University of Washington
National Primate Research Center

Accession #___20-055_
Submission Date_21 M a20

DIAGNOSTIC LABORATORY NECROPSY REPORT

Requester____JO _____ Investigator___CM____ Animal ID #___A19285_____
Species_____M m___ Requester's Phone_____

Date of Death__20 M a20_____ Date of Necropsy____21 M a20_Time_1000_Pathologist ____RM____

Nutritional Condition: ☒ Adequate ☐ M arginal ☐ Poor ☐ Obese

Other Tests Required: ☐ Sero ☐ M icro ☐ Parasit ☐ Other_____

Other Diagnostic Samples _____

Type of report: ☒ Final __9 Jun 20___ ☐ Preliminary __21 M a20_____ ☐ Amended _____

Clinical History:

This animal was assigned to the project "NHP iPSC derived cardiomyocyte grafts evaluation in myocardial infarction" and had a induced myocardial infarct a few weeks ago, stem cell transplant into the infarct a few days ago, and late last night was found dead in the cage (close to midnight). The animal had indwelling catheters and EKG, and the EKG recorded a fatal, sudden arrhythmia.

Gross Description:

A 5 year old, 9 kg, intact male with active reproductive tract rhesus macaque is presented dead for necropsy in good nutritional (adequate muscling and adipose stores) and fair to good postmortem (in rigor mortis) condition. There are indwelling catheters (femoral artery and vein) and an indwelling EKG unit with leads, and a healing incision over the left, mid, lateral thorax. There are no other significant external lesions and the integumentary and musculoskeletal lesions are otherwise grossly unremarkable.

The epicardium has been previously open/excised, and there are moderate fibrinous to early fibrous adhesions of the epicardial sac and epicardium to the parietal thoracic pleura. The distal, left ventricular freewall has a large, approximately 1 cm, infarct (pale region) containing 2, small punctures (sites of injection of stem cells). Lungs have moderate to extensive, multifocal congestion and edema, and the liver and spleen have moderate congestion. Otherwise, the nervous, cardiovascular, respiratory, digestive, urogenital, endocrine and hemic-lymphatic systems are grossly unremarkable.

Gross Diagnosis(es):

1. Experimentally induced, focal, severe myocardial infarct: left ventricular freewall
2. Acute, multifocal and multicentric, moderate to extensive congestion and edema: lungs, liver and spleen

Gross Comments:

Demise was due to the fatal, sudden arrhythmia, which is one of the expected adverse outcomes of the experiment. Multicentric congestion and edema described was due to terminal shock/cardiovascular collapse. There were no other significant gross findings and the adhesions described are expected secondary to thoracotomy and incision of the epicardium.

Entire heart with major vessels handed off to researchers. Appropriate tissues/organs remaining fixed in formalin. Histology is pending.

Histological Findings:

A section of dorsal aorta a few centimeters distal to the heart has minimal to mild, multifocal, subendothelial, mucinous connective tissue proliferation.

A section of sternebrae with marrow has normal marrow elements, and the parietal pleura has moderate fibrin deposition underlain by moderate reactive granulation tissue formation (secondary to thoracotomy, and within expected limits).

Stomach, small intestine and large intestine have mild to moderate lamina propria infiltrate of/increase in eosinophils, lymphocytes, plasma cells with moderate numbers of Mott cells, and macrophages. GALT has moderate follicular activity. Evaluation of sections of GI tract are impeded by moderate autolysis.

Sections of brain, pituitary gland, eye, lymph nodes, spleen (congested), liver (minimal lymphohistiocytic aggregates, hepatocellular vacuolar degeneration and lobular collapse, and diffuse congestion), gall bladder, kidneys (minimal diffuse membranoproliferative change of glomeruli), urinary bladder, lungs (areas of extensive congestion, edema and some hemorrhage, and minimal perivascular, peribronchial and peribronchiolar lymphohistiocytic aggregates and pneumoconiosis), trachea, pancreas, salivary gland (minimal multifocal lymphohistiocytic aggregates), thyroid glands, parathyroid gland, adrenal glands (mild multifocal nodular cortical hyperplasia), tongue, skeletal muscle, testicle (active), epididymis, seminal vesicle, and skin with mammary gland are unremarkable besides stated changes.

Final Principal Diagnosis(es):

1. Mild, multifocal, subendothelial mucinous fibrosis: doral aorta
2. Multicentric, extensive congestion and pulmonary edema: lungs, liver, spleen
3. Mild to moderate, diffuse, eosinophilic, lymphoplasmacytic and histiocytic gastro-entero-colitis

Histology Comments:

Diagnosis #1 was an incidental finding and is included as it was likely secondary to aortic endoscopy. Diagnosis #2, as per gross comments, was due to cardiovascular collapse.

Diagnosis #3, which can cause diarrhea and potentially other sequelae thereof, represents typical changes in this species in this colony, and they have been previously discussed. Changes present are consistent with food allergy/hypersensitivity/dietary intolerance/IBD. Please contact me if you wish to discuss these changes further.

Please contact me with any questions, comments, concerns or desired changes/additions.

Pathologist____RM_____