

## Case Report

# Tiger Trauma

**Price JE\* and Cerny S**

Lincoln Family Medicine Residency Program, Lincoln Family Medicine Center Clinic, Lincoln, NE, USA

**\*Corresponding author:** John Price, Lincoln Family Medicine Residency Program, Lincoln Family Medicine Center Clinic, Lincoln, NE, USA**Received:** March 02, 2021; **Accepted:** April 14, 2021;**Published:** April 21, 2021**Abstract**

A 40-year-old woman presents to the trauma bay after being mauled by a tiger. She was emergently transported to the local tertiary community hospital for stabilization and treatment. She suffered from 33 different lacerations of multiple puncture wounds across her chest, full thickness lacerations to her left and posterior neck, left posterior scalp, and left arm. Vitals were stable and GCS 15. She was able to move all extremities with some weakness to her LUE and right sided facial droop with ptosis. She was subsequently intubated for distress, potential airway decompensation, and possible carotid artery injury. CT imaging illustrated a stable spinous process fractures at C5 and C6, non-displaced fractures of the left transverse process at C7 and T1, extensive subcutaneous emphysema within the inferior neck, superior right chest, and left clavicular region, as well as, air within the cervical canal and extrinsic to the thecal sac. MRI suggested ligamentous strain in the posterior longitudinal ligament at the C2-3 level, small amount of paraspinal hemorrhage on the left C2-3, within the interspinous ligaments C3-7 and marked edema/hemorrhage within the trunks and divisions of the left brachial plexus highly suspicious for brachial plexus injury. ENT and neurosurgeon diagnosed right facial palsy and began dexamethasone treatment. ID physician tailored antibiotics to vancomycin for human skin flora and ampicillin/sulbactam for *Pasteurella multocida* from the tiger. She was to switch to doxycycline, amoxicillin/clavulanate, and wound care after discharge. She was transferred for reconstructive surgery for the brachial plexus injury, electromyography, and electroneuronography testing.

**Keywords:** Tiger bite; Big cat attack; Trauma; *Pseudomonas putida***Abbreviations**

GCS: Glasgow Coma Scale; LUE: Left Upper Extremity; CT: Computerized Tomography; C: Cervical; T: Thoracic; MRI: Magnetic Resonance Imaging; ENT: Ear-Nose-Throat; ID: Infectious Disease

**Case Presentation**

A 40-year-old woman presented to the emergency department from a tiger mauling at the local zoo. Primary survey displayed external bleeding and otherwise normal. Secondary survey was positive for large laceration/avulsion to the left posterior scalp, right sided facial droop with right eye ptosis, right ear canal obstructed by cerumen and blood. Vitals were stable and GCS 15. She was able to move all extremities with some weakness to her left upper extremity. She denied drug, alcohol use, blood thinners, family and medical history were non-contributory. She was subsequently intubated for distress, potential airway decompensation, and possible carotid artery injury with Aspen collar placement. Subsequent computerized tomography imaging illustrated a stable spinous process fractures at C5 and C6, non-displaced fractures of the left transverse process at C7 and T1, extensive subcutaneous emphysema within the inferior neck, superior right chest, and left clavicle region, as well as, air within the cervical canal and extrinsic to the thecal sac. Antibiotic coverage was initiated with vancomycin for human skin coverage, ampicillin-sulbactam for *Pasteurella multocida* and azithromycin for *Bartonella henselae* potentially from the tiger. Then she was taken to the operating room for washout and closure of 33 lacerations with 2 drains placed in the deeper wounds.

After extubating in the surgical intensive care unit, patient was found to have numbness in the left arm predominance in the first and second digits. She had a 0/5 strength in the left deltoid and bicep, 3/5 in the triceps, and full wrist extension, flexion, and handgrip. Magnetic resonance imaging suggested ligamentous strain in the posterior longitudinal ligament at the C2-3 level, small amount of paraspinal hemorrhage on the left C2-3, within the interspinous ligaments C3-7 and marked edema/hemorrhage within the trunks and divisions of the left brachial plexus highly suspicious for brachial plexus injury. The ENT and neurosurgeon diagnosed right facial palsy, left brachial plexus injury at C5-C6 roots, and began dexamethasone treatment. The ID physician tailored antibiotics to vancomycin and ampicillin-sulbactam [1]. She had received a tetanus booster the prior month and the tiger was vaccinated from rabies. She was switched to doxycycline, amoxicillin/clavulanate, and wound care with transferring for reconstructive surgery for the brachial plexus injury, electromyography, and electroneuronography testing.

In a follow up clinic appointment, she was seen for a skin and soft tissue infection from *Pseudomonas putida*, which has not been documented before from a tiger attack. *P. putida* is found in soil and water-associated habitats and although rarely infects, it is associated with infections in immunocompromised state and trauma, which she was likely exposed to while being dragged by the tiger [2,3]. Case reports regarding infections from tiger traumas have a wide array of pathogens. The most prevalent two are *P. multocida* and rabies. Reports also illustrate other human pathogens, including *B. henselae*, *Toxoplasma gondii*, *Mycoplasma*, *Rickettsia* and *Leptospira* species

[4,5]. In addition to these, other considerations that could impact the tiger's flora will include diet, geographical differences, veterinary care, captivity or wild conditions. One potential future study would be to collect and analyze a sample of tigers' mouths, teeth, and claws in captivity.

## References

1. Morgan M. Tiger bites. J R Soc Med. 1999; 92: 545.
2. Peter S, et al. Genomic characterization of clinical and environmental *Pseudomonas putida* group strains and determination of their role in the transfer of antimicrobial resistance genes to *Pseudomonas aeruginosa*. BMC Genomics. 2017; 18: 859.
3. Thomas BS, et al. A Lethal Case of *Pseudomonas putida* Bacteremia Due to Soft Tissue Infection. Infect Dis Clin Pract (Baltim Md). 2013; 21: 147-213.
4. Goodrick JM, et al. Serosurvey of free-ranging Amur tigers in the Russian Far East. J Wildl Dis. 2012; 48: 186-189.
5. Iatta R, et al. Zoonotic and vector-borne pathogens in tigers from a wildlife safari park, Italy. Int J Parasitol Parasites Wildl. 2020; 12: 1-7.