DIAGNOSTIC CASE REPORT

U. S. GEOLOGICAL SURVEY-BIOLOGICAL RESOURCES DIVISION NATIONAL WILDLIFE HEALTH CENTER-HONOLULU FIELD STATION P. O. BOX 50167, 300 ALA MOANA BLVD., Rm. 8-132 HONOLULU, HAWAII 96850

Tel: 808-792-9520, Fax: 792-9596, Email: thierry_work@usgs.gov

Case Number: 20924

Submitter Name: Species submitted (n):

Mr. George Balazs Turtle: Green (1)

National Oceanic and Atmospheric

Administration 2570 Dole St

Honolulu, Hawaii 96822

United States

03/22/2007 Location: Sea Life Park DateCollected: Honolulu DateSubmitted: 3/22/2007 Area: Hawaii State: DateReceived: 3/22/2007 United States DateExamined: 3/22/2007 Country:

SPECIMENS SUBMITTED: Carcass-Fresh

History: This turtle hatched at Sea Life Park on Oahu in 2005. It was not eating or growing. In September 2006, the turtle exhibited buoyancy problems with tilting to one side. A cat scan revealed a gastrointestinal foreign body. Due to lack of improvement and poor prognosis, the attending

veterinarian elected for euthanasia.

Findings: This was an emaciated immature female with a markedly rounded appearance. Internally, the most significant finding was a non-patent large intestine distended with feces and fibrin displacing and compressing the left lung. The cloaca was only partially patent and not connected to the large intestines. Other gross findings included a small sublingual nodule,

clotted blood in the left bronchus, and a compressed left lung. Histopathology revealed severe diffuse chronic inflammation and necrosis of the mucosa wall of large intestines, pancreatic atrophy, and a small

sublingual abscess.

Final diagnosis: Accession 1-Intestinal aplasia.

Comments: Gross lesions pointed to atresia (blockage) of the distal large intestines. This allowed accumulation of food into the lumen with subsequent decomposition and chronic inflammation that led to necrosis of mucosa and muscularis. The tail of the animal was intact, so it is doubtful that scarring of cloaca could have led to this outcome. It is conceivable that this was a developmental event. Although it would be surprising if the animal could live this long without a patent large

intestines, turtles have surprised me before with their resilience.

Management:

Report Date (mm/dd/yyyy): 5/1/2007 Necropy report: Available upon request

Copies of this report sent to:

If you have questions regarding this case, contact Thierry M.Work MS, DVM, MPVM at 808-792-9520. Include above Case Number. Diagnostic findings may not be used for publication without the pathologist's knowledge and consent.

NOTE: Information in this report supersedes any information from previous reports regarding this case

NATIONAL WILDLIFE HEALTH CENTER NECROPSY REPORT

Submitter Name:

Mr. George Balazs Case: 20924

National Oceanic and Atmospheric Accession: 1

Administration

2570 Dole St

Honolulu, Hawaii 96822

United States

Date Collected: 03/22/2007

Date Examined: 3/22/2007

Prosector: T. M. Work

Pathologist: T. M. Work

Signalment-Morphometrics-History

CONDITION: (Emaciated) POSTMORTEM: (Excellent) EUTHANASIA: (Lethal injection)

TAG TYPE:() TAG NO.:()

SPECIES: (Turtle: Green) AGE: (Immature) SEX: (Female)

COLLECTION-SITE: (Sea Life Park) AREA: (Honolulu) STATE: (Hawaii) COUNTRY: (United

States)

HISTORY: This turtle hatched at Sea Life Park on Oahu in 2005. It was not eating or growing. In September 2006, the turtle exhibited buoyancy problems with tilting to one side. A cat scan revealed a gastrointestinal foreign body. Due to lack of improvement and poor prognosis, the attending veterinarian elected for euthanasia.

External/Internal

EXTERNAL: There is a 3 mm nodule under the left cranial tongue. The plastron is markedly rounded and the animal is asymmetrically rounded on the left when viewed from the front.

INTERNAL: There is little to no coelomic fat. The liver appears atrophied with rounded borders. The right liver lobe is small and the left is larger. The heart is shifted to the right. The left lung is compressed and there is clotted blood in the left bronchus. The spleen is firm, smooth, and homogenous brown. The kidneys are firm, smooth, and homogenous brown. The left adrenal is larger than the right. The brain is smooth, firm, and homogenous tan-pink. The esophageal mucosa is smooth and homogenous tan. The stomach is empty. The small intestines are smooth homogenous tan. The large intestines are dilated to ~20 cm, contain a large amount of firm feces and fibrin and end in a blind pouch. The cloaca is partially patent. No lesions are seen in the brain, pericardial sac, heart valves, gall bladder, gastrointestinal mucosa and serosa, gonads, thyroid glands, pancreas and superficial and cut surface of heart, kidney, and spleen.

PRELIMINARY DIAGNOSIS: Intestinal atresia.

Samples

SECIMENS RECEIVED: Carcass-Fresh.

HISTO: Tongue, Brain (A); Lung (B); Spleen, Liver (C); Adrenal, Kidney, Ovary (D); Bladder urinary, Heart, Liver (E); Stomach, Esophagus (F); Pancreas, Intestine small (G); Intestine large (H); Skin, Ileum (I); Skin (J).

Laboratory Results

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Lung: One section contains clumps of red cells and thrombocytes within small airways.

Tongue: within the muscle is a nidus of laminar eosinophilic debris mixed with clumps of basophilic rod to coccoid organisms (bacteria) surrounded by giant cells, macrophages, and fibroblasts mixed with rare granulocytes. Surrounding connective tissue spaces are separated (edema).

Pancreas: Zymogen granules are moderately depleted.

Intestine large: Diffusely, mucosa is ablated and there is partial necrosis of smooth muscle wall as evidenced by replacement of normal tissue by masses of eosinophilic granular debris. In other sections, the mucosa is occupied by eosinophilic debris mixed with clumps of basophilic coccoid or rod structures (bacteria) and separated from underlying muscularis by giant cells.

All other Organs: No remarkable lesions are seen.

Morphologic Diagnosis:

- 1. Severe, diffuse, chronic, inflammation $\,$ and necrosis, mucosa and muscularis, large intestines.
- 2. Mild, focal, chronic, necrosis and inflammation, skeletal muscle, tongue.
- 3. Mild, focal, acute, hemorrhage, lung.
- 4. Moderate, diffuse, chronic, atrophy, pancreas.

COMMENTS: Gross lesions pointed to atresia (blockage) of the distal large intestines. This allowed accumulation of food into the lumen with subsequent decomposition and chronic inflammation that led to necrosis of mucosa and muscularis. The tail of the animal was intact, so it is doubtful that scarring of cloaca could have led to this outcome. It is conceivable that this was a developmental event. Although it would be surprising if the animal could live this long without a patent large intestines, turtles have surprised me before with their resilience.

Final Diagnosis (in order of importance) Diagnosis Morpho Dis Link Topog Etiol Funct. (T50500) (M01000) (1. Intestinal aplasia) () () () Diagnostic findings may not be published without the knowledge and consent of the pathologist. Milt Code: (Other)