中華民國比較病理學會

Chinese Society of Comparative Pathology

第 52 次比較病理學研討會

School of Veterinary Medicine, National Taiwan University

國立臺灣大學獸醫專業學院

July 9, 2011 (中華民國 100 年 7 月 9 日)

Chinese Society of Comparative Pathology

中華民國比較病理學會

SCHEDULE

52nd MEETING OF COMPARATIVE PATHOLOGY

中華民國比較病理學會第 52 次比較病理學研討會

Date: July 9, 2011 (Sat) 08:30~17:00

Location: B01,School of Vet Med, NTU

Address: No.1, Sec. 4, Roosevelt Road, Taipei

Telephone: 02-33663858

時間：100 年 7 月 9 日(星期六) 08:30~17:00

地點：國立台灣大學獸醫學系 B01 演講廳

地址：台北市羅斯福路四段 1 號

電話：02-33663858

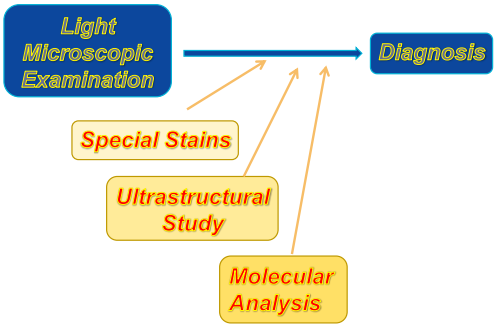
Time(時間)	Schedule(議程)		Moderator(主持)
08:30~09:00	Registration (報到)		
09:00~09:10	Opening Ceremony (致詞)		
09:10~10:10	專題演講	Dr. C. Y. Tzen (曾嶔元 博士) Molecular pathology of infectious disease	Dr. C. W. Shih 施洽雯 主任
10:10~10:30	Coffee Break		
10:30~11:00	Case 365	Dr. Y.L. Chen (陳燕麟 醫師) Cardinal Tien Hospital, Taiwan (天主教耕莘醫院)	Dr. F. J. Leu 呂福江 主任
11:00~11:30	Case 366	Dr. M. T. Tsai (蔡睦宗 獸醫師) Pingtung county Livestock Disease Control Center (屏東縣家畜疾病防治所)	
11:30~12:00	Case 367	Dr. J. S. Hung (洪睿勝 醫師) Buddhist Tzu Chi General Hospital and University, Taiwan (慈濟綜合醫院暨慈濟大學)	
12:00~13:30	Lunch, and Board Meeting (中華民國比較病理學會理監事會議)		
13:30~14:00	Case 368	Dr. C. H. Lin (林智鴻 醫師) Kaohsiung Medical University Chung-Ho Memorial Hospital, Taiwan (高醫大附設中和紀念醫院)	Dr. Y. H. Hsu 許永祥 主任
14:00~14:30	Case 369	Dr. Y. T. Bong (王逸葶 獸醫師) Department of Veterinary Medicine, National Pingtung University of Science and Technology (國立屏東科技大學獸醫學系)	
14:30~14:50	Coffee Break		
14:50~15:20	Case 370	Dr. C. A. Wu (吳晉安 獸醫師) National Chung-Hsing University, Taiwan (國立中興大學)	Dr. C. H. Liu 劉振軒 院長
15:20~15:50	Case 371	Dr. C. W. Shih (施洽雯 醫師) Lotung Poh-Ai Hospital, Taiwan (羅東博愛醫院)	
15:50~16:20	Case 372	Dr. H. S. Liang (梁赫烜 獸醫師) National Taiwan University, Taiwan (國立臺灣大學)	
16:20~17:00	General Discussion (綜合討論)		

目　　錄

Molecular analysis of infectious diseases

曾崴元 教授
國泰醫院 病檢部 主任
分子醫學會 理事長

1



2

Example: case #1

5 y/o boy

Friday (OPD), Saturday (ER), Sunday (hospital)

Monday (expired)

3

VP4

- Phylogenetic analysis by the neighbor-joining method
- All prototype strains can be amplified and classified.
- 207 bp
  - Reverse primer (OL68-1): nt 1178-1197
  - Forward primer (MD91): nt 444-468
  - Sequencing primer: nt 541-560

Ishiko H, et al: J Infect Dis 185:744-754, 2002

4

Example #2

- 33-yr-old female with SLE for one year
- Pus oozing from the insertion site of the Hickman catheter

5

Life-threatening pneumonia

- Differential diagnoses

6

Example #3

Crohn disease

7

Crohn disease

- Crohn disease was initially reported as chronic interstitial enteritis by Dalziel in 1913
- and then described as regional ileitis by Crohn in 1932.

