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Evaluation of spinal fractures and dislocations in 80 cats and 32 dogs: A clinical retrospective study

Evaluación de fracturas y dislocaciones espinales en 80 gatos y 32 perros: un estudio clínico retrospectivo

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ABSTRACT

In this study, besides the etiological causes of spinal fractures and dislocations of cats and dogs, the effects of the post-traumatic period, deep pain sensations and trauma localization on recovery were evaluated. A total of 112 animals, including 80 cats (71.43%) from 8 different breeds and 32 dogs (28.57%) from 9 different breeds, with spinal fractures and/or dislocations were included in the study. In the neurological evaluation, paraplegia, tetraplegia, paraparesis, tetraparesis conditions were recorded. Considering the neurological and radiographic examination results, the trauma area was classified as cervical (C1–C5), cervico-thoracic (C6-Th2), thoracolumbar (Th3–L3) and lumbosacral (L4-S3), according to the affected spinal cord segment. In the current study, it was observed that falling from a height was more common in cats exposed to spinal traumas, and vehicle accidents were more common in dogs. It was determined that cats and dogs exposed to spinal trauma were mostly domestic and adult. In cats, spine fractures were seen the most (58/80, 72.5%), followed by spine dislocations (20/80, 25%), and fractures and dislocations in combination (2/80, 2.5%). In dogs, it was similar to that of cats (24/32, 75%; 7/32, 21.88%; and 1/32, 3.13%, respectively). The most affected vertebrae range was found to be between Th3-L3 in cats (40/80, 50%) and L4-S3 in dogs (18/32, 56%). The recovery rate was higher in cats and dogs where the spine segment between L4-S3 was affected. The recovery status of the cases brought within the first 24 hours was better. When neurological conditions were examined, it was determined that, compared to cases without deep pain sensation, recovery rates were higher in cases with paraparesis and deep pain sensation. In the light of all these data, it was concluded that euthanasia would not be a priority choice in the first place, as there were also patients who recovered, albeit at a very low rate, among the cases without deep pain sensation.

Key words: Vertebra; fracture; luxation; cat; dog

RESUMEN

En este estudio, además de las causas etiológicas de las fracturas y luxaciones de la columna vertebral de perros y gatos, se evaluaron los efectos del período postraumático, las sensaciones de dolor profundo y la localización del trauma sobre la recuperación. Se incluyeron en el estudio un total de 112 animales, incluiyendo a 80 gatos (71,43 %) de 8 razas diferentes y 32 perros (28,57 %) de 9 razas diferentes, con fracturas y/o luxaciones de columna. En la evaluación neurológica se registraron condiciones de paraplejia, tetraplejia, paraparesia, tetraparesia. Teniendo en cuenta los resultados del examen neurológico y radiográfico, el área del trauma se clasificó como cervical (C1-C5), cervicotorácica (C6-Th2), toracolumbar (Th3-L3) y lumbosacra (L4-S3) según el segmento de la médula espinal afectado. En el estudio actual, se observó que las caídas desde una altura eran más comunes en los gatos expuestos a traumatismos en la columna, y los accidentes de vehículos eran más comunes en los perros. Se determinó que los gatos y perros expuestos a trauma espinal eran en su mayoría domésticos y adultos. En los gatos, las fracturas de columna fueron las más observadas (58/80, 72,5 %), seguidas de las luxaciones de columna (20/80, 25 %) y las fracturas y luxaciones combinadas (2/80, 2,5 %). En perros fue similar a la de gatos (24/32, 75%, 7/32, 21,88% y ; 1/32, 3,13%, respectivamente). Se encontró que el rango de vértebras más afectado estaba entre Th3-L3 en gatos (40/80, 50 %) y L4-S3 en perros (18/32, 56 %). La tasa de recuperación fue mayor en gatos y perros en los que se vio afectado el segmento de la columna entre L4-S3. El estado de recuperación de los casos presentados dentro de las primeras 24 horas fue mejor. Cuando se examinaron las condiciones neurológicas, se determinó que, en comparación con los casos sin sensación de dolor profundo, las tasas de recuperación fueron más altas en los casos con paraparesia y sensación de dolor profundo. A la luz de todos estos datos, se concluyó que la eutanasia no sería una opción prioritaria en primer lugar, ya que también hubo pacientes que se recuperaron, aunque a un ritmo muy bajo, entre los casos sin sensación de dolor profundo.

