

START OF REPORT

Patient:	<b>SCULTHORPE RESERVE Peregrine 43</b>	<b>G.B</b>
Access Number:	16061123482	<b>CVS (UK) LTD (FKM)</b>
ID:		The Grove Vet Group Grove House
ASG:	2 Months   Bird - other (Peregrine Falcon)   Female	Holt Road
Report Date:	08/07/2016	FAKENHAM
Date Sample Received:	11/06/2016	NORFOLK
		NR21 8JG

## Test Results

### (ADD) Addendum

Following a request from the Hawk and Owl Trust please find below more simple explanation of these findings of my colleague Chris Knott who unfortunately is unavailable to comment at the moment.

The *Serratospiculum* parasite (an internal worm nematode) was tentatively identified and thought to be the most significant finding here. It is suggested that these are capable of causing disease primarily involving the air sacs within the bird and have the ability to occasionally penetrate these to affect adjacent organs and body cavities. They will predispose to secondary infection and assuming the swab was taken from a body cavity or air sac the bacterial isolates obtained would be significant and result in the concurrent infection/inflammation of the pericardial sac and air sac.

Such infection would compromise normal function of these organs and if severe enough would lead to organ dysfunction and failure with subsequent death.

Mark Wessels BVetMed, FRCPath, MRCVS

13:19:55 08/07/2016

### (EX03) Histopathology Exotic 3 tissues

#### Histology

Sections through necropsy samples of liver, heart and pericardial sac from a 6 week old, female, Peregrine Falcon (*Falco peregrinus*) were examined microscopically.

LIVER: 1 sample received; 2 sections examined.

Preservation is generally good with only early autolytic change evident in places. The sinusoids and vasculature generally are moderately congested, but the overall hepatic architecture is largely normal and the hepatocytes are uniformly normal in size and staining characteristics. There is minimal inflammation within the hepatic parenchyma itself, but along one edge of one of the sections there is fairly extensive, marked thickening of the capsule associated with a large, adherent granuloma, at the centre of which is a large metazoan parasite, presumably a nematode, which is somewhat degenerate and obviously dead, but retains a distinctly serrated cuticle,

but no other specific distinguishing features visible in this section. I suspect it is *Serratospiculum spp.*

HEART: Whole organ received; 3 sections examined.

The myocardium is moderately congested, otherwise appears histologically largely unremarkable, but there is mild to moderate, more or less diffuse thickening of the epicardium, chiefly due to oedema, with only a very light inflammatory cell infiltrate, but there are occasional small focal "nodules" of inflammatory tissue also within the epicardium. At the heart base, the great vessels and valves appear largely normal.

PERICARDIAL SAC: 1 sample received; 2 sections examined.

When examined grossly before sectioning, the pericardium appeared to contain several areas of thickening and histologically these correspond to areas of inflammation, with haemorrhage, oedema and occasionally necrosis. The section also includes a small amount of adherent airsac, which also shows evidence of inflammation. No obvious pathogens are seen in the routine H&E stained sections, so a variety of special stains were done (PAS, ZN, Giemsa and Gram-Twort) and these revealed very occasional short, Gram-positive bacilli within some of the lesions.

DIAGNOSIS: Pericarditis and air sacculitis, with intralesional bacteria, plus presumptive serratospiculiasis.

COMMENTS: *Serratospiculum* is a nematode parasite of the superfamily *Filarioidea* and is common in the falconidae, including *F. peregrinus*. Infection is acquired from an intermediate host (generally an insect) and adult worms inhabit the airsacs, where, once mature, they deposit eggs, which are coughed up, swallowed and passed in the faeces. Some authorities consider them non-pathogenic, but several studies suggest that they do have pathogenic potential, either directly from the physical presence of the adults, or by predisposing to secondary infections such as aspergillosis. These studies have suggested that the worms may be capable of penetrating the sac into adjacent structures such as the pericardium and coelom.

As this young Peregrine had concurrent air sacculitis and pericarditis I suspect these were probably secondary to the presence of the nematode, though I cannot be absolutely certain of this.

Chris Knott BVSc CertLAS MRCVS

16:19:21 15/06/2016

### (MICR3) Aerobic and anaerobic culture and sensitivity

#### Aerobic culture and sensitivity

Swab:

The following organisms were isolated:

A = *Coagulase-negative Staphylococcus*

B = *Corynebacterium spp.*

Sensitivities	A	B
Growth	+	+
Enrofloxacin	S	S
Tetracycline	S	S
Sulpha/Trimethoprim	S	S
Amoxicillin/Clavulanic acid	S	S
Clindamycin	S	S
Cephalexin	S	S
Amikacin	S	S
Tylosin	S	S

S = Sensitive I = Intermediate R = Resistant

### **Anaerobic culture and sensitivity**

No anaerobic organisms isolated.

### **Laboratory Comments**

The clinical significance of the bacteria isolated from this sample, as well as the necessity of antibiotic treatment should always be considered in conjunction with the clinical presentation of the animal.

Ben Rush BSc (Hons) - Deputy head of Microbiology

12:09:25 14/06/2016

END OF REPORT