PARASOMNIA IN A COCKATIEL

Tim Oldfield BVSc, MACVSc (Avian Health)
Wattle Grove Veterinary Hospital
791 Welshpool Road
Wattle Grove WA 6107

THE CASE

- Tequila is a twelve month old male cinnamon white-face cockatiel (*Nymphicus hollandicus*). Typical pet bird raised on all-seed diet, free-flying in house during the day, sleeping in a small cage at night.
- Tequila presented for investigation of episodic nocturnal weakness starting at around six months of age.

EXAMINATION

During the day; normal limb strength and limb pain sensation, normal reflex response and cranial nerve function. EDUF all normal, adequate flyer, affectionate but slightly nervous bird.

Episodes are almost exclusively nocturnal. Early phase is a fine whole body muscle tremor and slight jerky nature to deliberate movements - possibly intention tremor. Tequila still vocalises, eats, moves around the cage but is duller. This progresses, with increasing intensity of tremors, to full sternal recumbancy with limbs extended and neck flexed. Tequila is aware and will vocalise and attempt voluntary movements if stimulated but is incapable of controlled mobility due to muscle tonicity. No nystagmus, strabismus or head tilt has been noted. There is no evidence of distress.

Recovery, irrespective of treatment, is between one and six hours.

Mild and short episodes occur most nights, more major and prolonged events occur every four or five days.

DIAGNOSTICS

At presentation:	bodyweight	71 grams
	ewcc	12,000, no toxic leuks
	pcv	58
	AST	off scale
	Amyl	185 U/l
	UA	0.492 mmol/l
	Glu	16.59 mmol/l
	faecal gram	NAD
	faecal flotation	NAD

four weeks after presentation:

bodyweight	75 grams		
wbc	9,300	%neuts	66
		lymphs	26
		mono	1
		eosin	2
		baso	5
pvc	44		
hb	118 g/l		
mchc	268 /l		
mch	39pg		
mcv	126 fl		
tp	30 g/l		
CK	144 U/l		
AST	277 U/l		
UA	0.268 mmol/l		
Amyl	373 U/l		
Glu	14.3 mmol/l		
S.Bile	39.8 umol/l		
Ca	2 mmol/l		

Whole body radiographs two views indicate slight liver enlargement. Specific skull views NAD.

Left abdominal airsac endoscopy shows slight rounding to liver margins, otherwise no visible abnormalities to internal structures.

Liver biopsy: Relatively normal hepatocytes with some feathery vacuolation of the cytoplasm consistent with glycogen accumulation. No sign inflammation or tissue distortion. No evidence hepatopathy.
Diagnosis mild hepatic hydropic degeneration.

Availability and cost constraints can prevent the consideration of alternative imaging such as CT and MRI in clinical practice - however the results of these investigations are often normal in cerebellar disease. Knowledge of normal Electroencephalograph patterns for avian species are still limited and discussions in the human literature on the use of EEG suggested that meaningful measurements were difficult to achieve in disorders characterised by the presence of continuous myoclonus.

TREATMENT

At first episodes were treated with iv fluids, calcium, glucose, CaEDTA, multi-b vitamins and dexamethasone. The diet was changed to a commercial pellet (Roudybush) and a low level of oral calcium supplementation. Initially oral prednisilone was instituted for fourteen days at a reducing frequency because it seemed to bring about a cessation of seizures. It was withdrawn to assess whether seizures would recur, which they did, but prednisilone was ineffective a second time and was withdrawn after seven days.

Results of specific nervous system therapy will be presented at the conference.

DISCUSSION

Broad differentials in the cause of seizure-like symptoms in birds include;

- trauma
- toxins
- infections
- neoplasia
- hypocalcaemia
- hypoglycaemia
- hyperlipidaemia
- vitamin deficiencies
- cardiovascular disease
- hepatic encephalopathy
- familial disorders

In this bird the absence of spinal and peripheral nerve signs and the presence of fine, whole body myoclonus, intention tremors, tonicity and retained awareness during seizures is highly suggestive of cerebellar disease.

Various cerebellar disorders have been documented in birds including;

- leucomalacia
- lafora body neuropathy
- cerebellar atrophy
- encephalomalacia
- myobacterial encephalitis
- ceriod lipofuscinosis
- spongy vacuolation of the cerebellum

These reports typically describe a continuous display of symptoms, usually becoming progressively severe.

Lutino cockatiels, particularly in the USA, are frequently referred to as mentally challenged with reports of ‘night-frights’, incoordination and flightiness.

Idiopathic epilepsy is used as a diagnosis when other causes of seizures have been ruled out. A syndrome has been described in Red-lored Amazons that has been suggested to have a genetic basis. Lovebirds with intermittent grand-mal seizures present occasionally in my practice and have responded to phenobarbital with reduction in frequency and severity of seizures.

Several forms of nocturnal partial seizure disorders are recognised in the human literature, including;

- Autosomal Dominant Nocturnal Frontal Lobe Epilepsy
- Familial Partial Epilepsy with Variable Foci

CONCLUSION

This case is interesting because of the predictable periodicity of the seizures and the apparent lack of progression. Therapeutic trials may help to further narrow the diagnosis but it is likely that definitive answers may require histopathological examination.

REFERENCES

Adam SM, Berkovic FS, Scheffer IE: Autosomal Dominant Nocturnal Frontal Lobe Epilepsy. GeneReviews www.genetests.org 16 May 2002

Altman RB, Clubb SL, Dorrestein GM, Quesenberry K: Avian Medicine and Surgery. Philidelphia, PA: WB Saunders; 1997

Britt JO, Paster MB, Gonzalez C: Lafora Body Neuropathy in a Cockatiel. Comp Anim Prac 19(3) 31-33 1989

Hasholt J, Petrak ML: Diseases of the Nervous System *In* Petrak ML (ed) Diseases of Cage and Aviary Birds. Lea and Febiger, Philidelphia, pp 468-477, 1982

Hartley WJ: A Review of Some Neurologic and Muscular Disorders in Free and Captive Non-ddomestic Avian Species in Australia, *In* Proc Aust Comm Assoc Avian Vet Dubbo, pp 131-14, 1995

Parker MG: Avian Neurological Exam: A Review, *In* Proc Aust Comm Assoc Avian Vet Currumbin, pp145-153, 1994

Reece RL, Mac Whirter P: Neuronal Ceriod Lipofuscinosis in a Lovebird. Vet Rec 122:187, 1988

Reece RL, Butler R, Hooper PT: Cerebellar Defects in Parrots. Aust Vet J 63(6), 197-198, 1986

Reece RL, Scott PC, Barr DA. Some Unusual Diseases of the Birds of Victoria, Australia. Vet Rec 130:178-185, 1992

Richie BW et al: Spongiform Encephalopathy in Three Psittacine Birds. Proc Assoc Avian Vet Portland pp 205-206, 2000

Rosskopf WJ et al: Epilepsy in Red-lored Amazon. Proc Assoc Avian Vets, pp 141-145, 1985

Walk RF, Lindstrom JG, Graham DL: Internal Hydrocephalus in an African Grey Parrot. J Assoc Avian Vet 3:94-96, 1989