Palabras clave: Vértebra, fractura, luxación, gato, perro

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INTRODUCTION

Spinal fractures and dislocations are the main causes of neurological diseases in small animals [1]. Spinal fractures and dislocations may occur depending on the strength of the trauma, its impact area, and the natural aspects, strengths and weaknesses of the spine [2]. Falling from a height, vehicle accidents, bite wounds and gunshot wounds are among the main causes of spinal fractures and dislocations [2, 3, 4]. Spinal fractures and/or dislocations account for 6% of all spinal cord diseases in cats and 7% in dogs [5, 6].

Different degrees of neurological disorders, compressive lesions, medullary edema and trauma-related spinal cord ruptures may occur after spinal trauma. Depending on the severity of spinal cord damage, animals may experience permanent paralysis or death [7]. The main aim of treatment in spinal fractures and dislocations is to relieve the nerve under pressure and to prevent secondary damage. For this aim, anti-inflammatory drugs, antioxidants, fusogens and analgesics are used as medical treatment and the animal's movements are restricted [8].

As a surgical treatment, the vertebral canal and intervertebral foramen are brought to their normal position, relieving the compression on the spinal cord, and stabilizing the affected vertebrae, limiting the damage to the spinal cord and nerve roots [9]. Deep pain testing is a good indicator of spinal cord injury. It has been reported that the prognosis of cats and dogs without deep pain sensation is poor [10]. Previous studies on spinal fractures or dislocations focused on a single treatment method or spine segment and focused on comparisons between treatment methods [4, 9, 11, 12]. Although retrospective studies have been conducted on spinal fractures and dislocations [2, 8, 13], no information has been provided about the cause of trauma in cats and dogs and the effect of the process over the trauma on recovery.

In this study, it was aimed to evaluate the etiological evaluation of spinal fractures and dislocations of cats and dogs, as well as the clinical effects of trauma causes, the process after trauma, deep pain sensations and trauma localization on recovery.

MATERIALS AND METHODS

A total of 112 cases, 80 cats and 32 dogs, that were presented to Hatay Mustafa Kemal University Veterinary Health Application and Research Hospital (HMKU VETSUAM) between 2016-2021 and were registered, were included in the study. Patients were routinely processed upon anamnesis, examination, diagnosis and treatment protocol. The breed, age, gender, accommodation conditions, etiology of the disease, duration of the disease, clinical condition of the patient, localization of the affected spine, condition of the spine, deep pain sensation, and treatment option of the patients were recorded. The age classification of the cases was categorized as Juvenile (<6 months of age), sub-adults (6 months to 1 year) and adult (>1 year) as reported by Stacharski *et al*. [14]. The duration of the trauma was evaluated as the first 24 hours, or the next 24 hours after the trauma. Latero-lateral and ventro-dorsal radiographs were taken in the radiological evaluation of the patients. Fractures and/or dislocations formed in the spine and the area where they were formed were detected.

The neurological and radiographic examination

In the neurological evaluation, paraplegia, tetraplegia, paraparesis, tetraparesis conditions were recorded. Considering the neurological and radiographic examination results, the trauma area was classified as cervical (C1–C5), cervico-thoracic (C6-Th2), thoracolumbar (Th3–L3) and lumbosacral (L4-S3) according to the affected spinal cord segment. Deep pain sensations were evaluated according to the change in facial expression of the animal, the sound it produced, the tendency to turn towards the area where the hemostatic was squeezed and/or bite, by squeezing the areas between the fore and hind toes with the help of a hemostatic [15].

