

Avian Gastric Yeast

Avian Gastric Yeast (AGY - megabacteriosis, macrorhabdosis) is caused by a yeast, *Macrorhabdus ornithogaster*. *M. ornithogaster* is a Gram-positive yeast, and was believed to be a bacterium for many years (Tomaszewski *et al.*, 2001).

AGY has been associated with a chronic wasting condition (“going light”) in the budgerigar, but can affect many psittacine and non-psittacine birds, including ostriches (Huchzermeyer *et al.*, 1993). The organism inhabits the lumen of the mucosal glands of the proventriculus and can be seen in faeces and or crop washes of most but not all infected birds. Presumably the clinical signs are related to impaired gastric secretion and dysfunction (Filippich and Parker, 1994).

Clinical signs

AGY is commonly detected in some species, but disease is rarely seen. The signs are mostly unremarkable and non-specific. Birds appear “fluffed up”, and vomiting may occur - slimy seeds are regurgitated. Some birds may vomit blood.

Changes in the droppings may be apparent, from a slight looseness to severe diarrhoea.

Birds may eat frantically, but in reality are just grinding their seeds instead of ingesting it - a fine powdery material accumulates in the seed dishes.

Birds gradually lose weight and usually die in poor body condition, although sometimes death can occur more quickly.

Birds with AGY are very susceptible to other diseases such as trichomoniasis, feather mite infestation, cnemidocoptic mange and chlamyphilosis.

In the acute form, birds usually die within a few days. In the chronic form, they become progressively more emaciated and debilitated over weeks or months and then either die, or appear to recover but then relapse weeks or months later (Gerlach, 1994).

Necropsy

Birds are often thin, with wasting of the breast muscles.

Feathers around the head may be covered in dried regurgitated material, and the feathers around the vent often stained with faecal material.

The mucosa of the proventriculus is rough, raised, and discoloured. An early change is the accumulation of sticky mucus in the proventriculus, and in some birds ulceration and bleeding at the proventricular-ventricular junction is seen. The crop may become distended with a frothy mixture of water, mucus, fine particles of ground seed and undigested discoloured seed partially regurgitated from the stomach.

Diagnosis

History, signs, lesions.

The organism can be seen on wet mounts of faeces or proventricular scrapings

Gram stains of faeces or crop washes.

Histopathology of the proventricular-ventricular junction - palisades of the organism

Differentiate from candidiasis, trichomoniasis, salmonellosis.

Treatment Amphotericin B 5g/L ml of drinking water, administered for 30 days (or orally 100 mg/kg by gavage BID 30 days). Treatment for 30 days is recommended because there is evidence of resistance to this agent, and that eradication of the organism is not achieved unless a long treatment is given to infected birds.

References

1. Filippich LJ and Parker MG. 1994. Megabacteriosis and proventricular/ventricular disease in psittacines and passerines. *Proc Ass Avian Vet*, pp 287-293
2. Gerlach, H. 1994. Bacteria In *Avian Medicine: Principles and Application*. Editors B. W. Ritchie, G. J. Harrison, and L. R. Harrison, 949-983. Lake Worth, Florida: Wingers Publishing Inc.
3. Huchzermeyer FW, Henton MM, Keffen RH 1993 High mortality associated with megabacteria of proventriculus and gizzard in ostrich chicks. *Vet Rec*, 133: 143-144
4. Tomaszewski, EK, Snowden KF, Phalen DN. 2001 The Whipple paradox: megabacteria exposed as fungi. *Procs Assoc Avian Vets*, 99-100