

Basic Instinct in a Feline

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Reported cases in Europe of large felines attacking humans are rare. Recently, in France, a man was attacked in an animal park by a tigress he had raised. He received fatal cervical wounds. This case of death by bites and lacerations, together with others in the recent international literature, underline the hereditary ferocity of such felines and the way in which they prefer to inflict lesions to the neck.

Key Words: Big cat attacks—Bites—Lacerations—Spinal injury.

In recent years, large felines have exerted an attractive force, if not real fascination, on people of modern societies perpetually looking for new sensations. Such an attraction is extremely reckless because these animals represent a real danger when they are adult.

Now in the year 2000, human beings cannot resist being the sorcerer's apprentice in many fields. To believe that it is really possible to tame a large feline simply because it has been bottle-fed, raised like any other domestic animal, cuddled, played with, and shown to one's friends (indeed, panthers and tigers often play to their audience) is to be totally oblivious to the danger. It is only professional tamers who understand how to dominate the instinct of the animal and channel its innate behavioral tendencies without ever forgetting the risks attached to their profession.

Cases of fatal accidents in animal parks, circuses, and zoos are few, and the media are only rarely informed, for obvious reasons (1–4).

The present case of lethal bites and lacerations inflicted by an adult female tiger, age 2 years 3 months, weight 230 kg (506 pounds), represents a rare occurrence in a country like France, so it deserves to be reported not only for its forensic aspect but also for the peculiar nature of the circumstances.

CASE REPORT

Forensic Circumstances and Observations

The victim, a 49-year-old man, lived in his own animal park with about 100 wild animals, of which 20 were felines. One of these, Carola, a tigress born in captivity, was one that he himself had reared from an early age. On September 15, 1996, at about 3:30 A.M., he went to the animal compound with a friend. The tigress was clearly excited, as the man himself noted. According to the witness, the man climbed over the gate of the compound to try to calm the animal and was then attacked. The animal

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threw him to the ground, scratching his lower limbs; she then grasped his neck in her jaws and dragged him to the middle of the compound, where she tossed him into the air. The friend who was watching the scene managed to frighten the tigress enough to be able to enter the compound and drag the victim outside. However, the latter died soon thereafter, and the tigress was put down that same afternoon. The man's clothes, which were lacerated and blood stained, were given to the police. An autopsy was ordered by the public prosecutor to determine the causes of death. Radiographs were taken, as well as samples to determine the blood alcohol level for toxicologic study and for pathologic analysis.

Examination of the Body

On the head there was a small gash 1.5 cm long, parallel and adjacent to the left nostril. The neck had deep open wounds: Two enormous penetrating wounds (Fig. 1) caused by teeth were situated on the right lateral cervical region, one above the other, at a distance of ~ 7 cm, each measuring 4 cm, opposite the anterior edge of the right sternocleidomastoid muscle and perpendicular to the jugulocarotid vessels. The superior wound was quasi-horizontal under the goniac angle, ~ 7 cm below the external acoustic meatus; the lower one was parallel to the anterior edge of the sternocleidomastoid muscle and was situated 5 cm above the supe-



FIG. 1. Wounds inflicted to right lateral cervical region.



FIG. 2. Claw marks on left shoulder and arm.

rior edge of the clavicle at the junction of the middle and lateral thirds. Both wounds showed tearing of the subjacent muscle mass.

On the left posterolateral side of the neck, there were three deep circular wounds at the level of the cervical spine, probably caused by the piercing of teeth. There were also three other penetrating wounds on the posterior face of the thorax between the scapulae and two nonpenetrating thoracic wounds to the ribs. Moreover, on the left shoulder and superior part of the left arm (Fig. 2), there were characteristic claw marks of a big feline. Also caused by claw lacerations was a deep wound to the right lateral third of the right leg with baring of the subjacent muscles, a wound to the popliteal region, another to the calf of triangular aspect, a linear wound to the medial face of the left heel, and another linear wound to the medial face of the fifth toe. Nor was the left leg spared: There were two wounds to the lateral face, a triangular wound to the medial face, and a linear wound to the third toe at the level of the proximal phalanx.

