

Neuropathic Gastric Dilatation in Pet Birds

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(aka psittacine proventricular dilatation syndrome, macaw wasting syndrome, myenteric ganglioneuritis)

Neuropathic gastric dilatation (NGD), usually a fatal disease of psittacine birds, has been reported since 1971. Since the early cases were reported in macaws and the clinical signs were variable, the condition was termed “macaw wasting syndrome.” The disease appears to be chronic (long duration), although the onset of clinical signs may be sudden.

Anatomy: A bird’s stomach is divided into two parts – proventriculus and ventriculus (gizzard). The proventriculus is a smooth, fleshy tube that produces acids and enzymes, “gastric juices,” which help to breakdown food. The gizzard is the muscular part with a hard lining and is responsible for grinding up the food particles into smaller pieces. Grit is stored in the gizzard to aid in this process. The nerve cells which supply the stomach parts are effected in this disease.

Caused by: Unknown – a virus (paramyxovirus-like) has been suggested, but attempts to isolate an infectious agent have been unsuccessful. Bacteria, fungi and cryptosporidia (protozoan parasite) occasionally have been recognized in NGD cases.

Birds affected: Several macaw species (particularly blue and gold macaw), African grey parrots, Amazon parrots, Senegal parrots, Thick-billed parrots, conures, eclectus parrots, cockatoos and cockatiels. The disease has been described in birds of all ages.

Mortality: Usually 100% -- affected birds invariably die after a prolong course of the disease.

Signs: Clinical signs can vary with the type of bird and severity of the disease – depression, progressive weight loss, undigested seed particles in droppings, regurgitation, anorexia, increased drinking and urinating. Neurological signs can include leg weakness, motor imbalance and lameness.

Differential diagnosis: Other conditions which may show similar clinical signs to NGD that disturb intestinal food passage include: foreign bodies, nematode (worms) infection of the proventriculus/gizzard, or tumors of the crop, proventriculus, gizzard, and upper intestines.

Diagnosis: Radiographic studies (x-rays) can show a dilated and thin-walled proventriculus. Tissue samples of proventriculus and gizzard are taken during a biopsy or necropsy for microscopic examination. The muscular coat in these tissues are found to have an increased number of inflammatory cells (white blood cells) surrounding the nerve cells -- myenteric ganglioneuritis. Increased number of inflammatory cells may also be seen in the brain and spinal cord – encephalitis.

Prevention: Practice good biosecurity measures since this disease may be caused by an infectious agent. In other paramyxovirus diseases of birds, the virus-containing excretions from infected birds (aerosol, feces) can contaminate feed, water, footwear, clothing, equipment and the environment.

Treatment: Therapy has been unsuccessful. Providing soft feed or fine seeds to affected birds may prolong survival time, but secondary infections, autointoxication, or central nervous system lesions can cause 100% mortality.

Ref: (1) Avian Medicine: Principles & Application by Ritchie, Harrison & Harrison.
(2) JAVMA, 1991. June 1; 198(11), 1962-64.