

CASE REPORT

Traumatic Amputation of Finger From an Alligator Snapping Turtle Bite



Robert D. Johnson, MD; Cynthia L. Nielsen, MD

From the University of Oklahoma Health Sciences Center, The Children's Hospital, Section of Pediatric Emergency Medicine, Oklahoma City, OK.

Legend states that the alligator snapping turtle (*Macrochelys temminckii*) should be handled with extreme caution as it has jaw strength powerful enough to bite a wooden broomstick in half. Tales of bite injuries from what is the largest freshwater turtle in North America exist anecdotally, yet there are few descriptions of medical encounters for such. The risk of infection from reptilian bites to the hand in an aquatic environment warrants thorough antibiotic treatment in conjunction with hand surgery consultation. We present the first case report of a near total amputation of an index finger in an adolescent boy who had been bitten by a wild “gator snapper.”

Key words: turtles, animal bites, amputation, postexposure prophylaxis

Introduction

The alligator snapping turtle (*Macrochelys temminckii*), also known as the “gator snapper,” is the largest freshwater turtle in North America (Figure 1).¹ It inhabits the deeper waters of lakes, swamps, and river systems that drain into the Gulf of Mexico (Figure 2). It is readily distinguished from the common snapping turtle (*Chelydra serpentina*) by its large head and 3 distinct rows of prominent spiked scutes running the length of its carapace.² Like many aquatic Chelonians, it is a predator that responds unpredictably and with aggression when handled.³ Southern folklore weaves tales of the turtle's bite as being powerful enough to split a broom handle in two, and the traumatic amputation of fingers from an alligator snapping turtle bite has been purported in legend as well as in the lay press.^{4–6}

We present the case of a 15-year-old boy who sustained a near total amputation of his second digit from an alligator snapping turtle (*M temminckii*) bite, which required emergent antibiotics and surgical formalization. The circumstances in which the event occurred share many characteristics of previously reported wild-life encounter-related injuries in the Southern United States,⁷ but in this case with permanently disfiguring sequelae. Wounds to the hand from wild animal bites as

well as those sustained in aquatic environments are notorious for producing infections that are polymicrobial, highly pathogenic, and potentially life-threatening.^{8–10} Aggressive management of such trauma including wound care and antibiotic prophylaxis is implicated. This is the first case of such an injury we know of to be reported in the medical literature.

Case Report

A 15-year-old right-hand-dominant boy was transferred to our Pediatric Emergency Department from a community hospital for a traumatic injury sustained the same evening in late April. A self-described naturalist, he spotted an alligator snapping turtle in a stream near his home with an estimated 76-cm width by personal report as the specimen was held relative to his torso. He positively identified the species as *M temminckii* based on specific features including 3 distinct rows of spikes on the carapace. He had lifted the animal from its aquatic environment and endured the near total loss of his left index finger when the turtle snapped at him suddenly with a single bite during his attempt to photograph the animal. He stated that the turtle consumed his finger and neither the turtle nor the digit could be recovered. He applied direct pressure and sought immediate medical attention while achieving hemostasis. At an outside facility he was given a tetanus booster and a dose of cefazolin (1 g) before transfer to our institution.

Corresponding author: Robert D. Johnson MD, The University of Oklahoma Health Sciences Center, Section of Pediatric Emergency Medicine, 940 NE 13th Street, 2G-2300, Oklahoma City, OK 73104 (e-mail: bob-johnson@ouhsc.edu).



Figure 1. *Macrochelys temminckii*. Courtesy of the US Fish and Wildlife Service.

He arrived with vital signs significant for tachycardia (pulse, 115 beats/min) and a complaint of pain, but was otherwise hemodynamically stable (blood pressure, 124/86 mm Hg; temperature, 36.8°C; respiratory rate, 18 breaths/min; oxygen saturation, 98%). Physical examination revealed an obvious amputation of his left second digit with only the most proximal 1 cm remaining of the proximal phalanx (Figures 3 and 4). The extremity was otherwise neurovascularly intact with a slight range of motion limitation in the remaining digits seemingly because of local edema and pain. Radiographic examination revealed an intact metacarpophalangeal joint and an impressively precise, transverse amputation at the proximal phalanx and no other fracture or foreign body (Figures 5 and 6).

Orthopedic hand service was consulted, and the patient was treated with intravenous (IV) fluids and fentanyl, which provided adequate analgesia. Antibiotic therapy was initiated, consisting of ampicillin/sulbactam (3 g), gentamicin sulfate (60 mg), and levofloxacin (750 mg). The wound was copiously irrigated with normal saline solution and dressed loosely with Xeroform, Kerlix, and an ACE bandage pending formalization, and the patient was admitted for operative intervention, which took place the next morning. Surgical revision was determined to be the only option for repair as the digit was lost. The proximal phalanx was refined, and



Figure 2. Map of *Macrochelys temminckii* distribution. Courtesy of the US Geologic Survey; August 22, 2015.



Figure 3. Injury photograph of the hand. Courtesy of J. Andrew Jensen, MD.

skin edges were reapproximated around the remaining bony stump. Operative course was without complication, and the patient was discharged on the day of surgery. During the next 8 weeks, the patient reported difficulty with activities of daily living secondary to handled objects becoming caught on the remaining stump or simply falling through his hand. As a result of these complications, the patient elected to undergo Ray amputation of the second metacarpal as an additional procedure. Although not a common procedure, it is



Figure 4. Injury photograph of the hand, preoperatively. Courtesy of J. Andrew Jensen, MD.

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