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Case Report

# Injuries inflicted by a pet ferret on a child: morphological aspects and comparison with other mammalian pet bite marks

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**Abstract**

Ferrets are becoming more and more popular pets in American homes. Nevertheless, they can cause potentially dangerous injuries, particularly in small children. Based on the case of an infant injured by a ferret, the characteristics of the wounds are described and compared with those of other animals. The potential legal implications are also discussed.


*Keywords:* Ferret; Wounds and injuries; Bite marks; Infant; Neglect

## 1. Introduction

Pet animals are very popular in many homes. Dogs and cats are the most frequent, but increasingly more families are buying exotic animals. For instance, the domestic ferret has become the third most frequent pet in the United States. Their number is actually estimated at around 7–10 million. Despite the increasing popularity of these new pets, they can provoke potentially severe injuries, especially in young children. We report the case of an infant bitten by a ferret.

## 2. Case report

A six-week-old infant was referred to the emergency department of a local hospital by his parents, for facial injuries. The parents explained they had left their child unattended for a few minutes in his baby seat in the living room. Next to the child was their pet ferret in its cage. On their return, they claimed that the ferret had escaped from its cage, with no clear explanation for this. The infant was immediately transferred to the closest pediatric surgery ward. On admittance, he was conscious and had no fever. Hemodynamic status was stable. Inspection of the skin revealed several contused wounds on the right ear. Physical examination found a cutaneous and cartilaginous irregular wound of the helix, with substance loss, lacerations of the earlobe, superficial cutaneous punctures behind the earlobe, and curvilinear superficial skin erosions in the parotid area (Fig. 1). Wounds were also found on the chin and submental area (Fig. 2). Clinical examination did not reveal any neurological deficit palsy, and an otoscopic examination showed no penetrating wound of the external acoustic meatus.

The infant was hospitalized. Treatment combined local wound care, closure of the wound using absorbable sutures, antibiotics (aminosids and penicillin A) and intravenous pain relievers. A Pope-Oto-Wick® was placed in the

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Fig. 1. Photograph of the child: substance loss of the posterior two-thirds of the right helix, superficial puncture lesions of the right parotid area.

Fig. 2. Photograph of the child: two puncture lesions of the right chin and submental area.

external auditory meatus in order to prevent orificial stenosis. Tetanus toxoid was administered on day 1, as well as an injection of tetanus vaccine.

The rabies status of the ferret was investigated simultaneously. According to the parents, the animal had not been vaccinated. A veterinarian requested a brain biopsy to be performed on the ferret to determine whether or not it was rabid. Unfortunately, this was not possible as the father had thrown the ferret and its cage out of the car window in anger. A rabies vaccination protocol was thus started for the child on day 3.

Due to the parents' confused explanations for the accident, a police investigation was requested at the same time. The legal authorities to whom the case was referred immediately ordered that a medicolegal investigation be carried out. This investigation was opened on day 7. Examination of the child's medical notes revealed that he was born at full term. There was no remarkable past medical history. Physical examination noted a failure to thrive (according to French charts, height at −2 standard deviations). Apart from the described injuries, no other traumatic lesions were found. Psychomotor development was normal.

As the ferret had not been found, no comparison between the animal's jaws and the bite mark patterns could be made. The distance between the two punctures at the basis of the arch-formed wound in the parotid area (Fig. 1) was 0.8 cm. In a study of predator bite marks,[1] the inter-canine distance of the ferret was measured between 0.7 and 1.4 cm. Moreover, the characteristics of the bite mark were incompatible with a human bite mark, and the maxillary inter-canine width of most common pets, cats and dogs, are, respectively, 0.9–2.2 cm and 2–4.8 cm.[2] The examiner came to the conclusion that the wounds were caused by a ferret, associating punctures due to penetration of the animal's canines in the skin (retroauricular lesions), laceration wounds caused by the cutting edge of the canines (earlobe wounds), bites with substance loss due to crushing by the other teeth (helix wounds), and scratches caused by the animal's claws (parotid area skin erosions). The substance loss from the right ear was evaluated at approximately 60% of the external ear. According to French legal procedures, the examiner estimated the expected damage relating to these injuries to be 7 days of "functional disability". He planned to reevaluate the child after the rabies prevention follow up.

The wounds healed properly, without infection. However, a loss of cutaneous and cartilaginous substance persisted.

Fig. 3. Ferret canines.