8

Crohn disease

- It is an idiopathic inflammatory bowel disease characterized by noncaseating granulomas with transmural inflammation.

9

Crohn disease

- The resemblance of Crohn disease to paratuberculosis of ruminants (Johne's disease) implies that *Mycobacterium avium subsp paratuberculosis* (*Map*) may cause Crohn disease in humans.

10

A medical center in Northern Taiwan

- 11 Crohn disease between the years 1992 and 2003

11

#7 and #8

- Specimens #7b and #8 were *M. tuberculosis* (99.7%).

12

- Specimen #11 was *M. mucogenicum* (97.5% similar to AF547858; 98.6% to strains AF071135 and AJ307637).

13

Acid fast stain

- Microscopic examination of AFB smear can yield a result within 24 h.
- AFB stains are insensitive with a detection limit of $\geq 10^4$/mL.
- Nonspecific: Microscopy of fresh tissue samples cannot distinguish between mycobacterial species

14

Culture

- Culture takes time, usually takes two weeks or more.

15

Culture: False positive

- Members of the genus Mycobacterium are widespread in nature.
- The non-tuberculous mycobacteria are widely distributed in nature and a single isolation from a clinical specimen does not necessarily indicate the presence of disease attributable to that specific organism.
- The isolation of some species is more often due to laboratory contamination than to infection or disease.

16

Culture

- Some atypical mycobacteria do not grow well in culture.
- In a patient with coinfection with MAC and M. genavense, culture techniques would detect only MAC because of its more rapid growth.

Kirschner P, et al: J Clin Microbiol 32:828-831, 1994.

17

Culture?

- Culture cannot be applied to fixed tissue specimens.
  - Many cases suspected of TB can only be reported as "granulomatous inflammation, consistent with mycobacterial infection" because ZN stain is negative and culture is not sent.

18

Culture vs PCR

- The higher sensitivity of PCR versus culture has been explained by the fact that
  - only a small number of organisms are present in these samples
  - a high proportion of mycobacteria may not be viable in vitro as a result of
    - the microbactericidal action of immune and inflammatory cells
    - the reduced viability attendant with processing and decontaminating specimens before culture.

19

Sensitivity

- A PCR assay done on paraffin-embedded lung tissue of mice experimentally infected with the H37Rs strain of *M. tuberculosis* detects as few as 9 organisms in a 5-um section of tissue.

Rish JA, Eisenach KD, Cave MD, Reddy MV, Grangadharam PRJ, and Bates JH: Polymerase chain reaction detection of *Mycobacterium tuberculosis* in formalin-fixed tissue. Am J Respir Crit Care Med 153:1419-1423, 1996.

20

Sensitivity

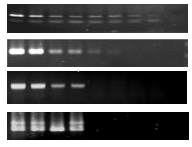
- As little as 8 fg (~2 mycobacterium) of M. tuberculosis DNA could be detected in a reaction.

Li JYW et al: Int. J. Surg. Pathol 7:181-182, 1999.

21

TB PCR sensitivity

Primer	T4/T5	64-1/64-2	KY18/KY75	KY18/KY75nest
sensitivity	2.66 fg	10.625fg	42.5fg	42.5fg
copy	0.5	2.125	8.5	8.5



22

PCR: Decreased sensitivity

- The sensitivities of TB-PCR assays are usually lower when clinical samples were run because of the presence of human genomic DNA.

Sandin PL. Polymerase chain reaction and other amplification techniques in mycobacteriology. Cli Lab Med 16:617-639, 1996.

23

Example #4

An 8-month-old male infant with a chief complaint of productive cough for months and a fever off and on for 2 weeks

24

History

- The child had been immunized in the left deltoid muscle with Moreau BCG vaccine at 3 days of age.
- He had been relatively well until 6 months of age when he began to have frequent upper respiratory tract infections and acute bronchiolitis.

25

History

- Pigmented papules were noted beginning at age 7 months, initially on buttocks and then progressing to involve the entire trunk one week later.
- A skin biopsy revealed granulomatous inflammation with mycobacteria on smear.