Conservative and surgical treatments

The type of treatment was determined according to the deep pain sensation or the operation requests of the patient's owner. 10 cats and 5 dogs without deep pain sensation were discharged without any treatment at the request of their owners. Conservative and surgical treatments were evaluated as treatment options. In the conservative treatment, besides cage rest and external coaptation, 30 mg/kg intravenous methlyprednisolone sodium succinate (Prednol, Mustafa Nevzat İlaç Sanayii A.Ş, Istanbul) was administered in the first 24 h after the trauma, and 5.4 mg/kg/h [16] sodium intravenous methlyprednisolone succinate was administered 24 hours later for neuroprotective effect. In addition, intramuscular B complex vitamin (Nervit, Vetaş, Istanbul) and 30 mg/kg cefazolin sodium (Sefazol, Mustafa Nevzat İlaç Sanayii A.Ş, Istanbul) intramuscularly for prophylaxis were administered. Various stabilization techniques and implants (pedicle screw, plate, pin and polymethyl methacrylate stabilizations, etc.) were used in the surgical treatment. After the treatment, paralysis was considered if there was no use of extremities, partial paralysis if the use of the extremity was limited and deep pain sensations were weak, and complete recovery if the use of extremities was functional [8, 13]. The cases were followed for 2 months to reveal their clinical and neurological conditions [8, 13].

Statistical analysis

All statistical analyses were performed using IBM SPSS Statistics software Version 23.0. Categorical variables included in the study were subjected to the Chi-square test and calculated as "Frequency (n) - Percentage (%)". $P<0.05$ was considered as significant.

RESULTS AND DISCUSSIONS

A total of 112 animals, including 80 cats (71.43%) from 8 different breeds and 32 dogs (28.57%) from 9 different breeds,

with spinal fractures and/or dislocations were included in the study. Of the cats and dogs included in the study, 61 (54.46%) were male and 51 (45.54%) were female. While 72 of them (64.29%) were domestic animals, 40 (35.71%) were stray animals. It was determined that 38 of the patients were juvenile (33.93%), 8 of them were sub-adult (7.14%) and 66 of them were adults (58.93%). The necessary information is given in TABLE I.

TABLE I
History and neurological status of 112 cases with vertebral fracture and luxation

		Cats	Dogs
n		80	90
Sex	Female	39	12
	Male	41	20
Age	(juvenile)	30	8
	(sub-adult)	5	3
	(adult)	45	21
Domicile	Domestic	52	20
	Non-domestic	28	12
Time elapsed After event	> 24h	38	15
	< 24h	42	17
	Fall	41	3
	HBC**	22	25
	Other	17	2
Ambulatory Status	Paraplegia	62	22
	Tetraplegia	7	3
	Paraperesis	10	7
	Tetraparesis	1	-
Affected Vertebra	C1-C5	3	1
	C6-Th2	4	1
	Th3-L3	37	12
	L4-S3	36	18
Deep Sensivity	Present	37	12
	Absent	43	20
Vertebra Status	Fracture	58	24
	Luxation	20	7
	Fracture+ Luxation	2	1
Treatment	Non-treatment	10	5
	Medical	54	20
	Surgery	16	7
Outcome	Complete Recovery	21	7
	Partial Parlysis	20	9
	Paralysis	39	16

***Juvenile (<6 months of age), sub-adults (6 months to 1 year) and adult (>1 year)**
**** HBC: Hit by car**

It was determined that the number of domestic cats (52/80, 65%) and dogs (20/32, 62.5%) exposed to trauma was higher than non-domesticated ones. The most common cause of trauma was falling from a height (41/80 51.3%) in cats, while a vehicle accident (25/32 83.3%) was the most common cause of trauma in dogs (TABLE II). The radiological images of some spinal traumas in cats and dogs due to various reasons are given in FIG. 1. 59 cases, 43 of which were cats (53.8%) and 16 of which were dogs (55.2%), were brought to the hospital within the first 24 hours after trauma, and a total of 53 cases were brought, including 37 cats (46.3%) and 13 dogs (44.8%) after 24 hours (FIG. 2). In cats, spinal fractures were seen the most (58/80, 72.5%), followed by spine dislocations (20/80, 25%), and fractures and dislocations seen together (2/80, 2.5%). In dogs, the situation was similar to that of cats (24/32, 75%; 7/32, 21.88%; 1/32, 3.13%, respectively).

