

P-22 Necropsy summary for SDZWA Communications

History, medical findings and medical decisions have been previously summarized and shared.

A full post mortem examination was completed by the SDZWA Disease Investigations department, including gross examination, microscopic examination and ancillary diagnostic testing.

The post mortem findings are consistent with the animal's history of recent trauma and confirm the findings from the extensive diagnostic work up. There were a myriad of acute and chronic medical conditions that contributed to declining health status.

Consistent with recent trauma, there was a fracture of the right orbital bone and gross evidence of hemorrhage in the frontal sinus and right eye. The microscopic appearance of the right orbital fracture included early fibrosis, supporting the time-frame of being hit-by-car 6 days prior to euthanasia.

Consistent with older trauma, there were tears in the diaphragm, through which liver and omentum had herniated into the chest cavity. The presence of mature fibrous adhesions (scarring) indicated this injury was longer standing. There was evidence of chronic vascular compromise to the herniated liver lobe, while the remaining liver was microscopically within normal limits.

There was significant, multifactorial skin disease causing the poor condition of the hair coat. In all examined skin sections (face, neck, hip, foot), there was heavy colonization of hair follicles by mites (*Demodex* sp.) and dermatophytes (skin fungus / ringworm, *Microsporum canis*). Systemic spread of the skin fungus was found in a lymph node. Generalized *Demodex* mite infections suggest underlying immunosuppression or other disease. The skin disease likely contributed to the deteriorating medical condition and systemic inflammation.

Age related changes were also noted and included heart valve disease, vascular disease, and kidney disease. Changes were mild but were irreversible.

Toxicologic analysis of a post mortem liver sample for rodenticides was performed by the California Animal Health and Food Safety (CAHFS) laboratory. Five anticoagulant rodenticides were detected at varying concentrations. There was no evidence of abnormal hemorrhage or coagulopathy that would suggest toxicosis, grossly or microscopically. Neurotoxic rodenticide bromethalin was detected in a trace amount. There were no clinical signs consistent with bromethalin toxicosis. Bromethalin does not typically result in microscopic lesions. Reported amounts are below.

Anticoagulants Screen - Quantitated, Liver

Analyte Result (ppb) Rep. Limit (ppb)

Brodifacoum, 96, 50

Bromadiolone, 530, 50
Chlorophacinone, 87, 50
Coumachlor, Not Detected, 20
Difethialone, 220, 50
Diphacinone, 960, 50
Warfarin, Not Detected, 20
Difenacoum, Not Detected, 20

Bromethalin, Adipose Tissue

Analyte Result (ppb) Rep. Limit (ppb)
Desmethylbromethalin, Trace, 1.0

In summary, there was evidence of recent trauma to the head, a prior traumatic event resulting in diaphragmatic tears and hernia, significant skin disease due to multiple infectious agents, and exposure to rodenticides.