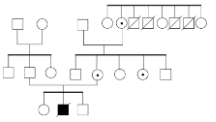
26

History

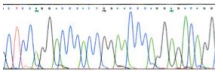
- Isoniazid, pyrazinamide, and rifampin were prescribed.
- However, the skin lesions persisted and he continued to have cough with intermittent fever.

27

- All his maternal grandmothers' brothers died before 1 year of age with unknown infections
- X-linked recessive inheritance pattern



- Sequence analysis shows a missense mutation at codon 136 (CGG to CCG) in the exon 2 of the IL IL2Rγ, resulting in a mutant of R136P.



Specificity

Even if there are closely related bacteria that can be amplified, DNAs from these bacteria do not affect amplification of mycobacterial DNA unless they are present in $>10^4$-fold excess over the amount of target DNA.

Tevere VJ, et al: J Clin. Microbiol 34:918-923, 1996.

29

PCR: False negative

- Paucibacillary samples (low number of bacilli)
  - The loss of DNA during extraction
- The distribution of mycobacteria in a block was not homogeneous
  - Failure to sample target DNA during sectioning
- The choice of fixative has a profound effect in the conservation of DNA

30

PCR: False negative

- The false-negative results of the PCR method continue to be a problem for the microbiologic diagnosis of TB.
- Nevertheless, the limitations of such PCR assay should be noted and results must be interpreted in the light of clinic and morphological findings.

31

PCR: False positive

- Labeling errors
- Laboratory contaminations
  - Cross-contamination between specimens is the major contributing factor. Thus. meticulous measures should be used during specimen handing, DNA extraction, and PCR setup to obtain reliable and reproducible results.

32

False positive

Studies have found suggestive evidence that often, patients with so-called "false-positive PCR results" do indeed have mycobacterial disease .

Chin DP et al. Am J Respir Crit Care Med 151:1872-1877, 1995.
Kolk AHJ, et al. J Clin Microbiol 33:3225-3233, 1995.
Ninet B, et al. Diagn Mol Pathol 8:145-151, 1999.

Most of the culture-negative, PCR-positive results for samples were not false positive

Gomez-Pastrana D et al: Clinical Infectious Diseases 32:17-22, 2001

33

PCR: False positive?

Special attention must be paid to the capacity of M. tuberculosis DNA to remain in tissue specimens for many years even though no viable organisms are present. This point has been confirmed in the study of sputum from patients who have fully recovered after chemotherapy for pulmonary tuberculosis.

Eisenach KD et al: Am Rev Respir Dis 144:1160-1163, 1991.
Choi YJ et al: Am J Clin Pathol 105:200-204, 1996.
Schluger NW et al: Chest 105:1116-1121, 1994.

34

PCR: False positive?

PCR amplification has been used to establish the presence of organisms of the M. tuberculosis complex in a naturally mummified woman who died approximately 900 yr ago.

Morell V: Mummy settles TB antiquity ebate. Science 263:1686-1687, 1994.

35

Clinical relevance of positivity

- Conditions such as reactivation TB, asymptomatic infection, and dormant (nonculturable) mycobacteria may all show positive TB-PCR results, and their relevance must be judged in light of the clinical picture.

36

False positive?

- The distinction between infection and active disease is sometimes artificial, because this process is continuous, and can be difficult to determine when the tuberculous infection becomes disease. Therefore, these would not be false-positive PCR results but, rather, a consequence of a higher sensitivity.

Delacourt C, et al: Arch Dis Child 69:430-432, 1993.

37

False positive?

- It is highly probable that healed tuberculous granulomas that are culture- and AFB stain-negative for M. tuberculosis will sometimes be positive for its DNA.
- This question has not been studied.

38

Clinical relevance of positivity

- Because PCR cannot distinguish viable from dead mycobacteria, its usefulness is patients recently treated for TB must be interpreted cautiously.