TABLE II
Association of trauma type with outcome in cats and dogs

		Cats				Dogs			
		Paralysis	**Complete Recovery**	**Partial Paralysis**	**Total**	**Paralysis**	**Complete Recovery**	**Partial Paralysis**	**Total**
Fall	N	21	9	11	41	2	1	0	3
	Age%	51,2%	22,0%	26,8%	100,0%	66,7%	33,3%	0,0%	100,0%
	Outcome%	56,8%	42,9%	50,0%	51,3%	11,8%	16,7%	0,0%	9,4%
Hit by car	N	11	5	6	22	13	5	9	27
	Age%	50,0%	22,7%	27,3%	100,0%	48,1%	18,5%	33,3%	100,0%
	Outcome%	29,7%	23,8%	27,3%	27,5%	76,5%	83,3%	100,0%	84,4%
Other	N	5	7	5	17	2	0	0	2
	Age%	29,4%	41,2%	29,4%	100,0%	100,0%	0,0%	0,0%	100,0%
	Outcome%	13,5%	33,3%	27,7%	21,3%	11,8%	0,0%	0,0%	6,3%
Total	N	37	21	22	80	17	6	9	32
	Age%	46,3%	26,3%	27,5%	100,0%	53,1%	18,8%	28,1%	100,0%
	Outcome%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%
	Chi-square= 3,193 ; p=0,526					**Chi-square= 3,439 ; p=0,487**			

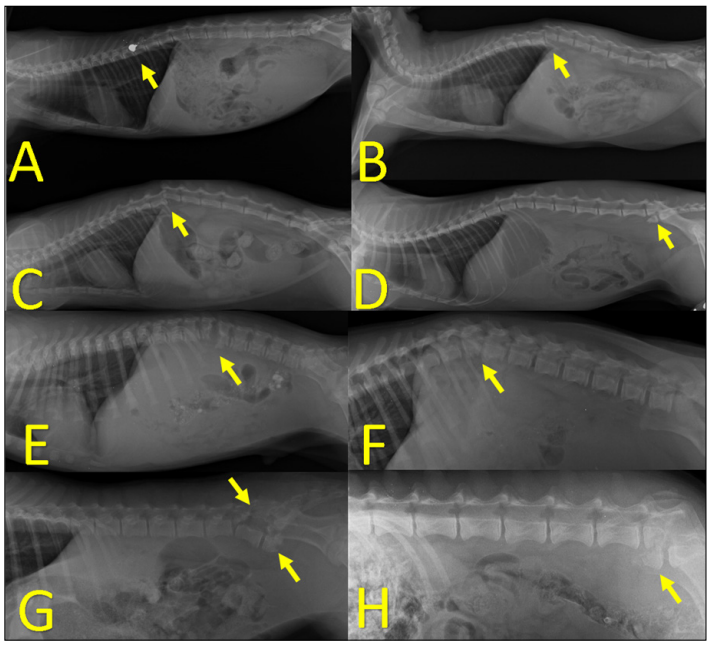

FIGURE 1. X-ray images of some spinal fractures and dislocations in cats and dogs. A: Spinal injury in the T11 region due to gunshot wound in a cat. B and C: T13-L1 dislocation due to fall from height in cats. D: L7 fracture due to vehicle accident in a cat. E: L3 fracture due to vehicle accident in a dog. F: T13-L1 fracture due to fall from a height in a dog. G: L7-S1 fracture due to door jamming in a dog. H: L7 fracture due to train accident in a dog.

