

PREVALENCE OF TRAUMATIC INJURIES IN DOGS PRESENTED AT THE VETERINARY CLINICS IN ENUGU AND ANAMBRA STATES OF SOUTH EASTERN NIGERIA

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SUMMARY

A retrospective study was carried out on the prevalence of traumatic injuries presented in veterinary clinics in dogs in Enugu and Anambra states over a ten year period (between January, 1997 and December, 2007). Information sought from the case records were the age, sex, aetiology of trauma, severity of injury and body parts distribution of traumatic injury. Of the 3121 clinical canine cases, 356 cases were trauma cases. Male dogs predominated in the trauma cases handled, while younger dogs were most affected. Unknown aetiology, fight/bites, automobile accidents and sharp objects were most common causes of trauma cases presented. Most traumatic injuries were moderate in their degree of severity. Injuries to the extremities recorded the highest occurrence in the anatomical distribution. Automobile accidents may constitute a great danger to the well being and population growth of dogs.

KEY WORDS: Trauma, Dog, Prevalence

INTRODUCTION

There has been a recent upsurge in Nigerian pet population and ownership (Anene and Omengebe, 1987). This increase in ownership according to Edney (1992) could be attributed to the utility values of dogs and cats for herding, hunting, rodent tracking and guarding skills (Edney, 1992). Due to the utility values, increase in enlightenment and education, there has been a growing awareness among pet owners of the need for veterinary care (Edney, 1992).

The incidence of traumatic injuries and other morbidities in animals have been suggested to constitute a big threat to their population growth (Kolata and Johnson, 1975). The canine and feline traumatic injuries according to Slatter (1993) include bruises, fracture, dislocation, burns and penetrating wound. These injuries are caused by automobile accidents, animal interaction, sharp objects, fall from heights, gunshots and crushing force (Kolata, 1980). Little or no report exists on the prevalence and distribution of traumatic injuries in the South Eastern States of Nigeria.

This retrospective study was carried out to determine the prevalence of traumatic injuries in dogs presented in Veterinary clinics in Enugu and Anambra States for a period of 10 years. The study also tried to determine if there was a relationship between sex, age, aetiology, anatomical distribution, severity of trauma and the prevalence of traumatic injuries.

MATERIALS AND METHODS

Study Location

All government and private veterinary clinics in Enugu and Anambra States, Nigeria were visited during the study. Data were collected from Uwani veterinary clinic, Enugu, University of Nigeria, Veterinary Teaching Hospital (UNVTH), Nsukka, government veterinary clinic, Onitsha, government veterinary clinic, Amawbia and Omega veterinary clinic Onitsha.

Duration of Study

The period of study was from January, 1997 to December, 2006

Data collected

Information sought were date of case presentation, sex of animal, age of animal (below or above one year), aetiologies of the injuries(automobile accidents, fall from a height, sharp object, fight/bites, gun-shot, crushing force, burns and unknown). Other information considered included severity of injury (minor, moderate, severe and grave) and anatomical distribution (head, neck, thorax, pelvis, extremity, generalized and unknown).

Statistical analysis

Data from the work were summarized as percentage means. Chi square test was used to analyze the data. Data on age and sex were presented in tables while data on aetiologies, severity and anatomical distribution were presented as bar charts.

RESULTS

A total of three thousand one hundred and twenty one (3121) companion animal (Dog) of different ages and sexes were presented at the five veterinary clinics of Enugu and Anambra States, Nigeria for treatments during the study period. The prevalence of trauma from this study stood at 11.4% (356 out of 3121 cases) during the ten-year period. There was significant relationship ($P < 0.05$) between sex and age of dogs and prevalence of trauma. The male dogs below or equal to one year of age had a significantly higher prevalence than female dogs and dogs above one year (Tables I and II). Among the causes of trauma in dogs those that are unknown accounted for most of the trauma cases followed by fights/bites, automobile accidents, sharp objects, crushing force(accidental trapping of dogs in between the door and door frame), fall from a height, gun shot and burns (Fig 1). For the severity and anatomical distribution of trauma in dogs in both states, injuries were mostly moderate and affected mainly the extremities of the animals involved (Figs. 2 & 3).

TABLE I: Sex distribution of trauma cases in Anambra and Enugu States, Nigeria

Names of clinics	Affected			Unaffected			Percentage Affected	
	Male	Female	Sex not stated	Male	Female	Sex not stated	Male	Female
Government vet. Clinic, Onitsha.	102	55	10	567	523	69	6.99	3.85
Government vet. Clinic, Amawbia.	20	11	2	111	103	14	1.37	0.70
Omega vet. Clinic, Onitsha.	18	10	2	104	95	13	1.3	0.70
Uwani Vet. Clinic, Enugu.	29	26	19	288	355	50	1.98	1.84
University of Nigeria, Veterinary Teaching hospital (UNVTH) Nsukka	20	18	13	191	235	33	1.37	1.21
Total	189	121	46	1269	1317	179	12.94^a	8.35^b

