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Postmortem Injuries by Indoor Pets

M. L. Rossi, A. W. Shahrom, R. C. Chapman, and P. Vanezis

Four cases of postmortem injuries caused by indoor pets (three by dogs and one by cats) are presented. A pattern which is associated with this phenomenon is described. The important common factors appear to be the presence of free-moving pets inside the house, social isolation of the deceased, and the victim having a predisposing condition causing sudden death.
Key Words: Postmortem injury—Dog bites—Cat bites—Animal attack.

It is common knowledge that animals may attack a dead body and cause postmortem mutilation. Sometimes the injuries are mistaken for the effect of violence inflicted while the person was alive. Postmortem injuries caused by animal attack have been mentioned in major forensic textbooks such as those by Knight (1) and by Spitz and Fisher (2). A literature search through *Medline* for the years 1966–93, however, using a variety of key words, showed no reported cases of postmortem injuries caused by indoor pets. We believe such incidents are relatively common but are underreported. We present four cases of postmortem injury by indoor pets. All cases occurred during the winter months of December 1992–March 1993 in London, England.

CASE HISTORIES

Case 1

A 53-year-old Caucasian man was a diabetic on insulin injection and had a history of three previous myocardial infarctions. He was found dead in his house. A suspicion of a crime arose when the deceased's face and upper part of the body were found "injured."

Examination of the scene showed the deceased was lying on his back with part of his face, neck, chest, and right upper arm missing (Fig. 1). A fragment of lung tissue was present next to the deceased's left leg. Pieces of broken bone and bloodstains were found on the carpet in between his legs. Refuse was strewn all over the floor of the kitchen downstairs. A German shepherd, which had belonged to the deceased, was at the scene (Fig. 2).

Postmortem examination showed a Caucasian man clad in a pair of striped pyjama shorts. The flesh on the face, neck, and upper chest and both eyes were missing. Multiple bite marks at the edge of the injuries were considered consistent with having been caused by a dog (Fig. 3). The right upper arm

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From the Department of Forensic Medicine and Toxicology, Charing Cross Hospital, London, England.

Address correspondence and reprint requests to Dr. M. L. Rossi, Department of Forensic Medicine and Toxicology, Charing Cross Hospital, 116 Fulham Palace Road, London W6 8RF, England.

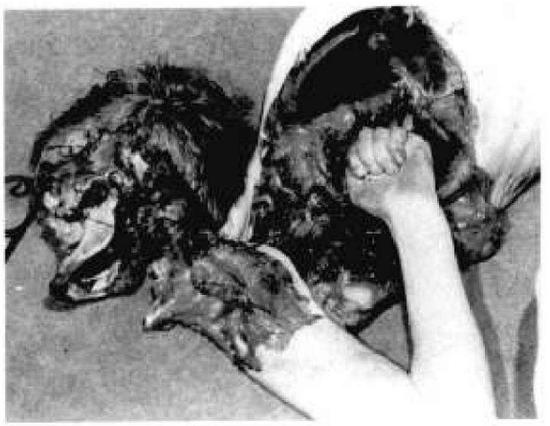

FIG. 1. The victim from case 1. Note the postmortem injuries involving the face, neck, and chest region. The right upper arm was absent.

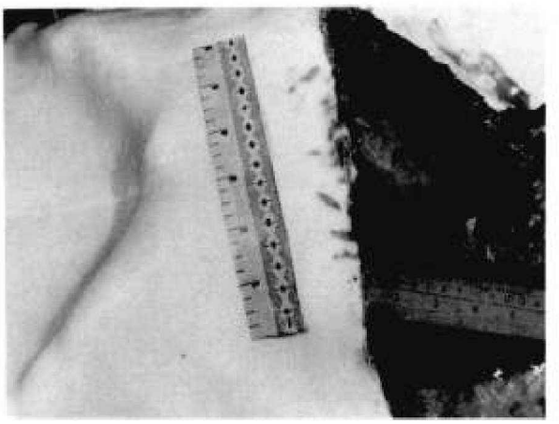

FIG. 3. Regular edge of injury on chest with adjacent linear and oval tooth marks consistent with being caused by dog in case 1.

was absent. A few grazes were present near the right and left patella regions.

The cervical vertebrae (C3–C7), thoracic vertebrae (T1–T4), clavicles, left scapula, upper 1st–5th ribs on both sides, heart, and upper part of thoracic aorta were missing. The right and left lungs were congested and contained pus in the airways. The hilar regions appeared torn. The larynx, trachea, upper four-fifths of the oesophagus, and thyroid gland were absent. Other organs revealed no significant abnormality.

Toxicological examination showed a blood glucose level of 34.5 mmol/L (femoral), positive blood and urine acetone, positive blood and urine propan-2-*ol*, and negative blood and urine ethanol.

Death was considered to have occurred from a combination of bronchopneumonia, diabetic ketoacidosis, and ischaemic heart disease.

FIG. 2. The dog believed to have caused the postmortem injury in case 1.

Case 2

An 82-year-old Caucasian man who lived alone was found dead in his house. His body was lying in the left lateral position on a carpet next to his bed. Bloodstaining was present on the carpet underneath the head. Part of the face and neck appeared "injured." There was a large pet German shepherd dog in the house.

The deceased had had a history of heart disease and had been on numerous drugs for the ailment.

Postmortem examination revealed the body of an elderly Caucasian man dressed in pyjama shirt and pants. The right ear, soft tissues of the right temple, cheek, jaw, and nose were missing, exposing the bones and teeth underneath (Fig. 4). Soft tissues of the right side of the neck, including tongue, trachea, oesophagus, and thyroid gland, were absent. The edges of the injuries showed minimal bleeding, no bruising, and evidence of bite marks consistent with having been caused by a dog.