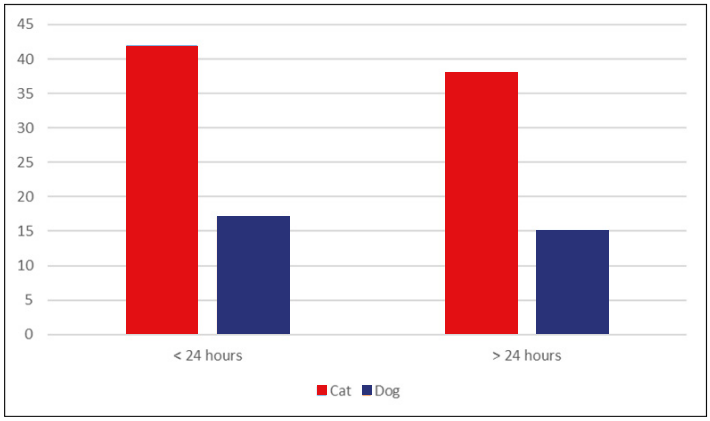

FIGURE 2. Time elapsed for the transfer of the patient to the Veterinary Service. A before 24 hours, B after 24 hours of the event, depending on the species: Cats or Dogs

The most affected vertebrae range was found to be between Th3-L3 in cats (40/80, 50%) and L4-S3 in dogs (18/32, 56%) (FIGS. 3 and 4). The radiological (A) and clinical image (B) of a cat with a T10-T11 fracture is given in FIG. 5. While 54 (67.5%) of the cats with spinal injury were treated medically, 16 (20%) were treated surgically, and 10 (12.5%) cats did not receive any treatment. While 20 (62.5%) of the dogs with spinal damage were treated medically, 7 (21.88%) were treated surgically, and 5 (15.63%) dogs did not receive any treatment.

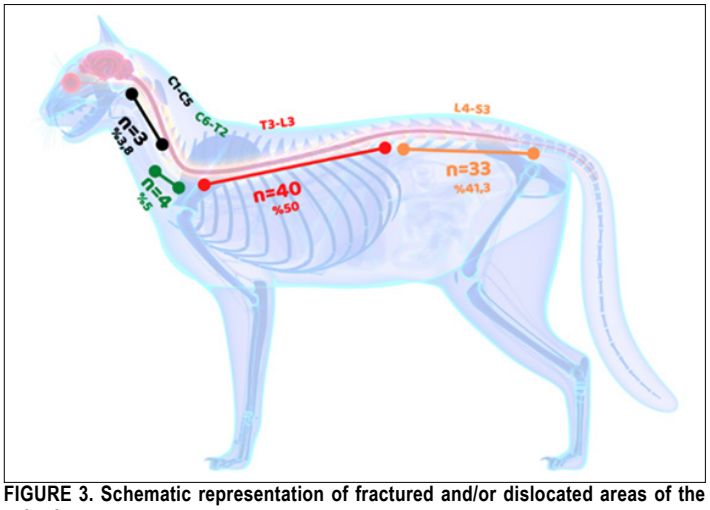

FIGURE 3. Schematic representation of fractured and/or dislocated areas of the spine in cats

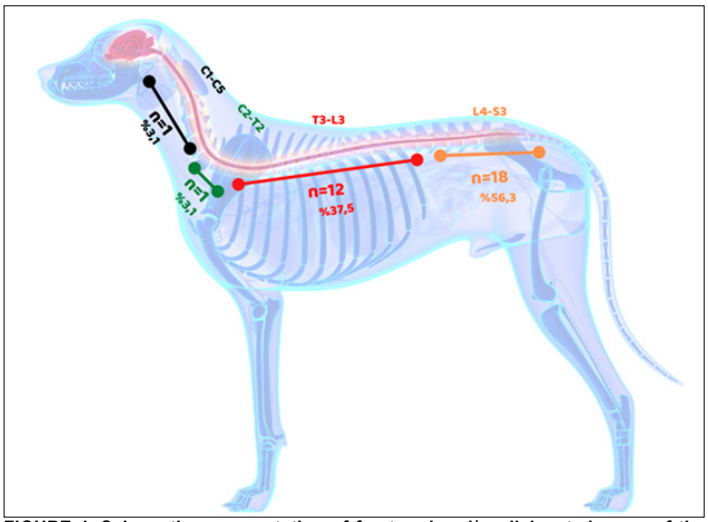

FIGURE 4. Schematic representation of fractured and/or dislocated areas of the spine in dogs

