MYOPATHY IN A WANDERING ALBATROSS (*Diomedea exulans*) (CASE 1159.1)

CASE HISTORY

Adult male wandering albatross (*Diomedea exulans*), found beached, unable to stand, torn webbing of the left foot, heavy lice burden, ulcerated hocks, bumblefoot bilaterally, and increased respiration during handling. Treated with fluid therapy, force feeding fish, seatabs, enrofloxacin, and itraconazole. Died a week later.

CLINICAL PATHOLOGY HISTORY

	9-11-99	15-11-99
PCV %	36	30
TP g/L	34	39
WCC x10^9/L	18	13
Hp %	62	68
Lc %	23	10
Bp %	1	4
Mc %	14	18
Glucose mmol/L	9.2	14.3
Creatinine umol/L	330	330
CK IU/L	17970	12100
AST IU/L	12800	5670
Uric Acid mmol/L	0.8	1.8

GROSS PATHOLOGY

External examination: Small numbers of lice are evident within the plumage. There are bilateral ulcers along the posterior surfaces of the hock joints. There is a 4 cm long tear in the webbing between the medial and central digits of the right foot. 5 - 10 mm diameter ulcers are present on the plantar surfaces of the interphalangeal joints of all digits except the lateral right digit.

HISTOPATHOLOGY

Lesions are not evident within the following tissues: trachea, heart, adrenal gland, spleen, kidney, brachial nerve, femoral nerve.

Salt gland: The gland is distinguished by lobules composed of cords of hepatoid epithelial cells arranged around a central duct.

Ventriculus: The mucosa contains no koilin and is mildly autolytic.

Lung: The pulmonary parenchyma is moderately congested.

