



UNIVERSITI PUTRA MALAYSIA

***DISEASE PREVALENCE AND ASSOCIATED PATHOLOGICAL
CHANGES IN SMALL ANIMALS PRESENTED TO POST MORTEM
LABORATORY, FACULTY OF VETERINARY MEDICINE, UPM FROM
THE YEAR 2005 TO 2015***

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SMALL ANIMALS PRESENTED TO POST MORTEM LABORATORY,
FACULTY OF VETERINARY MEDICINE, UPM FROM THE YEAR 2005 TO
2015**

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A project paper submitted to the

Faculty of Veterinary Medicine, Universiti Putra Malaysia

in partial fulfillment of the requirement for the

DEGREE OF VETERINARY MEDICINE

Universiti Putra Malaysia

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CERTIFICATION

It is hereby certified that we have read this project paper entitled “Disease Prevalence and Associated Pathological Changes in Small Animals presented to Post Mortem Laboratory, Faculty Of Veterinary Medicine, UPM from the year 2005 to 2015”, by Rathiyamaler Maniam and in our opinion it is satisfactory in terms of scope, quality, and presentation as partial fulfillment of the requirement for the course VPD 4999 – Project.

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DEDICATIONS

GOD

MY FAMILY

Father, Maniam Krishnan

Mother, Saroja Devi Mariappan

Brothers, Suriendran Maniam and

Sasiendren Maniam

LECTURERS AND STAFF

All lecturers and staff of Faculty of Veterinary Medicine,

University Putra Malaysia

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LIST OF ABBREVIATION

CD= Canine Distemper

MGT = Mammary Gland Tumor

CPV= Canine Parvoviral Infection

MCT= Mast Cell Tumor

CLUTD= Canine Lower Urinary Tract Disease

FIP= Feline Infectious Peritonitis

FPL= Feline Panleukopenia

SCC= Squamous Cell Carcinoma

FURD= Feline Upper Respiratory Disease

FLUTD= Feline Lower Urinary Tract Disease

TCC= Transitional Cell Carcinoma

HRS= High Rise Syndrome

RTA= Road Traffic Accidents

GIT= Gastrointestinal tract

PM= Post mortem

ABSTRAK

Abstrak daripada kertas projek yang dikemukakan kepada Fakulti Perubatan Veterinar untuk memenuhi sebahagian daripada keperluan kursus VPD 4999 – Projek

**KAJIAN BEKENAAN KADAR PREVALENS PENYAKIT DAN PERUBAHAN
PATHOLOGI DI KALANGAN KUCING DAN ANJING YANG
DIKEMUKAKAN KE MAKMAL NEKROPSI FAKULTI PERUBATAN
VETERINAR, UPM DARI TAHUN 2005 HINGGA 2015**

Oleh

Rathiymler Maniam

2016

Penyelia : Prof. Dr. Zamri Saad

Penyelia Bersama: Dr. Annas Salleh

Nekropsi adalah pemeriksaan atau pembedahan yang dilaksanakan ke atas bangkai haiwan untuk menentukan punca kematian. Punca kematian boleh ditentukan dengan menganalisis lesi matakasar, perubahan histopatologi dan hasil ujian makmal. bantuan Sejak kebelakangan ini, perliharaan haiwan kesayangan meningkat di kalangan para masyarakat Malaysia menyebabkan punca kematian haiwan kesayangan menjadi satu

aspek penting. Kajian berbalik ini melibatkan penganalisan data kes kucing dan anjing yang dikemukakan ke Makmal Nekropsi FPV, UPM untuk mencari penyakit yang kerap berlaku di kalangan anjing dan kucing disamping mengenal-pasti perubahan patologi yang berkaitan. Sebanyak 35 jenis penyakit anjing yang telah didiagnosis dan septisemia (10.2%), kanser kelenjar mammar (8.4%) dan distemper kanin (7.9%) [X^2 (34 N=726) = 513.552, $p < 0.001$)] merupakan tiga penyakit yang paling kerap berlaku. Manakala, dikalangan kucing 27 jenis penyakit telah dikenalpasti dan penyakit yang paling kerap merupakan kecederaan trauma (19.5%), peritonitis berjangkit felin (15.1%) dan sporotrikosis (12%) [X^2 (26 N=726) = 1568, $p < 0.001$]. Kajian juga menunjukkan bahawa setiap satu penyakit mempunyai perubahan patologi yang spesifik.