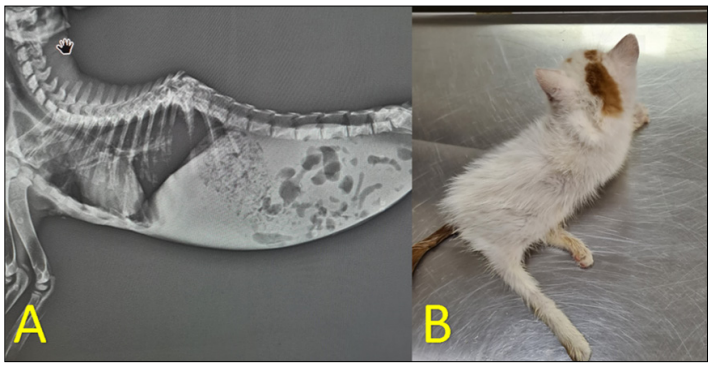

FIGURE 5. Radiologic and clinical appearance of T10-11 fracture in a cat

Cats and dogs exposed to spinal injuries can be traumatized for different reasons. The type and severity of trauma can cause irreversible damage to the spine [17]. It was revealed in a study that in cats with spinal trauma, the cause of trauma was found to be due to falling from a height (45%) and to Hit by car (HBC) (48%) in dogs [2]. Dhanalakshimi et al. [8] reported that cats were exposed to HBC more (58.33%) [8]. Similarly, in another study, it was reported that more vehicle accidents were encountered in cats and dogs [18]. In this study, falling from a height was the most common cause of trauma in cats (51.3%), while HBC (84%) was the most common cause of trauma in dogs. In this respect, the present study was similar to the study of Bali et al. [2]. In this study, it was observed that traumas due to falling from a height (42.9%) were more common in cats that had fully recovered, and vehicle accidents (83.3%) were more common in dogs (TABLE II).

Spinal fractures and dislocations in cats and dogs can be seen in all age groups. In a study, it was reported that the high frequency of spinal trauma in young dogs and cats is related to the reproductive behavior of animals [18]. It can be thought that the reason for exposure to trauma in domestic cats and dogs, in addition to the breeding behaviors of the animals, dogs that are away from their natural environment may lose control with more exciting behaviors in the external environment, and cats may be exposed to such trauma by falling from a height as a result of their hunting instincts near an open window. In this study, it was observed that cats and dogs with spinal trauma were mostly domestic (64.29%), and cats (46%) and dogs (65.6%) were 1 year old or older. Some researchers have reported in their studies that trauma is more common in kittens under 1 year old [2,19]. Other studies have shown that trauma is more common in cats aged 6 months to 1 year [8, 20, 21]. It can be stated that the difference in age values in the studies may be related to changes in season and housing conditions. In their study, Dhanalakshmi *et al.* [8] reported that sub-adult animals were more affected by spinal traumas, but those younger than 6 months had a higher recovery rate. In the current study, it was observed that cats (69.1%) and dogs (83.3%) which showed full recovery were older than 1 year (TABLE III). Although the results in the current study are different from the study of Dhanalakshmi *et al.* [8], this situation may vary depending on the increase in the number of cases.

TABLE III
Association of age with outcome in cats and dogs

		Cats				Dogs			
		Paralysis	**Complete Recovery**	**Partial Paralysis**	**Total**	**Paralysis**	**Complete Recovery**	**Partial Paralysis**	**Total**
<6 months	N	17	7	8	32	4	1	3	4
	Age%	53,1%	21,9%	25,0%	100,0%	50,0%	12,5%	37,5%	100,0%
	Outcome%	45,9%	33,3%	36,4%	40,0%	23,5%	16,7%	33,3%	25,0%
6 months ≥ - >1 year	N	3	1	7	11	3	0	0	21
	Age%	27,3%	9,1%	63,6%	100,0%	100,0%	0,0%	0,0%	100,0%
	Outcome%	8,1%	4,8%	31,8%	27,5%	17,6%	0,0%	0,0%	65,6%
≥1 year	N	17	13	7	37	10	5	6	21
	Age%	45,9%	35,1%	18,9%	100,0%	47,6%	23,8%	28,6%	100,0%
	Outcome%	45,9%	61,9%	31,8%	46,3%	58,8%	83,3%	66,7%	65,6%
Total	N	37	21	22	80	17	6	9	32
	Age%	46,3%	26,3%	27,5%	100,0%	53,1%	18,8%	28,1%	100,0%
	Outcome%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%
	Chi-square= 10,051 ; p=0,040					**Chi-square= 3,486 ; p=0,480**			

