



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.

December 18, 2008

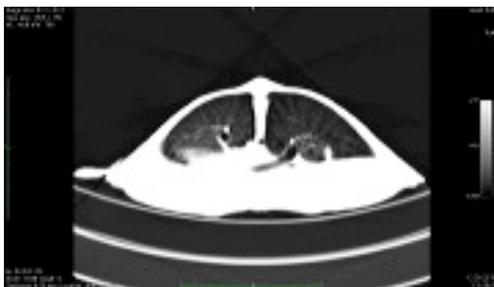
*Rounds Notes 5: 10-12 (2008)*

## Headlines News: Sea Turtle Sepsis, is Serious Disease

Caveman continues to 'hang in there' despite serious illness and a positive blood culture for a Gram positive cocci, *Enterococcus*, sensitive to the ampicillin and intermediate to the enrofloxacin, there is aminoglycosides synergy but with a history of azotemia and dehydration I would rather avoid them if possible. We have stocked amikacin and are ready to administer if necessary. Bacteremia is the presence of bacteria in the blood, which should be a sterile fluid, and sepsis is the body's reaction to the insult, and septic shock is a common final pathway that leads to death of septic patients when oxygen delivery to organs and tissues begins to become compromised. The bacterial population in the blood could have been stealing glucose from the serum and accounted for the persistent hypoglycemia we observed over the weekend and into this week, making Caveman septic. With a combination of pulling Caveman from the tank at night, to decrease glucose utilization, repeated doses of IV dextrose [50% dextrose, 1ml/2.5 kg diluted with 5 cc of LRS administered slowly], oral gavage with a critical care formula and 50% dextrose via an esophageal tube, we managed to bring the blood sugar back up to a normal level. The incubator works perfectly for this application and can be matched to the tank water temperature.

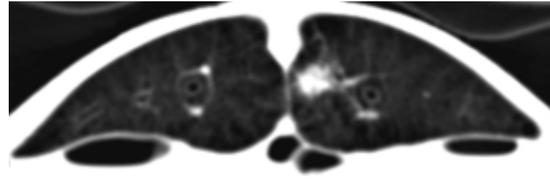


With a positive blood culture I have deemed the current antimicrobial regime unsatisfactory and discontinued the ceftazadime and replaced it with a combination of antibiotics [ampicillin 30 mg/kg IV once, then IM q 24 hr, 30 days, enrofloxacin 10 mg/kg IM q 5 d for the same period].



Since Caveman was no better, and there are reports that his caudal positive buoyancy is worse, we took Caveman to WHOI for a diagnostic CT exam. The CT is often necessary in sea turtles as the shell obscures much of animal, and proved very insightful in this case. Gas bubbles were observed directly under the lungs but it was unclear if the gas was trapped within a lumen of a distended bowel or free in the coelom. I turned Caveman upside down and placed him back in his box with lots of towels to support him in the supine position and repeated the quick exam. This time the gas bubbles were trapped against the plastron. This type of free movement is only possible with trapped gas in

the body cavity. The most likely sources of the gas include: a ruptured lung, a perforated gastrointestinal tract, anaerobic gas producing bacterial infection, and as an idiopathic condition seen in sea turtles. Two lesions were identified in the lung and one is a prime suspect for a ruptured lung bulla or abscess.



Caveman was moved back to the center for a therapeutic procedure of coelocentesis. A site was prepared for a minor surgical procedure that introduced a fenestrated catheter into the coelom, sterile reptiles ringers was infused as the turtle was tipped down to encourage gas to rise to the most dorsal point, which is where the catheter was placed. As the fluid was administered to also assist

displace the gas 40 cc of gas was aspirated from the coelom. More fluids were administered SQ along with today's ampicillin.

So now we know the buoyancy is not related to distended loops of gas in the intestines, but free gas in the coelom, so what about GI motility and why is his appetite so bad. The small pieces of shrimp we force fed appear to have been taken and the BIPS are moving, although slowly.

[time lapse movement of the BIPS, here examined every other day]

BIPS in esophagus

BIPS lined up in prox. SI?

BIPS separated in the SI



We are continuing to monitor the BIPS movement daily, but the initial impression after one week is that there is progressive motility.

## Expanded Problem List 'Caveman'

### Sepsis

Bacteremia *Enterococcus* sp.  
Hypoglycemia -resolved  
Inter-scute hyperemia

### 'Floater'

Free colemic gas -some removed via aspiration  
R/O ruptured lung

### Pneumonia

Water aspiration  
Immuno suppression

### Anorexia

Wounds with necrosis  
left shoulder  
neck

Elevated tissue enzymes, uric acid (resolving ), and cholesterol

## Sea Turtles

Fletch is faring better, we started a blood culture on Fletch to be assured we're not facing an epidemic and to start the process of getting him off medications. Loggerheads may do a little better in the cold-stun phenomena we observe on the Cape because of their size, they are bigger and have greater metabolic reserves, which may make them less critical patients, but we can't let our guard down. Fletch is eating well and water quality is holding on to established parameters.



## Terrapins & Cooters

The Red Bellied Cooters are doing well and due for their monthly exam right after the holidays.

The Diamond Back Terrapins are all eating well and growing. Shedding and retained shed skin has been seen on the little turtles which can be treated by gently using a moist Q-tip to remove the shed skin. These handy cotton sticks are also helpful when dipped in chlorohexidine to clean algae off the carapace of these little turtles.



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