

Abstract

An adult female Florida manatee (*Trichechus manatus latirostris*) was rescued as a boat-struck, orphaned calf in 1995 from the St. Lucie River in Stuart, Florida. A resident at Homosassa Springs Wildlife State Park (HSWSP) since 1997, she was diagnosed with papillomatosis, the first known manatee virus, by histopathology, immunohistochemistry, and PCR. The animal was overweight and possibly immunosuppressed, as evidenced by decreased lymphocyte proliferation in comparison with free-ranging populations. In October 2005, this animal was transported to Columbus Zoo for management related reasons. In fall of 2006, the highest debromoaplysiatoxin concentration (1.2 µg LyngbyatoxinA equiv/ g wet tissue) measured on any manatee to date, was produced by *Lyngbya wollei* growing on the dorsal skin of this manatee. In December 2006, a decreased appetite was noted and physical examination revealed abnormal oral hyperkeratosis. Over a three month period, blood analyses indicated severe monocytosis, left shifting of the heterophil line, and increased serum amyloid A. Diagnosis was severe systemic inflammation with probable septicemia (blood-borne bacteria). Therapy, including periodic injectable fluid administration and antibiotics as well as oral antibiotics and nutritional support, was instituted. The manatee died when a gastric feeding tube was accidentally missplaced in the trachea approximately three months after initial abnormalities were noted. At necropsy, disseminated acute *Staphylococcus aureus* abscesses were found in numerous organ systems with chronic abscesses in the kidney and heart as well as clumps of bacteria without attendant inflammation noted in vessels. The papillary hyperkeratotic skin lesions did not have architecture or viral cytopathic effects of viral papillomas in domestic animal species and PCR was negative for papillomavirus suggesting other possible causes including vitamin A or zinc deficiency, chronic irritation, or other viral disease. It is likely that this overwhelming bacterial infection is secondary to underlying immunosuppression in this captive endangered species. Investigation of the cause of immunosuppression is warranted to prevent similar deaths.