It has been emphasized that the detection of deep pain sensation is very important in terms of the course of the disease in spinal traumas [10]. In a study evaluating the long-term outcomes of 95 patients with spinal trauma, it was reported that regardless of treatment, none of the patients who lost deep pain sensation regained deep pain sensation, and euthanasia could be an option [22]. In another study, it was reported that patients without deep pain sensation with a poor prognosis (31.6%) were euthanized without treatment [13]. Bruce *et al*. [13] reported that the decision of euthanasia in patients without deep pain sensation was due to the lack of literature support. In a study by Dhanalakshmi et al. [8], it was reported that 9 out of 24 cats (37.5%) did not have deep pain sensation and only 1 (11.11%) of these cats recovered satisfactorily. In another study, it was revealed that 22 patients (23.16%) in 95 cats and dogs did not have deep pain sensation and 2 (9.09%) of these patients had a successful recovery due to the return of neurological loss [13]. In the current study, 3 out of 20 dogs (15%) without deep pain sensation showed complete recovery, and 2 (4.65%) of 43 cats without deep pain sensation showed complete recovery. The results in this study were found to be similar to the findings of Dhanalakshmi et al. [8] and Bruce et al. [13], Based on this study data, recovery may occur in patients without deep pain sensation, although the rate is small, and the treatment option should be evaluated before the option of euthanasia. The association of deep pain sensation and outcome in the current study is given in TABLE IV.

Spinal fractures and/or dislocations usually occur in the parts of the spine close to the skull, thorax, and pelvis [2]. In many studies, it has been revealed that the thoracolumbar region is more affected in cats and dogs with spinal fractures and dislocations [2, 8, 13, 18, 19, 23]. In the presented study, similar to previous studies, the area exposed to trauma the most was the thoracolumbar region (50% in cats, 37.5% in dogs). In a previous study, it was reported that the lumbar region (L1-L7) was more affected in dogs [24]. In another study, it was revealed that the sacrocaudal region is more affected in cats [2]. The reason for these differences can be explained as the different grouping of spine segments. It has been reported that cervical spine fractures and/or dislocations are less common than the thoracolumbar region [21]. In this study, cervical spine trauma was observed to be the least observed spine segment in both cats (3.8%) and dogs (3.1%). In the current study, it was observed that the recovery was higher in traumas formed between the L4-S3 segments in both cats (66.7%) and dogs (83.3%) compared to the affected spinal segment (TABLE V).

TABLE VI
Association of deep pain sensation and outcome in cats and dogs

		Cats				Dogs			
Deep Pain Sensation		**Paralysis**	**Complete Recovery**	**Partial Paralysis**	**Total**	**Paralysis**	**Complete Recovery**	**Partial Paralysis**	**Total**
Yes	N	5	19	13	32	1	3	8	12
	Age%	13,5%	51,4%	35,1%	100,0%	8,3%	25,0%	66,7%	100,0%
	Outcome%	13,5%	90,5%	59,1%	46,3%	5,9%	50,0%	88,9%	37,5%
No	N	32	2	9	43	16	3	1	20
	Age%	74,4%	4,7%	20,9%	100,0%	80,0%	15,0%	5,0%	100,0%
	Outcome%	86,5%	9,5%	40,9%	53,8%	94,1%	50,0%	11,1%	62,5%
Total	N	37	21	22	80	17	6	9	32
	Age%	46,3%	26,3%	27,5%	100,0%	53,1%	18,8%	28,1%	100,0%
	Outcome%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%
	Chi-square= 33,933 ; p<0,001					**Chi-square= 17,792 ; p<0,001**			

