

Conservation medical activities for wild endangered raptors, in Hokkaido Japan

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Various biomedical activities for the conservation of endangered raptors are now going into operation, by the Institute for Raptor Biomedicine Japan (IRBJ). As for the conservation of the Blakiston's Fish Owl (*Ketupa blakistoni*), one of the most endangered species in Japan, rescue of injured individual has been performed in addition to the basic study such as the clinical examination and nutritional status assessment of the nestling, genetic analysis for sex determination and diversity assessment. Conservation medical activity of the Steller's Sea Eagle (*Haliaeetus pelagicus*) and White-tailed Eagle (*Haliaeetus albicilla*), those winter in a large number in Hokkaido, is one of the primary practice of IRBJ. This includes medical treatment of injured birds, rehabilitation (pre-release training), determination of the cause of death and injuries, and pathological research of infectious diseases.

The goal of wildlife rescue is not the medical treatment itself. Recovered individual must be returned appropriately into wild after particular rehabilitation program. Therefore, it is crucially important know the biological status of the patient species, and learn a skill to make a diagnosis correctly using the firstly our five senses. These make us advantage to diagnose without excessive stress on patients, especially in the field without special veterinary equipments. Selection of the best clinical method is important to reduce the physical or mental effects which can cause the adverse impact when returned to the wildness. At the time when we provide some high quality and specialized medical treatment or examination (e.g. endoscopic operation, ultrasonic examination, or surgical operation under gaseous anesthesia), special skill to get a scent of peculiar vital sign or reflex, and knowledge of emergency protocol (including air sac intubation, and fluid / blood infusion technique) are required. Furthermore, it is important to keep in mind the important raptor infectious diseases seen in Japan (and neighbor countries) and always update them to the latest information. Learning the essential skill of the clinical technique, assuming a scene to utilize, greatly contribute to improve the lifesaving performance.

IRBJ receive a large number of raptor carcasses each year, many more than live birds. Autopsy to determine the cause of death is always put in operation as the ordinary work. When the cause was an artificial thing, we keep in particular mind to send a proposal to the organization concerned, for the purpose of prevention of other similar incidents.

Our 15 years data show the existence of the various conflicts between human and wild raptors. In 1996, lead shot was firstly found from the ventriculus of a Steller's Sea Eagle. In 1997, fragments of lead rifle bullet were also detected. The instance greatly increased after 1997, and it was clear that severe lead poisoning caused by lead hunting ammunitions (rifle bullets and shotgun slugs/pellets) was frequently occurring in raptors. Currently, the collision with windmill (bird strike) becomes a social problem. Almost of 21 victims of White-tailed and Steller's Sea Eagle were examined in IRBJ, and

the result of the predisposition has been reported in the academic meeting. Electrocuting of large sized raptors by power poles or lines is now one of the most serious problems. Close investigations were carried out, not only to make clear the background and mechanism of the accident, but also to suggest the practical prevention method to the power company.