Treatment of Rescued Shikra (*Accipiter badius*) with injury

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Introduction

The Shikra (*Accipiter badius*) is a small bird of prey belonging to the family Acciptridae and distributed in Indian sub-continent from Central Asia and Southern Persia throughout India, Myanmar, and Sri Lanka, and eastwards to Southern China. It is divided into several races, distinguished by details of size and shade of coloration. *A. b.dussumieri* is found throughout India, from the North-West Frontier Province and Kashmir to Northern Assam, extending in the Himalayas up to about 5000 feet. In Travancore and Ceylon it is replaced by the smaller and darker *A. b. badius*. These two races are resident, but in the winter the Central Asiatic race, *A. b. cenchroides*, a large and pale bird, visits Baluchistan, Sind, North-West Frontier Province, and the Punjab (Whistler, H, 1949).

The Shikra is included in Wildlife Protection Act, 1972 WLPA-schedule - I and has the highest grade of protection as per the Act. The IUCN Red List of Threatened Species (2015) has categorized Shikra as "Least Concern". Birds of prey efficiently control many insect, bird and rodent populations considered to be agricultural pests or disease reservoirs for humans, thus enabling people to avoid the use of expensive pesticides or toxic agents that may contaminate the environment. The loss of trees and changes in habitat brought about by human activities are the main threats to the survival of these bird species.

Clinical case

An adult Shikra (*Accipiter badius*) was rescued and brought to the Department of Wildlife Science, Madras Veterinary College, Chennai with injury and was reluctant to fly. This group of birds is easily stressed. Hence, initially it was placed in a warm dark room for an hour before examination. A thorough physical examination (body weight 124g) was conducted with chemical restraint using ketamine as an immobilizing agent at the dose rate of 15mg/kg body weight, intra muscularly (Carpenter, 2013).

Raptors rely on their agility, stealth, speed and strength to locate prey and in most cases, to capture their prey. Relatively minor injuries, such as bruising or damage to flight or tail feathers would not seriously impede or jeopardize the survival of most types of birds in the wild. But any injury suffered by a raptor can be life threatening. An open wound near the proximal head of the humerus, was noticed on the right wing (leading edge). The feathers surrounding the wound was trimmed or gently plucked and dressed with diluted povidone iodine. Many avian wounds are older than 8 hours or contaminated and therefore most soft-tissue healing is by second intention (Degernes and Redig, 1993). So, the wound was allowed to remain open and heal by second intention. To enhance wound healing, the bird was topically applied with triple antibiotic ointment of bacitracin zinc, neomycin sulfate, and polymyxin B sulfate (Krahwinkel and Boothe, 2006). Along with meloxicam @ 0.2mg/kg of body weight orally once daily for 3 days (Carpenter, 2013), a broad spectrum antibiotic Amoxicillin @ 125mg/kg of body weight orally twice daily for 3 days (Carpenter, 2013) and supportive therapy with multivitamin syrup orally for a week were given.

Most parasitic infections in wild birds of prey usually cause little or no distress to healthy individuals. However, parasites can become a significant health problem for raptors that are held in prolonged captivity in confined housing and for raptors that have recently come into captivity that are stressed by injury, illness, or exposure to the new environment.

This bird was also found to be infested with tape worm (cestode) by fecal centrifugal sedimentation technique. Based on morphological characters, it was identified as *Hymenolepis* species and treated with Praziquantel @ 10 mg/kg body weight orally (Carpenter, 2013) and the treatment was repeated at the same dose after a week. The anthelmintic should be given when the upper digestive tract is empty, to decrease the amount of inactivation of the drug and to reduce the possibility of vomiting (Redig, 1993).

After treatment, the bird was placed in a large cage with perch, providing enough space for it to spread its wings and soft towel was placed on the floor of the cage. Imprinting is irreversible in birds and it will cause behavioural problems (Mullineaux, 2003). So, it was placed away from human contact in a dark room and it also facilitated fast recovery, fitness and coordination of this bird. If imprinting is suspected, these birds cannot be released (Gage, 2008) into the wild.

Treatment over the next 5 days consisted of oral administration of Amoxicillin @ 125mg/kg of body weight orally, twice daily, dressing of wound regularly with povidone iodine solution and oral administration of multivitamin syrup by mixing with chopped beef. During this period, the shikra was fed with chopped beef daily. Raptors rarely need force feeding and

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may be left for up to 48 hours unless severely debilitated by disease or trauma. Although raptors eat whole bodies including fur and feathers, it is best to avoid when the bird is very sick or weak. So, they should be fed with easily digested food without bone, fur and feathers for the first three to four days. It is not essential to feed casting matter in sick or recovering birds (Chitty, 2008). Chicken breast meat, rabbit and beef are all nutritious.

On day 10, after admission, the shikra was placed in an outside mews that allowed it to resume limited flight activity. Maneuverability and stamina increased daily, as long as the bird is given the opportunity to fly. Status of improvement was observed for the entire period of hospitalization.

It is important to realize that not all wounds can be successfully treated. Even after treatment some raptors will never regain full physical condition. Any treatment should take into consideration the effects it may impose on the bird's health as well as the future use of the bird after treatment. If the final result is going to be a success in birds of prey intended for falconry or education, or intended for rehabilitation and release back into the wild, require separate analyses of their condition and anticipated outcome after treatment (Burke, *et al.* 2002).

In this present case, after a series of treatment and management, the rescued Shikra was able to fly on its own without any difficulty and subsequently the bird was handed over to the Arignar Anna Zoological Park, Vandalur, Chennai for exhibit purpose.

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