

the Vet's Corner

A New Disease Of Psittacines

by
Richard W. Woerpel, M.S., D.V.M.
and
Walter J. Rosskopf, Jr., D.V.M.
Hawthorne, California

Within the past several years we (and a handful of other veterinarians, most of whom practice in California) have encountered a serious wasting disease of macaws. It is characterized by gastrointestinal symptoms (most notably regurgitation), severe weight loss, and death. We have described the disease as "Macaw Wasting Disease" and others have called it "Proventriculus Dilation Syndrome" because the characteristic finding at the time of autopsy is a grossly dilated proventriculus (stomach).

We have encountered cases of this syndrome in one hyacinth (*Anodorhynchus hyacinthinus*), five blue and gold (*Ara aracauna*), and six green winged (*Ara chloroptera*) macaws. Furthermore, we have received reports from veterinarians around the country of similar disease symptoms and pathology in these same three species in addition to the yellow-collared macaw (*Ara auricollis*). Similar symptoms and autopsy findings have also been noted in several species of cockatoo and in a

gold-capped conure (*Aratinga auricapilla*). Furthermore, recent discussions with veterinarians from here and abroad suggest that this disease may afflict many different species of psittacines.

Disease symptoms have been noted most often in newly acquired macaws. Most have been recently (within two months) released from quarantine. There have been exceptions. Most of the afflicted birds are young and most seem to originate from Bolivia. It is likely that this disease was introduced into this country by way of Southern California via quarantined, imported birds.

Most patients exhibit sudden onset of symptoms and a relatively short period of illness before death. A few have exhibited a more chronic course. Several birds have exhibited definite neurological (nervous system) symptoms. This is not surprising when one considers the damage this disease causes to the nervous system tissue (most notably the brainstem). All treatment regimens attempted by us and other veterinarians have proven unsuccessful. The disease does not appear to be highly contagious and its exact cause is unknown at this time.

Regurgitation may be an initial and persistent symptom or only an intermittent one. Digestive disturbance is manifested by any or all of the following: seeds retained within the proventriculus, passage of undigested seeds in

the droppings, diarrhea and coliform-type bacterial intestinal infections (usually *E. coli*). Anorexia appears to be a hallmark of this disease, although affected birds continue to exhibit feeding behaviours. Depression, gradual weakness, marked weight loss, wasting, and eventual death constitute the other salient clinical features of this disease.

There is no established diagnostic test for this new disease. However, radiography (x-rays) can be of diagnostic value if the proventriculus (and sometimes the gizzard) is grossly enlarged and dilated. Liquid barium sulfate may be administered to the patient orally to provide visual contrast if necessary. This also allows the clinician to document slower than normal transit times of this material through the bowels.

As stated above, patients afflicted with this disease rarely if ever survive. An autopsy usually reveals severe muscle wasting (most notably of the flight muscles) and a grossly dilated proventriculus (stomach) and ventriculus (gizzard). Interestingly, enlargement of the latter is not as consistent a finding as enlargement of the former.

The microscopic features of this disease involve severe inflammation and disruption of the smooth muscle layer of the walls of the proventriculus and ventriculus. The pathologist also sees inflammation and degeneration of the tissues of the brainstem and spinal cord.

Microscopic lesions suggest a virus as the cause of this disease but there has been no such supporting evidence to date. Many different tests and procedures are under way at this moment at various universities and laboratories to discover the exact cause of this intriguing disease.

Only a relatively small percentage of the captive macaw population in this country has been identified with symptoms of this disease. In spite of this the disease certainly poses a potential threat to all macaws in captivity and, probably, to many other species of captive psittacines as well.

Undoubtedly, as awareness of this disease increases, so, too, will our knowledge of it and we will then be able to identify that group of psittacines (captive and in the wild) which is at the highest risk of infection. Nonetheless, it is a disease entity which has demonstrated a frightening regularity in our practice and we hope that our contribution in the description of the disease and the announcement of its existence will hasten a more thorough understanding of it. ●



Photo by authors

Hyacinth macaw suffering from macaw wasting disease. Note the bird's weak appearance and the prominence of its keel bone.

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