

Case Report: Second Order Horner's Syndrome in a Dog

H.M.S. Somarathne, E.R.K.V. Edirimanne, A. Dangolla and D.D.N. de Silva

Department of Veterinary Clinical Sciences, Faculty of Veterinary Medicine and Animal Science, University of Peradeniya

Horner's syndrome (HS) is a group of clinical signs that results from loss or interruption of sympathetic innervation to the head with loss of cutaneous vascular tone. The neural lesions may occur at any point along the sympathetic pathway giving rise to clinical manifestations. The localisation of lesions in relation to the sympathetic pathway can be made with topical application of 1% phenylephrine or a similar sympathomimetic.

A 3-year-old female Labrador, weighing 30 kg was presented to the Veterinary Teaching Hospital with complaints of sudden paralysis of tongue and salivation. Upon clinical examination miosis of the left eye, hyperemic oral and conjunctival mucosae, congestion of the left pinna and elevated body temperature were detected. Miosis of the left eye, vascular congestion of the left pinna suggested HS. Pharmacological testing for HS was carried out with the topical application of 1% phenylephrine to both eyes and determining the time taken for pupillary dilation to occur. Complete dilation of the affected pupil occurred within 25 minutes. Treatment was initiated to counteract local toxicity, physical injury and infection caused by possible trauma to the sympathetic trunk using I/V hydrocortisone 100 mg, I/V chlorpheniramine maleate 10 mg, furosemide (2 mg/kg), slow I/V antivenin, I/V metronidazole (20 mg/kg) and I/V ampicillin (20 mg/kg).

HS is classified as first, second or third order, depending on the location of lesion along the sympathetic pathway. Possible causes for first order HS are cervical spine lesions or rostral thoracic spine lesions. Second order HS arise from brachial plexus root lesions or injury to soft tissues of the neck. Mid-ear lesions, skull fractures or retrobulbar contusions are possible causes for third order HS. Complete dilation of the affected pupil occurred within 25 minutes suggesting second order HS, where the lesion is located at the second order neuron of the vagosympathetic trunk.

It should be emphasised that the pharmacological testing for HS helps detection of the site of the lesion, but is not diagnostic. The result of the pharmacological test as well as neurological signs should be taken into consideration when arriving at a diagnosis. The prognosis of first and second order HS is entirely dependent on identification of the specific cause, the nature of the neurologic lesion and the therapeutic regime. In the present case, prognosis proved poor as the animal was unable to prehend and swallow any solids or liquids and the enteral (naso-gastric) feeding of liquids led to aspiration and asphyxia.