TABLE V
Association of affected spine segment and recovery in cats and dogs

		Cats				Dogs			
		Paralysis	**Complete Recovery**	**Partial Paralysis**	**Total**	**Paralysis**	**Complete Recovery**	**Partial Paralysis**	**Total**
C1-C5	N	3	0	0	3	1	0	0	1
	Age%	100,0%	0,0%	0,0%	100,0%	100,0%	0,0%	0,0%	100,0%
	Outcome%	8,1%	0,0%	0,0%	3,8%	5,9%	0,0%	0,0%	3,1%
C6-T2	N	3	0	1	4	1	0	0	1
	Age%	27,3%	0,0%	25,0%	100,0%	100,0%	0,0%	0,0%	100,0%
	Outcome%	8,1%	0,0%	4,5%	5,0%	5,9%	0,0%	0,0%	3,1%
T3-L3	N	19	7	14	40	6	1	5	12
	Age%	47,5%	17,5%	35,0%	100,0%	50,0%	8,3%	41,7%	100,0%
	Outcome%	51,4%	33,3%	63,6%	50,0%	35,3%	16,7%	55,6%	37,5%
L4-S3	N	12	14	7	33	9	5	4	18
	Age%	36,4%	42,4%	21,2%	100,0%	50,0%	27,8%	22,2%	100,0%
	Outcome%	32,4%	66,7%	31,8%	41,3%	52,9%	83,3%	44,4%	56,3%
Total	N	37	21	22	80	17	6	9	32
	Age%	46,3%	26,3%	27,5%	100,0%	53,1%	18,8%	28,1%	100,0%
	Outcome%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%
	Chi-square=11,719 ; p=0,069					**Chi-square = 4,302 ; p=0,636**			

It has been reported that cases (8/16, 50.00%) brought within the first 48 hours after spinal trauma have a satisfactory recovery [8]. In a study, it was reported that cats and dogs suffering from spinal trauma were brought in mostly within the first 24 hours, but no information was given about their recovery status [2]. In the current study, 24 hours before and after admission to the hospital were examined and it was determined that the rate of complete recovery in cats (53.8%) and dogs (53.1%) brought 24 hours before was 57.1% in cats and 33.3% in dogs. Considering these results, it was seen that the chances of recovery of cats brought within 24 hours were higher.

Neurological conditions after spinal trauma can provide information about recovery [21]. In a study including 16 paraplegic cases, complete recovery was reported in 4 (25%) cases, partial paralysis in 3 (18.75%) cases, death in 5 (31.25%) cases, and paralysis in 4 (25%) cases. In the same study, 7 cases with clinical signs of paraparesis were reported and all of them recovered [8]. In the current study, 15 (25%) of 60 cats with paraplegia had complete recovery, while 28 (46.7%) had paralysis and 17 (28.3%) had partial paralysis. None of the 7 cats who were tetraplegic showed a full recovery. While complete recovery was observed in 5 (41.7%) of 12 cats with paraparesis, paralysis occurred in 4 (33.3%) and partial paralysis occurred in 3 (25%). In this study, 3 (14.3%) of the 21 dogs with paraplegia had complete recovery, 12 (57.1%) had paralysis, and 6 (28.6%) had partial paralysis. None of the 3 tetraplegic dogs showed recovery. While 3 (42.9%) of 7 dogs with paraparesis had complete recovery, 2 (28.6%) had paralysis and 2 (28.6%) had partial paralysis. In line with these results, it was determined that the recovery rates were higher in cases with paraparesis and paraplegia.

CONCLUSION

In conclusion, in the current study, it was observed that falling from a height was more common in cats exposed to spinal traumas, and vehicle accidents were more common in dogs. It was determined that cats and dogs exposed to spinal trauma were mostly domestic and adult. The recovery rate was higher in cats and dogs where the spine segment between L4-S3 was affected. The recovery status of the cases brought within the first 24 hours was better. When neurological conditions were examined, it was determined that, compared to cases without deep pain sensation, recovery rates were higher in cases with paraparesis and deep pain sensation. In the light of all these data, it was concluded that euthanasia would not be a priority choice in the first place, as there were also patients who recovered, albeit at a very low rate, in the cases without deep pain sensation.

Conflicts of interest

The authors declare no conflict of interest.

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