Different superscripts a and b indicates significant difference

TABLE II: Age distribution of trauma cases in Anambra and Enugu States, Nigeria

Names of clinics	Affected			Unaffected			Percentage Affected	
	≤ 1 yr	≥ 1 yr	Age not stated	≤ 1 yr	≥ 1 yr	Age not stated	≤ 1 yr	≥ 1 yr
Government vet. Clinic, Onitsha.	17	7	144	211	341	624	2.59	0.73
Government vet. Clinic, Amawbia.	3	1	28	41	66	121	0.50	0.14
Omega vet. Clinic, Onitsha.	3	1	26	38	61	112	0.46	0.13
Uwani Vet. Clinic, Enugu.	28	22	25	172	291	230	4.28	2.16
University of Nigeria, Veterinary Teaching hospital (UNVTH) Nsukka	19	14	17	114	193	152	2.9	1.43
Total	70	45	240	276	952	1239	10.83^a	4.59^b

Different superscripts a and b indicates significant difference

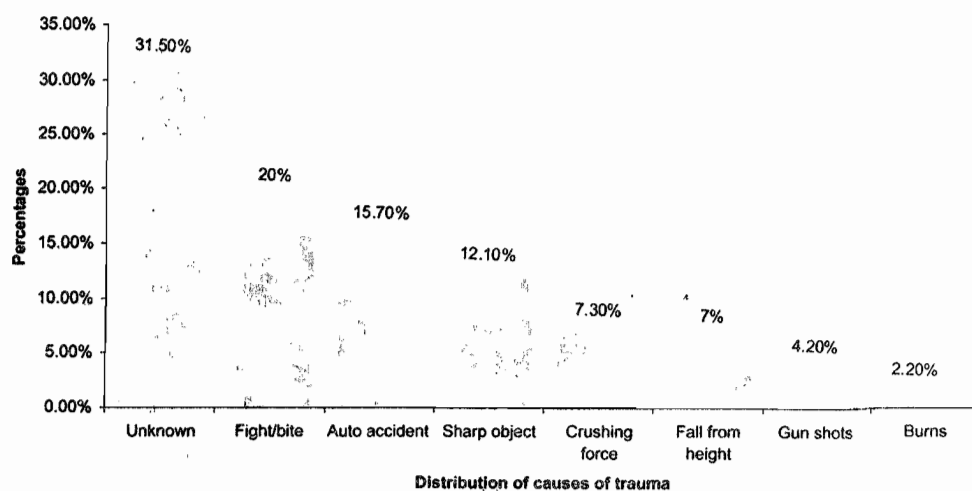


Fig. 1: Distribution of the causes of trauma in dogs in Anambra and Enugu States, Nigeria

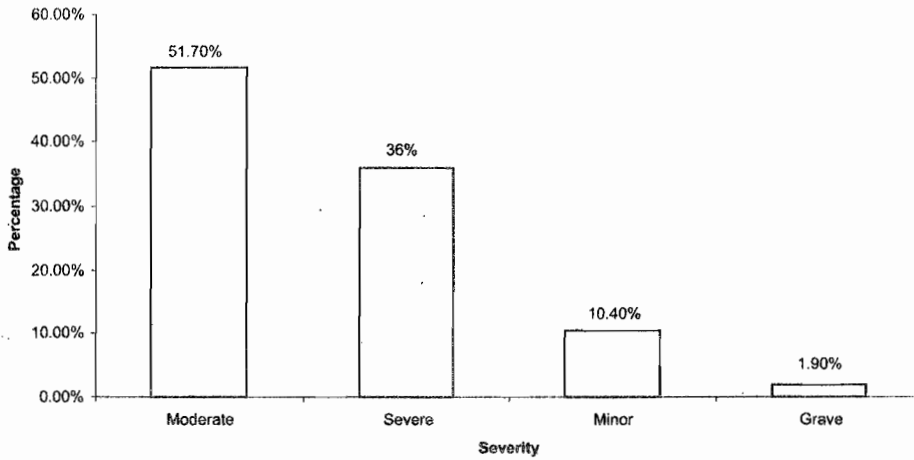


Fig 2: Distribution of the severity of trauma in dogs in Anambra and Enugu States, Nigeria

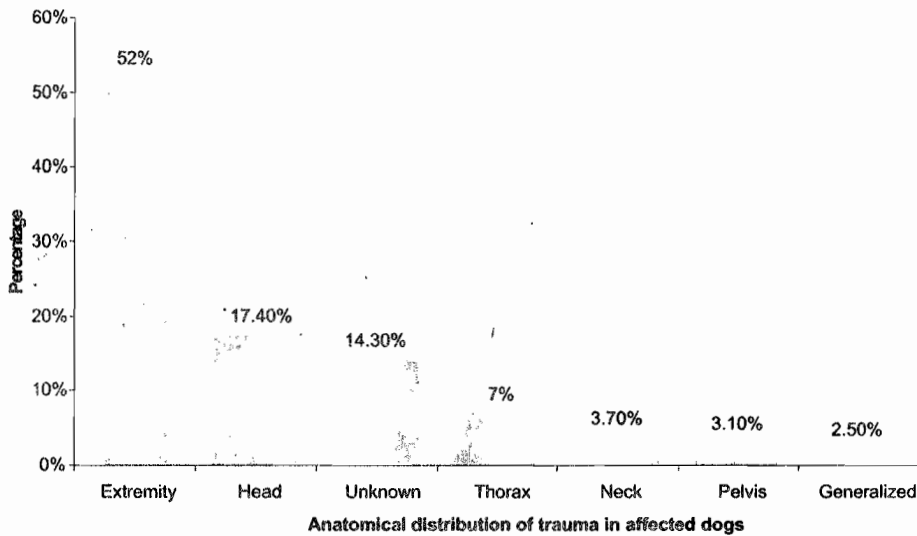


Fig 3: Anatomical distribution of trauma in affected dogs in Anambra and Enugu States, Nigeria

