شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم

HANAA ALY

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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

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Retrospective Studies on Long Bone Fracture in Dogs and Cats

Thesis presented By

Abeer Ali Mahmoud Abo Soliman

B. V. Sc of Veterinary Medicine
Mansoura University (2014)

For

The Degree of M.V. Ss (Surgery, Anesthesiology and Radiology)

Under the Supervision of

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Abstract

A retrospective study was carried out with the objectives of determining the incidence and associated risk factors of long bone fractures; establishing the types and frequency of occurrence of fractures of appendicular skeleton; determining existing protocols for the management of long bone fractures, and the associated complications and challenges. Data from a three-year period (2017–2020) was collected from medical records at Animal Hospital faculty of veterinary medicine Cairo University. The total number of the admitted cases to the hospital and the clinics during the current study period was 8337 pets (4625 dogs and 3712 cats) with a ratio of 55.5% to 44.5% respectively. Out of these, 216 surgically treated fracture cases were studied, of which 160 (74.1%) were dogs and 56 (25.9%) cats. Postoperative follow-up was done. Data on each case which included the diagnosis, date, month and year of occurrence, breed, gender, age, type of fracture, limb affected, bone affected and the description of the fracture, were obtained and recorded. Protocols for management of long bone fractures, associated complications and challenges were determined by analyzing data collected through structured questionnaires and review of patient records in participating practices. The highest incidences of the fracture cases were recorded in mongrel dogs and cats which may be due to the frequent exposure of stray animals to road traffic accidents. The age of affected dogs was less than one year and of one to three years old in cats. Higher incidence was recorded in male dogs and cats than female. Most of the long bone fractures in dogs and cats occurring in hind limbs were found in the femur, followed by tibia and fibula and in the fore limbs, the fracture of the radius and ulna in dogs and humerus in cats were the most common sites. Regarding the, site number and direction of the fracture line, the most common type of fracture encountered in both fore and hind limbs in dogs and cats was complete single transverse fracture in the diaphysis. Fracture management comprised external and internal fixation techniques. The most common internal fixation technique employed was intramedullary fixation alone or with other fixations. Other devices used included orthopedic wires, bone plates and bone screws. Cast bandage was used largely for external coaptation.Complications were encountered in 18.1-% of the cases in dogs and -16.3 % in cats . Delayed union, non union and implant failure were the most encountered complications. Osteomyelitis, implant migration, arthritis and wound infection were usually seen in cases with unstable comminuted fractures. The challenges of managing long bone fractures were non-compliance by the owners, limitations of resources and lack of appropriate surgical instrument, equipment and expertise. Record keeping was also noted as a major challenge in a number of practices .

Keywords: Cat, Dog, Long Bone, Fracture, Management, Complications.

DEDICATION

I dedicate this humble thesis especially to my beloved country of Egypt and in general to all colleagues of veterinarians all over the world.

I dedicate this thesis in particular to my great mother, my role model, and my idol in life, which has been the source of strength and fortitude throughout my life and has been a symbol of patience and perseverance, which I cannot find words that can give her hers right.

To my brother, my support and my arm,

To my best friend and sister, the companion of the struggle, who spared no time or effort to help me,

To all my family, my loved ones, and my colleagues who stood beside me and were my support.

AKNOWLAGMENT

*First of all, I am greatly indebted to gracious **ALLAH**, who helped me and gives me honorable grace by extending my life to complete this thesis and publishing it.*

*I would like to express my special appreciation and thanks to my supervisor **Prof. Dr. Ahmed Sayed Ahmed,** Professor of Surgery, anesthesiology and radiology, Faculty of veterinary medicine, Cairo University, who have been a tremendous mentor for me. I would like to thank him for encouraging my research and for allowing me to grow as a research scientist, advice on both research as well as on my career have been invaluable.*

*I would also like to thank my supervisor **Prof. Dr. Haithem Ali Mohamed Ahmed Farghali,** Professor of Surgery, anesthesiology and radiology, Faculty of veterinary medicine, Cairo University for his keen supervision, valuable guidance, help and encouragement during the performance of the work.*

*I would like to thank **Dr. Ibrahim Abdullah**, **Dr. Eman Hamdy** and **Dr. Mona Hassan** for their help during work.*

*I would like to thank all those who supported and helped me, and I ask grateful **ALLAH** to deems this work purely for his generous face and help me to share the scientific knowledge with all the research communities and my colleagues of the veterinarians and the owners of small animals all over the world.*

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ASIF	Association for the study of Internal Fixation	3
HUs	Hounsfield units	26
CT	Computed Tomography	26
ESF	External skeletal fixation	31
IM PIN	Intramedullary Pin	31
SSI	Surgical site infections	31
K-wire	Kirschner wires	33
DCP	Dynamic compression plate	34
LC-DCP	Limited-contact dynamic compression plate	34
LCP	Locking compression plate	35

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