Internal examination showed a hypertrophied heart associated with severe calcification and stenosis of the aortic valves. The coronary vessels were atheromatous with 70% luminal stenosis. The posterior wall of the left ventricle showed an area of old infarction with fibrous scarring. The right and left lungs were severely oedematous. Other organs were unremarkable.

Death was considered to have occurred from myocardial ischaemia as a result of aortic stenosis and coronary artery disease.

FIG. 4. The postmortem injuries made by a dog involving the face and neck region of the victim in case 2. Note sparing of eyebrows and orbital contents.

Case 3

A 42-year-old Caucasian woman, who had had a long history of alcoholism, chronic pancreatitis, gastritis, and haematemesis, was put to bed by a lodger one night and found dead the next evening (16 h later). At the scene, it was found that the flesh from around her mouth and nose was missing. A witness stated that her pet red setter had recently been seen biting her legs and licking her face when she was drunk and unconscious.

Postmortem examination showed a thin adult Caucasian woman with postmortem injury around her mouth and nose exposing the teeth and bone underneath (Fig. 5). Bite marks were present at the edges of the injury. The right and left lungs showed moderately severe pulmonary oedema but no pneumonia. The pancreas was autolytic and unremarkable. The stomach showed an atrophic mucosa. Other organs were unremarkable.

Toxicological analysis showed that she had an alcohol level of 314 mg/dl in blood and 472 mg/dl in urine.

The cause of death was given as pulmonary oedema and alcohol intoxication.

Case 4

A 32-year-old Caucasian man was found dead in his house. He was lying on his back and was clad in a T-shirt, trousers, and a pair of socks. He was lying on a carpet next to a small table. A settee with two pillows and a duvet on it was on his left side. The flesh from his head, neck, and right upper arm was absent (Fig. 6). His 10 pet cats were found dead in the house. His diary showed that he had taken an overdose of tablets on February 9, 1993, but had awakened the next day. He then took another overdose on February 10, 1993. He was found dead on the morning of February 13, 1993.

Postmortem examination showed postmortem injury present on the head, neck, and right upper arm. The soft tissues, including the tongue, larynx, upper half of oesophagus, thyroid gland, neck, and right upper limb musculatures, were missing. Bite marks thought to be consistent with having been caused by a cat were present at the edges of the

FIG. 5. The postmortem injury caused by a dog, involving the flesh around the mouth and nose in case 3.

FIG. 6. The victim in case 4 showing the absence of flesh on the face, head, neck, and right upper arm due to postmortem injury by cats. The victim died of dothiepin poisoning.

injuries. Other organs were unremarkable apart from moderate postmortem decomposition.

Toxicological analysis revealed 9.2 μg/ml of dothiepin present in the blood (fatal dose > 1.0 μg/ml). Thioridazine 1.8 μg/ml (within therapeutic range) and alcohol of 47 mg/dl were also present in his blood.

The cause of death was given as dothiepin overdose.

The death of the cats was not investigated, but it would have been interesting to have measured dothiepin levels in these animals.

DISCUSSION

Common household pets usually present little danger to the living in the United Kingdom. Within a period of 4 months, however, we encountered four quite unusual cases of pets (dogs and cats) devouring their masters after their masters' death.

A pattern which is associated with such a phenomenon can be established.

The victims appear to live alone and be somewhat socially isolated. Pet dogs or cats live together with the victim in the house, in which they move freely. There is no available source of food present in the house. All four cases occurred during the winter months (that is, December 1992–March 1993). This may be associated with the fact that there is a higher chance of isolation during these months when people spend more time indoors. There is also a higher mortality rate due to natural causes during this period.

The postmortem interval in which the attacks were made is not necessarily very long. In this series, one case (case 3) showed that the body had been attacked after a maximum postmortem interval of 16 h. In case 4, the maximum postmortem interval was 3 days. Case 3 is very interesting because there is a history of the victim having been bitten by her pet when she was alive, but intoxicated by alcohol.

The postmortem interval for the other cases could not be established because there was no witness to the incidents. The condition of the bodies on examination, however, did not suggest that death had occurred more than a few days before.

Death had resulted from sudden natural cause in two cases. The third person had died from a presumably accidental ingestion of considerable quantities of alcohol. The fourth had died from a suicidal overdose. Given these backgrounds, it is not surprising that the bodies had remained undisturbed for some time after death.

The parts of the body initially attacked were those which are exposed and soft, particularly the mouth and nose. It may also be relevant that dogs are commonly observed to sniff around these regions in recumbent bodies. In our cases, the areas of selection appear to have been the head, neck, upper chest, and right upper arm.

It is not uncommon for a body with postmortem injuries of animal origin to arouse suspicion of criminal activity. Case 1 had aroused suspicion of

foul play when the police broke into the house at night. There was no electricity at the scene and the state of the nearly decapitated body appeared highly suspicious under the police torchlight. In addition, there appeared to have been a drag mark at the scene which was later established to have been made by the pet dog.

Usually the nature of the injuries is quite obvious. There is minimal bleeding, which suggests postmortem injury, and a few bite marks at the edges of the injury are present to suggest the culprit. The presence of pets in the house either alive or dead and a knowledge of the circumstances will furnish a correct interpretation.

If the body has been skeletalised, tooth mark artefacts by the animal may be seen on the bones (3). The edges of the injuries can be analysed for the levels of histamine, serotonin (4–6), and cathepsins (7). Postmortem injuries show low levels of these inflammatory mediators and enzymes.

It may be possible to swab for animal saliva around the injury to complete the investigation. However, this is usually unnecessary.

In conclusion, the predisposing factors in postmortem pet mutilation appear to be a degree of social isolation, the possession of at least a single pet of moderate size living freely within the house, and the victim having a predisposing cause of sudden death.

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