39

Example #5

- Skin biopsy from a patient suspicious for leprosy

40

PCR-based diagnosis

- Specificity: 100%
- Sensitivity:
  - 34-80% for paucibacillary lesions
  - >90% for multibacillary lesions

41

pmyc7

- Detect: M. marinum

42

Blast result	case	Blast result	case
M. intracellulare	5	M. farcinogenes, M. senegalense	1
M. gordonae	5	M. haemophilum	1
M. lentiflavum	4	M. interjectum	1
M. abscessus, M. massiliense	3	M. intrecellulare, M. IWGMT	1
M. chimaera, M. intracellulare	3	M. kansasii	1
M. fortuitum	2	M. massiliense	1
M. abscessus	1	M. marinum	1
M. abscessus, M. chelonae	1	M. mucogenicum	1
M. avium	1	M. neoaurum	1
M. chimaera	1	M. parafortuitum	1
		M. peregrinum	1
2005.9.1~2006.10.24		Total	37

Molecular Diagnosis of *M. tuberculosis*

44

Mycobacterium tuberculosis complex

- Mycobacterium africanum
- Mycobacterium bovis
  - Mycobacterium bovis BCG
- Mycobacterium canettii
- Mycobacterium microti
- Mycobacterium pinnipedii
- Mycobacterium tuberculosis

45

PCR-based Molecular Diagnosis

- **Quick, sensitive, and specific**
- **Fixed tissue specimens**
  - **e.g., retrospective studies**
- **Detecting mixed infection**
  - **e.g., M. genavense + M. tuberculosis**
- **Identifying new strain of M. sp**
  - **e.g., M. sp related to M. intracellulare (3 nt. Difference)**

46

Quick

- **Confirmation of the presence of M. tuberculosis within 1 to 3 days as compared with 2 to 6 wk with culture techniques.**
  - **days 1 and 2: DNA extraction, precipitation, and purity check**
  - **day 3: PCR setup and electrophoresis).**

47

Commonly used primers

Primers	Sequence	Tm (℃)	Length (mer)	PCR product
64-1	TCCGCTGCCAGTCGTCTTCC	57	20	240bp
64-2	GTCCTCGCGAGTCTAGGCCA	57	20	
T4	CCTGCGAGCGTAGGCGTCGG	68	20	123bp
T5	CTCGTCCAGCGCCGCTTCGG	68	20	
KY18	CACATGCAAGTCGAACGGAAAGG	60	23	588bp
KY75	GCCCGTATCGCCCGCACGCTCACA	60	24	
KY75-nest	TGCTTCTTCTCCACCTACCGTCAA	60	24	443bp

48

PCR targets & primers

- Insertion sequence IS6110
  - T4/T5
  - ISTB1/2 ISTB3/4
  - J/K
  - IS59/INS2 INS1/IS60
- MPB64 protein
  - 64-1/64-2
- Ribosomal RNA
  - KY75/KY18 KY75-nest/KY18
- 65KD heat shock protein
  - TB11/TB12
  - Hsp65A1/Hsp65B1 & HSP-1/HSP-2
- Others

49

IS*6110*

- The most commonly used of these assays is one targeting the insertion element IS*6110* found only in species within the M. tuberculosis complex.

Eisenach KD et al: J. Infect. Dis. 161:977-981, 1990.

50

False negative

- However, there are isolates of M. tuberculosis that do not harbor IS*6110*, although they are uncommon.

Yuen LKW et al: J. Clin. Microbiol. 31:1615-1618, 1993.

- Certain strains of Mtb in Southeast Asia (e.g., Vietnam) do not possess the IS6110 sequence and may be IS6110-negative on PCR.

Chan CM, et al: J Clin Pathol 49:290-294, 1996.
Ieven M, et al: Clin Microbiol Rev 10:242-256, 1997.

51

False positive: IS6110

- False positive TB-PCR results of 3% to 20%

Noordhoek et al: J Clin Microbiol 32:277-284, 1994

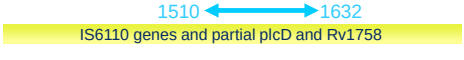
- False positive TB-PCR results of 7%

Doucet-Populaire et al: Tuber Lung Dis 77:358-362, 1996.