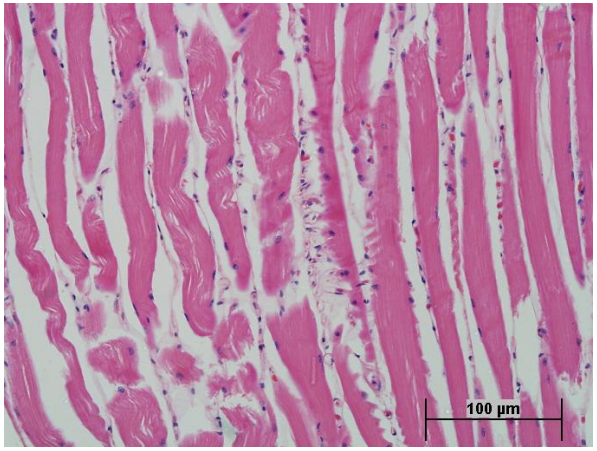

Fig 1. Tibial muscle (normal longitudinal section). H&E 40x

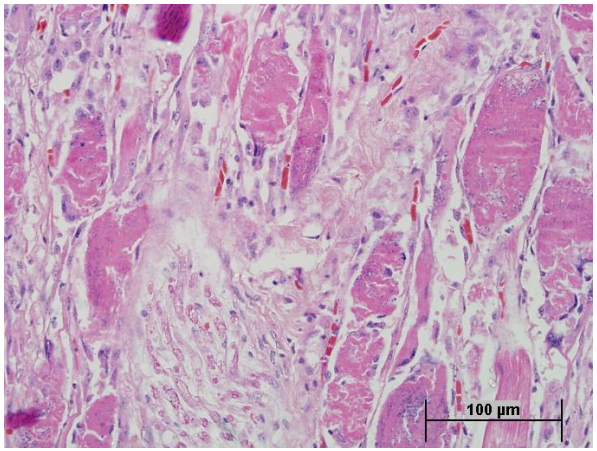

Fig 2. Tibial muscle (abnormal longitudinal section). H&E 40x

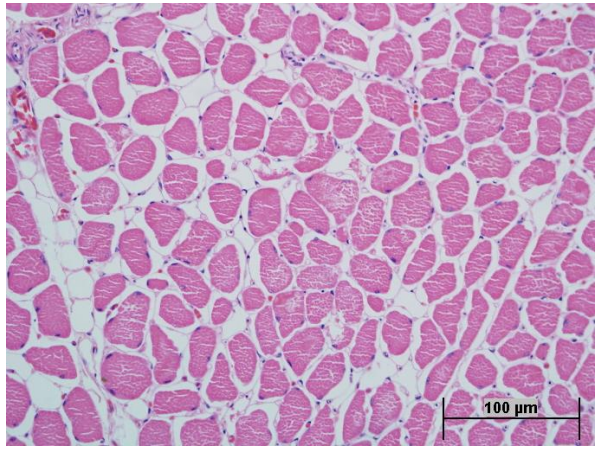

Fig 3. Tibial muscle (normal transverse section). H&E 40x

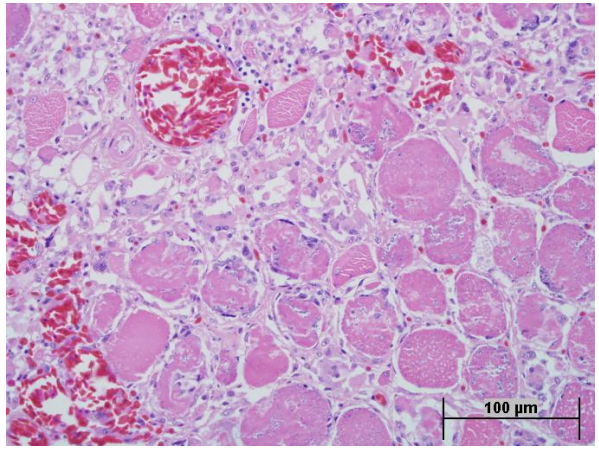

Fig 4. Tibial muscle (abnormal transverse section) H&E 40x

Task: Describe the changes in the two abnormal sections of muscle on this page. Give a morphological diagnosis and suggest likely pathological processes.

Explain the haematology and serum biochemical changes.

Case interpretation: Karrie Rose. Photography and case construction: Damien Higgins

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Thyroid gland: Thyroid follicles contain abundant colloid and have low cuboidal epithelium. A small portion of parathyroid tissue is evident within the adventitia of the thyroid gland.
Liver: The tissue is in an advanced state of decomposition. Several hepatocytes contain small intranuclear eosinophilic inclusions (probably host protein).
Testis: Spermatogeneis is not evident within the spermatic cords. Several cells within the spermatic cords contain eosinophilic cytoplasmic inclusions as seen in the liver.
Brain: There is mild perivascular haemorrhage within the meninges and cerebral cortex. Nerve cell bodies contain moderate quantities of cytoplasmic brown, waxy pigment (lipofuscin).
Cranial tibial muscle: Myocyte fibres are pale and of variable diameter. Many of the myocytes have been invaded by or replaced by mononuclear cells. Multinucleate giant cells multifocally accompany these mononuclear cells. Fibres are fragmented or exhibit contraction bands, mineralisation, loss of striations, globular or granular change, or cupping degeneration. Satellite cells have proliferated around many of these myofibres. A small number of myocytes are very thin, and have basophilic fibres.
Pectoral muscle: The pectoral muscle contains scattered contraction bands.

MORPHOLOGICAL DIAGNOSIS
Marked subacute myodegeneration - leg musculature
Multifocal pododermatitis
Moderate ectoparasitism

COMMENTS
The tissues were remarkably decomposed, perhaps due to the presence of large numbers of fish in the upper digestive tract. The proventriculus was patent, yet distended with fish, suggesting some disturbance of GIT motility. The degeneration of the limb muscles is sufficient to prevent the bird from weight bearing. The presence of satellite cell proliferation and basophilic fibres is suggestive of early repair of the tissues. This change suggests that the lesions are a minimum of 5 - 7 days old. The cause of this myopathy is uncertain. It seems unusual that a pelagic bird would be overcome by myopathy of the leg muscles.

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