



Rounds Notes is a monthly report from Sea Rogers Williams VMD, the views expressed are not necessarily that of the National Marine Life Center. Information in Rounds Notes should be considered confidential and used solely to benefit the health of aquatic animals everywhere.

Date Feb. 2-5, 2008

Rounds Notes 3: 8- 11(2008)

Headlines News: In memory of Caveman *(deceased 1/28/09)*

It is with sadness that I report the loss of Caveman on 1/28/09. Caveman died while resting in the incubator of complications of a lung abscess, which resulted from aspiration of sea water during the cold stun event. Turtles that have been admitted with such server disease, as was evident by the blood work and fluid in the lungs at presentation, have not done well no matter where the turtles have been rehabilitated. The treatment for an abscess is surgery, not just antibacterial or antifungal medications and Caveman was not a stable candidate for surgery. Any attempt would have required an approach thru the plastron, and Caveman would not have survived the procedure.

This does not mean advised, just because not a reason not to try, husbandry efforts and received. We still have Caveman, who as we necropsy was a about the damage what that means for have uric acid greater. We will learn caused the abscess, and hopefully learn



the effort was waited or ill the prognosis is poor is and I am proud of the medical care Caveman much to learn from discovered at the female. We can learn done to her kidneys and other sea turtles that elevations of 15 or the identity of agent that be it bacterial or fungal which drugs may be most

effective in the future. As a group we came together to build a critical care facility and holding environment for sea turtles while our new facility is being constructed. We improved our case management skills and honed our clinical abilities, taking blood, performing colemic-centesis procedures, tube feeding and administration of medications, IV, SQ, IM and PO.

We learned one common cause of a "floater" sea turtle, which is lung compromise with gas escaping from the damaged lungs into the body cavity. Caveman pushed us and we all learned from the experience. Sometimes the best efforts of the staff of a rehabilitation center are in the worst cases and thoes with unfortunate outcomes, like in this case, but take heart in the quality care we provided for Cavewoman while we had her, and how we have leaned to care for sick sea turtles in the future.

A final report of Cavewoman will take a few weeks as the laboratory results and pathology become available.

I want to thank Dr. Ketten and the staff of WHOI for their help with the CT scans, and use of their facility for Cavewoman's final exam.

And most importantly to thank you one and all for your efforts, and please do not hesitate to contact me with your questions, concerns, and stories of Cavewomen, she will be missed.

[A cautionary note on the rest of Rounds:](#)

Necropsy pictures may be disturbing to some individuals. If we don't learn from the bone pile we can't grow in effectiveness, but the images are not for the faint of heart and are intended for mature and willing audiences only, if there is any concern please DO NOT read on, and I will distribute an image free version.

Caveman necropsy:

External Exam:

The patient is a cachexic juvenile Kemp's ridley sea turtle, that was unsexed while in rehabilitation and was confirmed to be a female at necropsy.

External exam found healing wounds on the neck, left shoulder, and to the left and attached to the cloaca. The plastron was discolored with dark patterns on the pressure points. The overall appearance is one of severe disability with sunken eyes, poor skin turgor, and severe muscle atrophy.

The oral cavity is closed in rigor and requires manipulation to open the mouth, the oral cavity was empty and within normal limits. The carapace and plastron are in good condition. The major joints have full range of motion. The left front flipper has a perforation in the distal tip and is deflected out of the plane of the limb, with bone exposed (D3 P3-4). The hind flippers have healing trailing edges and abnormal bone structures with missing distal phalanges and deformed phalanges.

Internal Exam:

The muscle tissue is decreased and small white parasitic cysts are seen in some muscles and in low numbers on serosal surfaces. The green fat is firm but pericolic fat is present. Samples from grossly abnormal (firm) fat was taken from near the hind limbs. No excess fluid was present in the body cavity or pericardium. No evidence of trauma or injuries from repeated SQ, IC, and IM injections were observed. Two coiled nematodes were found free in the body cavity. An interesting finding was a single acanthocephala tentatively identified as *Bolbosoma vasculosum*, which has been reported from the loggerhead sea turtle. An initial literature search found no reports of any acanthocephalans from Kemp's ridley turtles. The parasite was attached to muscle outside of the body cavity so this is a dead end host for the parasite but a new finding. Parasites did not play a significant role in the stranding disability and death of this turtle.

The esophagus is filled with the recent tube feeding and medication, the stomach has a patent cardia and pylorus and is filled with liquid material also from the tube feeding. There are no gross mucosal lesions. The small intestine contains digested food throughout. There are no gross mucosal or serosal lesions, and there are no perforations. The colon contains liquid feces and was mildly distended but within normal limits. The liver was friable and has a nutmeg appearance, the gall bladder was distended but patent. The liver parenchyma was normal. The kidneys and urinary bladder were grossly normal. The spleen was normal. The gonads were immature ovaries and within normal limits.