DISCUSSION

Available records over the ten -year period revealed that approximately 99% of the cases brought to the five veterinary clinics in both Enugu and Anambra States were canine cases. This high prevalence of trauma according to Edney (1992) could be attributed to increased awareness of people in the acceptability of dogs as pets and work dogs.

The significant relationship between sex and prevalence of trauma in the two states shows that more male dogs sustain traumatic wounds compared to females. This is in agreement with the works of Adeyanju *et al.* (2004) which reported that, the activities of the male dog exposes them to more injuries than the females which are used mostly for breeding purposes.

Pets below one year were observed to sustain more trauma than those above one year. These younger dogs are not usually restrained thus have more freedom than older dogs. They are thus more vulnerable to automobile accidents, burns, sharp objects, fights/bites and fall from heights. It may also be that trauma in these younger animals may have resulted because they have not developed the instinct to evade danger.

The result showed that traumatic injuries from unknown causes, fights/bites, automobile accidents and sharp objects constituted about 80% of the cases of trauma in dogs. This might be due to increase in the daily records of automobile accidents and increase in population growth of dogs and acceptability of dogs by people as the most desired animal companion to man. The high prevalence of trauma due to sharp objects (12.10%) may be due to the urban nature of the environments of Enugu, Nsukka, Amawbia and Onitsha.

The urban environment according to Kolata (1980) is more densely littered with broken glass and metals than a suburban one. The lower percentage of trauma due to crushing force, burns and gunshots may be attributed to improved management practices of pet owners, increased enlightenment/education and growing acceptability of dogs by the urban dwellers.

The result on severity of trauma in dogs showed that most traumatic injuries presented over the study period were of moderate degrees. This is in consonance with the findings of Kolata (1980) but at variance with Slatter (1993) who reported that traumatic injuries are the leading killer of companion animals especially when compared to cases of non-infectious origin. Severe type of injuries which had a greater percentage (36%) than minor injuries (10.4%) could be attributed to the type and intensity of the injury (Kolata, 1980).

Result on anatomical distribution of injuries showed that injuries to the extremities especially the limbs were commonest in all cases of trauma recorded within the study period. This might be due to automobile accidents, fights/ bites and injuries from sharp objects (Adeyanju *et al.*, 2004; Phillips, 1980; Kolata and Johnson 1975). Next to

extremities on the percentage distribution of injuries to anatomical parts is the head. Increase in traumatic injuries to the head could be attributed to automobile accidents (Wang, 1984; Adeyanju *et al.*, 2004). According to these authors, severe traumatic injuries are caused by automobile accidents.

CONCLUSION

In conclusion, this work has shown that the prevalence of trauma cases in dogs in urban towns of Enugu and Anambra States is high. There was a significant relationship between trauma, sex and age of dogs affected. Fights/bites and automobile accidents were the major causes of traumatic injuries in dogs. Most traumatic injuries were of moderate degree in severity. Also the extremities were the commonest parts of the body affected by trauma in dogs. Trauma therefore, is an important risk factor in the well being and population growth of dogs in our environment.

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REFERENCES

- ADEYANJU, J.B., YAKUBU, S., GARBA, H., ZOAKA, H. (2004): Orthopaedic problems in small animals in Nigeria: Management and complications. *Vom J. Vet. Sci.*, **1**(1): 28-48.
- ANENE, B.O and OMAMEGBE, J (1987): Common diseases of dog in Nigeria. *Zariya Vet.*, **2** (1): 46-51.
- EDNEY, A.T.B. (1992): Companion animals and human health. *Vet. Rec.*, **130**: 285 -286.

- KOLATA, R.J. (1980): Trauma in dogs and cats - An overview. *Vet. Clin. N. Am. Sm. Anim. Pract.*, **10**: 515-522.
- KOLATA, R.T and JOHNSON, D.E. (1975): Motor vehicle accidents in urban dogs. A study of 600 cases. *J. Am. Vet. Med. Assoc.* **167**: 938-941.
- PHILLIPS, I.R. (1980). A survey of bone fractures in dogs and cats. *J. Sm. Anim. Pract.*, **20**: 661 - 674.
- SLATTER, D. (1993): Textbook of Small Animal Surgery. 2nd Ed. Vol. 1. W.B. Saunders Co. Philadelphia: 593-612.
- WANG, W.T. (1984): A survey of fractures in the dog and cat in Malaysia. *Vet. Rec.*, **115**: 273-274.