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Clinical report

Management of severe bites from orangutan (*Pongo pygmaeus*)

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Background: Orangutans are critically endangered primates living in the shrinking virgin rainforests of Borneo and Sumatra. Two or more species of orangutan once inhabited a larger part of Southeast Asia. Attacks by these giants are extremely rare and we could not find any prior medical report of human injuries from an orangutan. This incident took place in Borneo in a primate rehabilitation station operated by Indonesian and international staff**.**
Objective: This reports the management of severe bites by an orangutan.

Keywords: Bites of humans, management of severe primates bites, orangutan.

Orangutans are critically endangered primates living in the shrinking virgin rainforests of Borneo and Sumatra where, in special rehabilitation stations, they have found a home and become a tourist attraction. This brings these gentle creatures, living normally on trees rather than on the ground, in direct contact with human visitors (**Fig. 1**). They are considered the most intelligent of all apes. It is thought that the two or more species of orangutans *Pongo pygmaeus* and *P. abelii* once inhabited a larger part of Southeast Asia, including parts of Viet Nam, Peninsular Malaysia, Southern Thailand and even parts of China where fossils have been found. *A* fully grown male can weigh as much as 250 lbs and has enormously powerful arms as well as a good set of teeth. Nevertheless, attacks by these giants are extremely rare and we could not find any prior medical report of human injuries from an orangutan. This incident took place in Borneo in a primate rehabilitation station operated by Indonesian and international staff.

Fig. 1 An orangutan *(Pongo pygmaeus*) (animal zoo in Bangkok).

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Case report

A 62 year old male tourist came close to a large solitary male orangutan and was attacked while taking pictures. He sustained deep lacerations with skin evulsions of his left knee, right calf and right ankle (see **Fig. 2**). An effort to close the wounds by suture was made almost immediately after the attack at a local medical facility. It was then learned that the patient had a history of arteriosclerotic heart disease, mild mitral regurgitation, bilateral knee replacements and at least one episode of deep vein thrombosis of his legs for which he was anticoagulated. A decision was then made to transfer him to a higher level of care in Singapore. This was accomplished on the same day.

On admission to Mt Elizabeth Hospital in Singapore, the patient was stable but febrile. It was noted that the lacerations had been sutured with silk and there was evidence of swelling and inflammation around the wounds and early cellulitis. General evaluation included cardiology consultation and an echocardiogram which showed a mild degree of mitral regurgitation but good ejection fraction. Routine laboratory studies were unremarkable. He then underwent emergency debridement of his wounds. His hospital course included daily wound dressings and split skin grafting (**Fig. 3**). He was found to have evidence of a deep vein thrombus in his leg and anticoagulation was continued. He had a short episode of dyspnea possibly due to pulmonary embolism that required nasal oxygen and which improved. He became ambulatory and was discharged to his home in North America for further follow-up. Aerobic cultures of tissue removed at debridement showed a mixed flora consisting mostly of coagulase negative *staphylococcus epidermides* resistant to augmentin and sensitive to clindamycin and ciprofloxacin with which he was treated. It is not known whether oral anaerobes may have also played a role in the rapid cellulites that developed. He was treated with drugs that covered both aerobes and anaerobes.

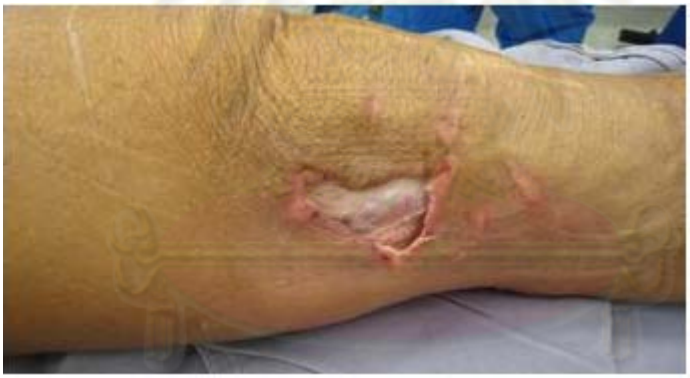

Fig. 2 Skin evulsions at the left knee of the patient.

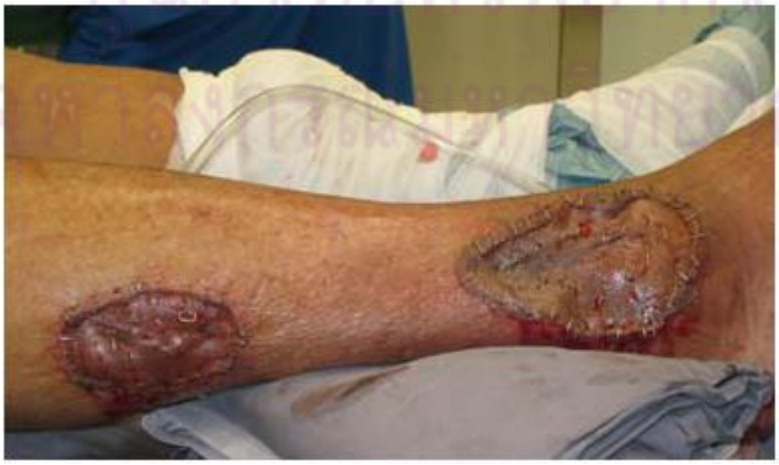

Fig. 3 Daily wound dressings and split skin grafting.

Discussion

We could not find any prior reports of human injuries by an orangutan. However, G. Kloppel reported an event from the Frankfurt, Germany zoological garden in 1981 [1]. A large male orangutan attempted to mate with his orang-wife, but his male offspring got in the way and was severely bitten incurring severe bites of his head and chest resulting in a pneumothorax and hemothorax. He survived after extensive surgery and treatment of wound infection. There was also a newspaper report from Malaysia where a tourist was slapped and pushed to the ground by an orangutan fortunately without any injuries.

Our case emphasizes that wild animals, even when considered human-like and gentle, remain potentially dangerous and should not be disturbed without good reason and preferably by experts and only when needed. The argument given by the medical and zoological staff at the incident site for immediate suture was "that orangutans are vegetarians and that bites are unlikely to get infected". No evidence for this assumption could be found in the literature and it proved quite erroneous and potentially dangerous in this case. The issue of whether to apply primary suture in human, canine and other animal bites remains controversial. The most common view is that it should be delayed after proper cleansing and antisepsis of the wound has been assured [2]. The co-author's experience, at a large academic animal-bite management center in Bangkok, is that virtually all deep bites by dogs and even more so by cats will result in cellulitis within hours to days if sutured immediately. The sutures will then have to be removed. There are thus two lessons to be learned from this case. Orangutans are intelligent human-like creatures but they have large teeth and much strength that can seriously injure a human who irritates them. There is no evidence that being a vegetarian makes an orangutan bite wound less likely to become severely infected. Primary suture of human or animal bites should be avoided unless absolutely necessary and then only to approximate tissue that cannot be left open.

References

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