Wild Tiger Health Centre Information Sheet

Disease threat: Inter-specific trauma

Hazard description: Arises from conflict with individual(s) of a different species. Reasons for conflict include prey species defending themselves, parents protecting offspring from tiger predation, tigers protecting their cubs, and /or changes in species interactions arising in association with habitat degradation and/or loss (Mukherjee and Heithaus 2013).

Host species: Tigers

Pathogenesis: : Injuries and trauma to teeth, claws, skin, underlying soft tissues or bones may arise from aggressive encounters with animals using their horns, teeth, claws, tusks, quills, or physical blunt trauma. Dental injuries may also arise during prey consumption (Van Valkenburgh 2009). These injuries may be lethal, or perhaps more likely sub-lethal, thereby affecting hunting abilities and survival, possibly leading to a switch to easier, but more risky prey such as humans (Corbett 1944, 1954; Mukherjee and Heithaus 2013). Corbett (1944, 1954) reported man-eating tigers in Northern India with missing or broken teeth or claws, with others having injuries consistent with porcupine quills. Embedded porcupine quills in older tigers are commonly encountered in the Corbett Tiger Reserve (Dushyant, pers. Comm. 2020).

Diagnosis: Clinical signs – highly variable, dependent on the nature of the encounter and the species involved.

Vaccination: Not applicable.

Free-ranging tiger occurrence: In their study on tiger mortality in India between 2011 and 2015, Nigam *et al.* (2016) found that 15 / 145 deaths investigated were caused by inter-specific trauma. Gaur were the main species responsible with other cases caused by dholes, wild boar, porcupines and domestic livestock.

A number of reports can be found in grey literature of conflicts between tigers and gaur (*Bos gaurus*), porcupine spp., dholes (*Cuon alpinus*), sloth bear (*Melursus ursinus*), Asian black bear *(Ursus thibetanus*), Himalayan black bear (*Ursus thibetanus laniger*), brown bear (*Ursus arctos*), wild boar (*Sus scrofa*), large crocodiles and Asian elephant (*Elephas maximus indicus*):

- Gaur
    - Conflict with gaur in India, which are 3-4 times the weight of an adult tiger – horn injuries (Karanth 2013)
- Porcupine
    - Injuries from porcupine quills (Corbett 1944, 1957; Dushyant, pers. comm. 2020)
- Dhole
    - Dhole pack attaching tiger in video footage from India. https://www.youtube.com/watch?v=uBdeWzQ9EM4
- Sloth bear
    - Sloth bear protecting cub from tiger attached at shared water hole in Tadoba National Park, India. https://www.youtube.com/watch?v=0ggJ627z4jU
- Asian black bear
    - Amur tigers prey on Asian black bear cubs (Prynn 2004) in Manchurian forests (Russia)
    - Conflict between black bears and tigers reported (Jim Corbett, in Perry 1964).
    - Two tigers attack an Asian black bear when the tiger cubs get into danger https://www.youtube.com/watch?v=ysNa_YQFwiM
- Himalayan black bear
    - A report from Bhutan of a tiger killing a Himalayan black bear in 2009, illustrating that tiger wounds from such conflict are possible (Big Cat Rescue 2009).
- Brown bear
    - Reports of brown bear killing tiger cub in Shukhi-Pokto Reserve, Khabarovsk, Russia in 1956 (found in Walters 2018)
    - Brown bear killing tigress (who was protecting her cubs); in Sikhote-Alin, Russia in winter 1959/1960 (found in Walters 2018)
- Conflict between Amur tigers, brown bears and black bears is reported from the Sikhote-Alin Reserve in Russia, where the habitats of all three overlap. 27% of 44 encounters between bears (species not specified, but suspect it refers to brown bears), and tigers resulted in tiger death (Seryodkin *et al*. 2011).
- There are reports of tigers killing young elephants in Corbett National Park in India, which could lead to conflict with adult elephant protecting young; no specific details of this were found. In addition, the report also mentions tiger deaths in association with wild boar and porcupine conflict, and tiger conflict with leopard (Press Trust of India 2019).

Distribution: All tiger ranges. May increase in areas where tiger habitats are either reduced in size or quality, leading to an increased likelihood of predatory attempts on potentially more dangerous prey, and/or increased likelihood of interactions at scarce water resource points for example.

Assumptions: Not applicable

Limitations: Difficulty in acquiring proof after the event. In some cases, live video footage is confirmatory.