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Final Report

Angela Rogers
AN WELFARE PROGRAM
28 State House Sta.
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UNH Case#: 20-3359
Date Received: 05/01/20
Owner: O'Connell, Kathleen
Name ID: C66
Species: Feline

Necropsy

Gross Examination

A 4.28 kg, male, domestic short-haired cat was submitted for necropsy May 1 st, 2020 to the NHVDL. The animal was received in a Styrofoam box taped shut with two intact segments of duct tape.

The is in good nutritional status (BCS 4/9). The right eye is absent, with the enucleation site closed and intact, with no evidence of inflammation or infection noted.

There are roughly 40 ml of opaque, red fluid in the peritoneum, and roughly 25 ml of similar fluid in the pleural space.

The urinary bladder is markedly distended and mottled throughout the natural and cut surfaces red, pink, and purple, often with irregular rims of off-white discoloration surrounding foci of red and purple discoloration. The urinary bladder contains opaque yellow fluid.

No other gross findings were noted.

Gross photographs and lesions:

1) **P5010010:** Submission paperwork, with tag and case number.
2) **P5010011:** Box as received at NHVDL
3) **P5010012:** Same as P5010012, opposite side.
4) **P5010013:** Cat in left lateral recumbency with left thoracic limb reflected.
5) **P5010014:** Face of cat in left lateral recumbency with intact, appropriate post-surgical enucleation site.
6) **P5010015:** Cat in left lateral recumbency with left pelvic limb and left thoracic limb reflected and peritoneum open, exposing hemorrhagic peritoneal effusion and hemorrhagic cystitis.
7) **P5010016:** Closer photograph of cat in left lateral recumbency showing the hemorrhagic peritoneal effusion and the hemorrhagic cystitis.
8) **P5010017:** Cat in left lateral recumbency with thoracic cavity opened (right hemithorax removed, showing multifocal pulmonary erythema, and hemorrhagic thoracic effusion.
9) **P5010018:** Opened urinary bladder showing mucosal surface with hemorrhage and opaque contents spilled into peritoneum.

Conclusions of gross examination: **Severe hemorrhagic cystitis with peritoneal and pleural effusion**

Comments on gross examination: The gross examination indicates a severe inflammatory process in the urinary bladder with suspected septicemia resulting in effusion in the peritoneal and pleural cavities.

Histopathology

Sections of trachea, skin, brain, esophagus, thyroid, parathyroid, pancreas, duodenum, ileum, and cecum have no lesions.

Heart – The left atrioventricular valve leaflets are expanded by paucicellular myxomatous stroma forming and irregular profile composed of coalescent nodules, with rare minute foci of endocardial loss.

There are rare, scattered coronary arteries that have their lumina partially filled by loose mats of pale beaded fibrillar eosinophilic fibrin admixed with variably degenerated neutrophils, all of which is segmentally contiguous with a partially obliterated endothelium. The underlying vessel wall has undergone mild fibrinoid degeneration. The ventricular lumina contain a large number of variably degenerated neutrophils.

Lung – There is diffuse, moderate congestion of the pulmonary vasculature including arteries veins and alveolar capillaries. There are multiple small to moderately large foci of pulmonary parenchyma wherein the alveolar lumina contain moderately packed free erythrocytes.

One focus of bronchus associated lymphoid tissue is enlarged to form a nodular aggregate of densely cellular small lymphocytes.

Liver – The sinusoids are diffusely and mildly distended by moderately (periportal) to densely packed (centrilobular) erythrocytes, with mildly attenuated hepatic cords in the centrilobular regions.

Kidney – There are multiple, small to moderately large, ill-defined, irregular foci of renal interstitium and tubules in both kidneys that are infiltrated by degenerated neutrophils admixed with fibrin, amorphous granular eosinophilic necrotic debris, and stippled basophilic cytoclastic debris. Rare foci extend as linearized, radiating irregular streaks extending from the superficial medulla to the cortex.

Spleen – There are decreased numbers and density if lymphocytes within the splenic white pulp, resulting in decreased diameter of lymphoid aggregates, and paucicellular aggregates with prominent, matte eosinophilic central follicular stroma.

Adrenal gland – There is an irregular, moderately large focus of degenerated neutrophils amidst fibrinous exudate admixed with small foci of hemorrhage and amorphous necrotic debris.

Urinary bladder – The wall of the urinary bladder is expanded throughout all layers by coalescent, ill-defined, irregular foci of fibrin, hemorrhage, necrotic debris and degenerated

neutrophils. There are regions wherein the overlying mucosa is ulcerated and mural hemorrhage abuts the luminal surface.

Morphologic diagnoses:

(1) *Heart* –
   a. Myxomatous mitral valve degeneration, multifocal, moderate, chronic
   b. Neutrophilic and fibrinous coronary vasculitis, multifocal, mild, acute

(2) *Lung* –
   a. Pulmonary congestion, diffuse, moderate, acute, with multifocal peracute alveolar hemorrhage
   b. Bronchus associated lymphoid tissue hyperplasia, focal, moderate, chronic

(3) *Liver* – Congestion, diffuse, mild, subacute

(4) *Kidney* – Tubulointerstitial nephritis, bilateral and multifocal, moderate, acute, necrotizing, fibrinous and neutrophilic

(5) *Spleen* – Splenic lymphoid depletion, moderate, diffuse, subacute

(6) *Adrenal gland* – Periadrenal peritonitis, focal, moderate, acute, fibrinous, neutrophilic and necrotizing

(7) *Urinary bladder* – Cystitis, severe, multifocal to coalescent, transmural, acute, fibrinonecrotizing and hemorrhagic neutrophilic cystitis

Necropsy conclusions: Severe hemorrhagic necrotizing fibrinous and neutrophilic cystitis, with nephritis and septicemia

Comments: The gross lesions and findings on histopathology indicate severe inflammation of the bladder, with moderate inflammation of the kidneys, and evidence of disseminated inflammation in multiple organs. Microbial culture from the urinary bladder did not result in growth of bacteria, however the animal had been administered injectable cefovecin which is eliminated in the urine and could hamper recovery of bacteria via culture. The conclusion is that this is likely a case of severe acute bacterial cystitis, nephritis and septicemia.

Microbiology

Urine Culture Verified on: 05/04/20

Animal Id	Specimen	Isolate	Result
C66	Urine	No Bacteria Isolated	no growth

David Needle DVM, DACVP

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