Internal examination did not reveal any particular wound in the cephalic extremity but did show (Fig. 3) two wounds to the right jugulocarotid vessels



FIG. 3. Wounds to right jugular-carotid vessels on internal examination.

subjacent to the skin lesions described above, with ecchymotic infiltration of the carotid vascular sheath. In the spine, the prevertebral muscles were hemorrhagic, with compound fractures of the C3 and C5 vertebral bodies associated with complete laceration of the spinal cord, as a result of posterior transfixion caused by teeth.

Autopsy Observations

External examination of the body revealed numerous lesions corresponding to lacerations of the lower limbs and left shoulder, and to bites especially to the right side of the neck, the left side of the nape, and probably the thorax. Autopsy confirmed the very serious right vascular spinal and cervical lesions caused by violent constrictive biting of the neck. The cause of death was deemed to be the irreversible transfixing lesions of the spine associated with the two wounds to the right jugulocarotid vessels, leading rapidly to volume depletion. Despite the lesions, however, it is conceivable that the victim survived for a very short time afterward, as was claimed by the eyewitness. Also to be noted in the victim was a blood alcohol level of 1.04 g/L and a urine alcohol level of 1.54 g/L.

DISCUSSION

In Europe, France is second only to the United Kingdom regarding the number of pets per inhabitant and therefore to the number of injuries resulting from bites by dogs and scratching by cats (5–8). Rarer are wounds inflicted by large felines, which could indicate the need for increased care in dealing with such animals (1–4,9,10). Nevertheless, large felines have always fascinated human beings, and the beauty of the tiger, its fur, its eyes, and its gait (which is frequently thought of as “royal”) is as legendary as its cruelty. As early as 1749, Buffon reported that “the tiger fears neither the aspect nor the weapons of man” (11).

Like all other felines, the tiger holds down its prey with its paw. It never attacks head-on but prefers an approach from the rear or over the shoulder, going for the nape and neck. Its canine and ripping teeth are indeed formidable, and their structure allows the tiger to thrust these teeth deep into the intervertebral spaces, thereby causing the medullary lesions visible in the present case. Moreover, the proprioceptive receptors in the teeth and jaws make it possible for the tiger to detect bone contact with the canine teeth. A usual manner of killing its victim is to shake the latter violently by the neck, thereby causing cervical lesions due to hyperextension (1,3,9,10,12,13).

A similar but nonfatal case was reported in 1996 by Wiens and Harrison (10). In that case, a tigress inflicted spinal and pharyngeal lesions by such viselike biting but did not rupture the large vessels of the neck. The animal reportedly held the man down with his neck in its jaws to suffocate him (10).

In the case reported by Delahaye et al. of mortal wounds inflicted by a panther in captivity, the lesions included clear deep lacerations to the anterior face of the neck, whereas no trace of biting was found (2).

Rollins et al. described a mortal attack by a puma in the wild, which occurred in spring 1994 in California. There was a deep bite to the chin caused by the canines and the maxillary incisors, and it was apparent that the animal had attacked the extremity of the spine and the neck. However, it is not possible to interpret which lesions were inflicted before or after death (4).

In our case, it is quite likely that the man’s ingestion of alcohol modified his usual vigilance and behavior, and the odor of alcohol may have exacerbated the tigress’s reaction.

The tigress was skinned. At the request of the regional veterinary department, an autopsy was per-



FIG. 4. Three-dimensional computed tomography of the tigress showing fracture of left upper canine caused by gunshot wound.

formed on the head to exclude contamination by rabies. We used myologic, arthrologic, and biomechanical techniques (Fig. 4) to study the tigress's maxillomandibular system (Figs. 5 and 6) and dentition (16 maxillary, 14 mandibular: incisors = 3/3, canines = 1/1, premolars = 3/2, molars = 1/1) to specify the mode of attack and her position in relation to the victim (12,13).

CONCLUSION

It is now fashionable to keep exotic animals from Asia, Africa, or elsewhere. In the case of large felines, even neonates are not to be considered as cuddly, joyful playthings. Because ferocity is one of their hereditary acquired traits, the danger they represent should never be underestimated—above



FIG. 5. Skull of tigress showing subsequently reconstructed left upper canine.



FIG. 6. Dentition and claws of tigress before animal underwent autopsy showing fractured left upper canine and wounded tongue.

all, when an unexpected event occurs—even if they seem quite domesticated. Moreover, French and European legislation is strict on such matters (14).

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