Kata Kunci: Perubahan nekropsi, penganalisan data, anjing, kucing, masalah kesihatan.

ABSTRACT

An abstract of the project paper presented to the Faculty of Veterinary Medicine, UPM
in partial requirement for the course of VPD 4999- Project

**DISEASE PREVALENCE AND ASSOCIATED PATHOLOGICAL CHANGES IN
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2016

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Post mortem or necropsy is an autopsy on an animal to find its cause of death whenever it's possible. The cause of death can be determined using the gross lesions, histopathological changes and laboratory results. Gross changes are the abnormalities observed during post mortem while histopathology involves the abnormal changes in the tissues observed under the microscope. Since keeping pet has become a growing trend

among Malaysians, indentifying the common problems leading to death of their furry companion becomes a necessity. This retrospective study was conducted by analyzing data on cases among the small animals which includes cats and dogs presented to Post Mortem Laboratory, Faculty of Veterinary Medicine, UPM to find the most common diseases and to describe the respective lesion associated with the disease. There were a total of 37 diseases diagnosed among dogs. However, the most common diseases among dogs were septicemia (10.2%), mammary gland tumor (8.4%) and Canine Distemper (7.9%) [χ^2 (34 N=726) = 513.552, $p < 0.001$]. In cats, a total of 27 diseases were diagnosed but the most common one were traumatic injuries (19.5%), Feline Infectious Peritonitis (15.1%) and Sporotrichosis (12%) [χ^2 (26 N=726) = 1568, $p < 0.001$]. Each of the diseases has their specific gross pathology and histopathological lesion which are discussed below.

Keywords: Post mortem changes, analyzing records, cats, dogs, health problems.

1.0 INTRODUCTION

Post Mortem or necropsy is an examination done of the dead body of an animal to determine the cause of death whenever it's possible (Philips, 2014). Thus, post mortem is an examination done after death is extremely valuable because it provides an opportunity to examine everything, both inside and outside (Stahl, 2014). A necropsy is normally categorized into two sections, the gross pathology examination where the body of the animal is visually observed and manually examined during post mortem procedure. Meanwhile, the histopathology section involves examination of the affected organs or tissues under a microscope (Yousha, 2005). To determine the cause of death, both the gross and histopathological lesions together with the associated laboratory results and a complete medical history are required. However, not all necropsies will result in a confirmatory diagnosis but it may rule out certain differential diagnosis.

The Post Mortem Laboratory of Faculty of Veterinary Medicine, UPM was established in 1972 with major functions in providing services in post mortem examinations, biopsies, carcass disposal, tissues and organs fixation. This laboratory receives cases from all over Malaysia which includes the University Veterinary Hospitals, pet owners, zoos and any animal associated organizations.

This retrospective study revolves on the results of post mortem examination on the pet animals, particularly dogs and cats. Keeping pets such as dogs, cats, fish, reptiles and birds has become a growing trend around the world including Malaysia (Brough, 2014). Furthermore, according to the American Pet Products Association (APPA) most recent study, in the 2013-2014 APPA National Pet Owners Survey, it was estimates that 82.5

million or 68 percent of American households keep pets. Therefore, highlighting the cause of death of pet animals has become a necessity. On the other hand, identifying the common health problems can assist in preventive measure in the future (Center for Disease Control and Prevention, 2009).

There are limited studies conducted to identify the common health problems and their associated pathological changes among the small animals. Therefore, this study was designed to identify the common health problems based on pathological examinations among the local dogs and cats presented to Post Mortem Laboratory of Faculty of Veterinary Medicine. This study also describes the pathological changes associated with the common health problems observed in the cats and dogs for better understanding on health problems faced by the pets in Malaysia.

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