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Sir,

Penetrating eye injury following a snake attack
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Eye injuries caused by snakes are rare. The mechanism is nearly always a chemical injury from venom, either during extraction of the venom from farmed snakes,¹ or from a jet of venom projected by the snake.^{2,3} There are only two case reports in the literature of a snake bite to the ocular adnexa.^{4,5} While penetrating eye injuries have been reported following bites from other animals,^{6,7} this is the first report of such an injury caused by a snake attack.

Case report

A 24-year-old man presented after being struck on the left side of his face by his pet boa constrictor (*Boa constrictor*). The snake had attacked with its jaws agape and its fangs had become impaled in our patient's eyelids and cheek. Because the boa's teeth are angled backwards into the mouth (Figure 1), it took several minutes to release the snake.

Figure 2 demonstrates the teeth marks from the snake's lower jaw on the left cheek, and the puncture marks from the upper jaw extend over the lower lid margin at the medial canthus. The visual acuity of the left eye was counting fingers, there was extensive subconjunctival haemorrhage, and the anterior chamber was shallow with a seidel positive corneal laceration. Plain X-ray showed a small, radio-opaque foreign body in the left cheek.

Examination under anaesthesia revealed several conjunctival lacerations, and two shelving corneal

Figure 1 Boa constrictor skull demonstrating uniform stiletto-like teeth.

Figure 2 Photograph showing teeth marks. Those from the upper jaw cross the medial canthus onto the globe.

lacerations approximately 4–5 mm long. These were repaired with interrupted 10/0 nylon sutures. There was also a 4 mm track of intrastromal blood extending from a wound at the superior limbus, caused by one of the snake's fangs. Two full thickness scleral perforations were present, 1 and 5 mm behind the superior limbus. These were V-shaped with the apex directed posteriorly, and 1–2 mm in length. There was no loss of intraocular contents and the lacerations were closed with 7/0 vicryl. There was no injury to the lens and fundal examination was normal, with no evidence of an intraocular foreign body or retinal tear. The skin lacerations were cleaned and a 2 mm translucent, needle-like tooth was removed from the cheek. Steri-strips were applied where necessary.

Postoperatively the patient was treated with a course of topical and systemic antibiotics and topical steroids. His recovery was largely uneventful, except that when he returned the snake to the pet shop it struck at the other side of his face causing superficial lacerations over the right superior orbital rim. Fortunately, the right eye was uninjured on this occasion. The corneal sutures were removed from the left eye at 4 months, and 6 months after the injury his visual acuity had recovered to 6/9 unaided.

Comment

Boa constrictors are large, nonvenomous snakes originating from South America and the West Indies. It is

not unusual for a pet boa constrictor to strike its owner; however, it is usually the fault of the keeper for disregarding the natural instincts of the snake. The boa constrictor is active at dusk and during the night when it lies in wait for its prey. If the boa keeper tries to handle the snake after the vivarium light has been switched off they may be bitten. The same can happen if the keeper's hand smells of boa food, for example after handling a rat or mouse. Furthermore, there exist very aggressive specimens, which frequently strike their owner. There are also certain periods when even docile snakes are more aggressive, for example when shedding their skin. The boa has two types of bite—the prey bite and the defence bite. In the former, the jaws lock shut on the prey while the snake coils itself around its victim to suffocate it by constriction. The defence bite is an open-mouthed strike against a threat, and usually the snake recoils after the attack (Hermann Stöckl, personal communication).

Our patient was attacked as he reached into the vivarium to change the water, but he had been preparing a rat to feed to the snake just prior to this. The pattern of teeth marks on our patient's face suggests an open-mouthed defence strike. Unfortunately for the boa, and our patient, the snake's fangs became impaled on the patient's eye and face and caused the injuries described above.

Penetrating eye injuries following animal bites are unusual, even in the presence of extensive adnexal trauma.^{8,9} In this case, despite minimal adnexal trauma, the eye was seriously injured. The pattern of teeth marks crossing the medial canthus towards the globe is the sign that should alert the clinician to involvement of the eye.

Dog bites cause large, complex corneo-scleral lacerations with prolapse of, or severe damage to, the intraocular structures.⁷ In contrast, cat bites result in puncture wounds that may inoculate infective organisms deep into the tissues.⁶ The pattern of globe injury caused by the snake bite is therefore most similar to a bite from a cat, with puncture wounds from needle-like teeth. Fortunately for our patient, there was no sign of infection.

We have presented the first case of penetrating eye injury caused by a snake bite. The attack was probably precipitated by poor handling techniques on the part of the owner. All keepers of unusual or dangerous animals should understand the behaviour of their chosen pet.

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Sir,

Consanguinity and disease coincidence

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Increased homozygosity leads to the expression of recessive genes in the children of consanguineous unions. There is also the possibility of noninherited genetic disease in such patients, and this should not be overlooked.

Case report

An 11-month-old girl was initially referred to us in 1988 with nystagmus, recently noticed by her 35-year-old mother. She was systemically well as were her five elder siblings. Her parents are second cousins, but there was no family history of ocular or systemic pathology (Figure 1).

Examination confirmed the presence of horizontal jerk nystagmus and revealed bilateral iris transillumination.