The pericardium was free of excess fluid and the atria were initially filled with gas, which quickly deflated with examination. No parasites of the cardiovascular system were identified grossly. Dissection of the heart and vascular trunks were normal. The most significant necropsy lesions were in the right lung. Both lungs were deflated. An abscess with caseous material was attached to the ventral plura in the caudal right lung that had a diameter of roughly one centimeter. The lung tissue surrounding this lesion was also abnormal and generalized consolidation of the right lung parenchyma was present in the middle third of the lung. On cut surface the tissue was completely effaced with yellow exudates with black markings. The dorsal pink tissue was marginalized. Palpation found small calcified nodules within the abnormal tissue. The left lung was deflated with small gas blebs on the marginal surface.

Gross Findings:

Pulmonary abscess Right lung multi-focal and locally severe lesions with complete consolidation



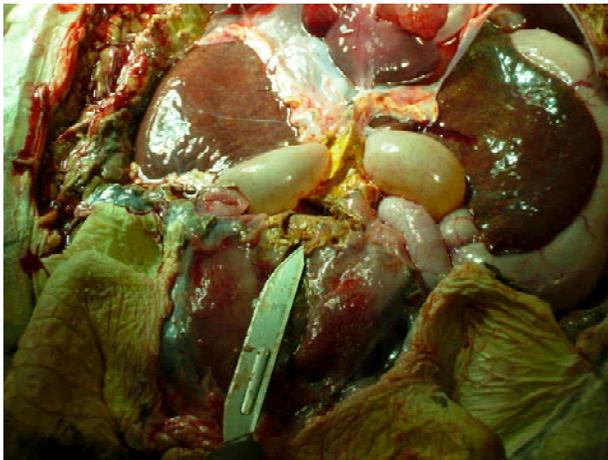
Syndrome trauma

healing laceration to left shoulder and neck, moderate



Ulcerative dermatitis cloaca, mid

Cellulitis under the plastron, localized, necrosizing, moderate



Steatitis	generalized	moderate	
Syndrome	Parasitism		
	Nematodiasis	colemic <i>Anaskis</i>	mild
	Cestodediasis	encysted in muscle and serosal surfaces	mild
	Acanthocephalan	aberrant migration	

The blood culture and the lungs are growing a multidrug resistant *Citrobacter braakii*, resistant to both the Clavamox® and Bayril® we were using to treat Caveman. Tissues will be sent out for histopathology.

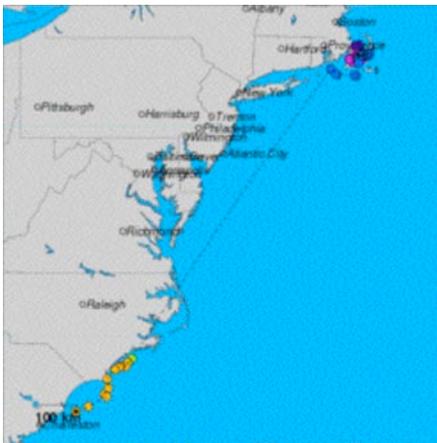
An interesting note for the parasites found, the acanthocephalin is tentatively identified as *Bolbosoma vasculosum* which would be a new host record. This would be a scoop for reptile hosts in general if not for a very recent report from 2008 of *Bolbosoma vasculosum* from a loggerhead. There was only one immature specimen found, and the proboscis had perforated a thin muscle layer, not the gastrointestinal tract, and the worm was within the tissues external to the body cavity so the Kemp's is not a suitable host for this species, which likely lives in cetaceans. It is interesting to note that specimens from Cuvier's beaked whales, pigmy sperm whales, and common dolphins have also been immature. Is it possible that we do not know the definitive host for this species.



The cestode cysts are consistent with *Otobothrium cysticum*, if the species turns out to be valid, that's who it is, and these are commonly encountered in Kemp's from cold-stun events. The *Anaskis* is likewise common but also unpublished.

Terrapins

DBT's are doing well, shedding is decreased and they seem to prefer the rocky / slate substrate.



Cooters

After a consult with Dr. Innis and hearing nothing back from folks in charge of the project, a workup for metabolic bone disease has been postponed. One of the little turtles seems a little domed. We will monitor their condition and push the ReptoMin®.

Sea Turtles at Large

It's encouraging to hear from Lavender who appears to be on the move again, slowly meandering south, as southerners are wont to do, only we know she's a yankie.



C. Rogers Williams VMD

Sea Rogers Williams VMD

Attending Veterinarian & Director of Science

[Kathy Zagzebski, Bridget Dunnigan, Brian Moore,

Joanne Nicholson, Julie Seligmann]