds sit on flexed legs and draw back their heads in a stargazing position and have severe anorexia (Cynthia, 2010) this symptom is correlated with our finding. In the living cell, its phosphorylated form acts as a cofactor for several life sustaining enzymes, which are non-functional if the cofactor is missing. Thiamine is also necessary for the proper functioning of the nerves. Thiamine deficiency was demonstrated in the egg, liver, and brain as reduced thia-

mine concentrations, and in the liver and brain as reduced activities of the thiamine-dependent enzymes. Moreover, paralysed individuals were successfully remedied by thiamine treatment (Balk et al., 2009).

Due to polyneuritis birds will sit on flexed legs and draw back their heads in a star-gazing position. So the condition was diagnosed as thiamine deficiency. The goose was treated with intra muscular injection of Thiamine (Tribivet) @ 32 mg/kg body weight (Olkowski and Classen, 1996) for 5 days and advise to continue the oral medication of thiamine @ 10 mg / kg (Syrup. Multistar pet) for 10 days and on 16th day goose was able to bend its neck and was able to feed and swim properly. Owner was advised to feed the goose with grain diet mixed with vitamins and minerals and properly processed fish meal. Hence, thiamine is a water-soluble and heat-labile vitamin and found in grain, roast pork, ham, nuts, catfish, and pasta. It acts as a co-enzyme in the carbohydrate metabolism and possibly in nerve conduction (essential for the synthesis of acetylcholine) (Wenker, 2004).

Thiamine deficiency is prevented by supplementing 4 mg / kg in diet (Cynthia, 2010). So, owner was advised to provide thiamine supplement.

SUMMARY

Usually this polyneuritis is common in mature birds greater than 3 weeks of age due to thiamine deficient diet, being eight months old the goose it was more susceptible for

thiamine deficiency. As the deficiency progress birds may sit on flexed legs and draw back their heads. Thiamine supplementation for goose was found to be effective.

CONFLICT OF INTEREST

No conflict of Interest.

AUTHOR'S CONTRIBUTION

This particular research is properly done by the author in the Medicine section of Teaching Veterinary Clinical Complex. This is the final approved and revised version.

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