52

T4/T5

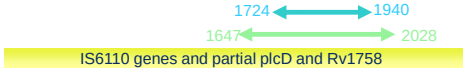
- T4: CCT GCG AGC GTA GGC GTC GG (1510-1529)
- T5: CTC GTC CAG CGC CGC TTC GG (1632-1613)



53

ISTB1/2 ISTB3/4

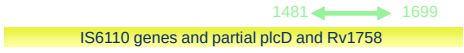
- ISTB1: CCG GCC AGC ACG CTA ATT AAC GGT TC (2028-2010)
- ISTB2: TGT GGC CGG ATC AGC GAT CGT GGT (1647-1672)
- ISTB3: CTG CAC ACA GCT GAC CGA (1940-1922)
- ISTB4: CGT TCG ACG GTG CAT CTG (1724-1741)



54

J/K

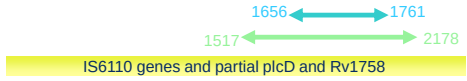
- J: CGG GAC CAC CCG CGG CAA AGC CCG CAG GAC (1699-1670)
- K: CAT CGT GGA AGC GAC CCG CCA GCC CAG GAT (1481-1509)



55

IS59/INS2 INS1/IS60

- IS59: GCG CCA GGC GCA GGT CGA TGC (2178-2158)
- INS2: GCG TAG GCG TCG GTG ACA AA (1517-1536)
- INS1: CGT GAG GGC ATC GAG GTG GC (1761-1742)
- IS60: GAT CAG CGA TCG TGG TCC TGC (1656-1676)



56

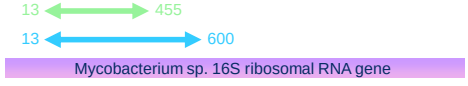
64-1/64-2

- 64-1: TCC GCT GCC AGT CGT CTT CC (709-728)
- 64-2: GTC CTC GCG AGT CTA GGC CA (949-930)

57

KY75/KY18 KY75-nest/KY18

- KY75:GCC CGT ATC GCC CGC ACG CTC ACA (600-577)
- KY18:CAC ATG CAA GTC GAA CGG AAA GG (13-39)
- KY75-nest:TGC TTC TTC TCC ACC TAC CGT CAA (455-433)



58

16S rRNA

The use of macromolecular comparisons to infer phylogenetic relationships is generally accepted and well established. Of the macromolecules used for phylogenetic analysis, the rRNAs, in particular 16S rRNA, have proven to be the most useful for establishing phylogenetic relationships because of their high information content, conservative nature, and universal distribution.

Fox, G. E., et al. The phylogeny of prokaryotes. Science 209:457-463.
Woese, C.R.: Bacterial evolution. Microbial. Rev. 51:221-271, 1987.

59

rRNA

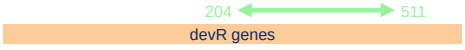
- A pan-Mycobacterium assay based on the amplification of rRNA was described.
  - The detection limit of the assay was only 30 organisms when the gene encoding the rRNA (present in one or two copies per cell) was used as the template.
- Single-organism sensitivity was achieved only when the rRNA (present in 10^3 to 10^4 copies per cell) was used as the template.

Böddinghaus B et al: J. Clin. Microbiol. 28:1751-1759, 1990.

60

devRf2/devRr2

- devRf2: TGG CAA CGG CAT TGA ACT GT (204-223)
- derRr2: TAA GCA GGC CCA GTA GCG T (511-493)



61

PT-1/PT-2

- PT-1:5′-CAACGCGCCGTCGGTGG-3′
  PT-2:5′-CCCCCCACGGCACCGC-3′
- MPT 40 protein gene
- Detect:
  - M. tuberculosis

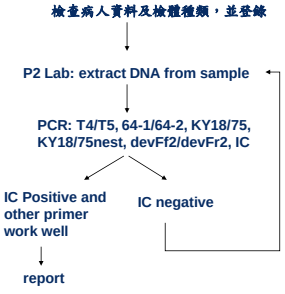
62

32pA1/32pB

- 32pA1: 5′-TACTCCGACTGGTACCAGCC-3′
  32pB: 5′-GCCGTTGCCGCAGTACACCC-3′
- 32p protein
- Detect:
  - M. tuberculosis
  - M. gordonae
  - M. gastri
  - M. kansasii
  - M. microti
  - M. bovis

63

Flow chart



64

Example #6

A lady likes gardening

65

Culture from elbow abscess

- Mycobacterium flavescens

66

Phenotyping (1)

- **At present, the most commonly used identification procedures are based on biochemical characteristics, but not only are they time-consuming but their results are also difficult to interpret, even by experienced personnel.**

Sanguinetti M, et al: J Clin Microbiol 36:1530-1533, 1998.

67

Phenotyping (2)

- **The biochemical tests are further hindered by the increasing number of rare and newly discovered disease-causing Mycobacterium species.**

Heifets LB et al: Mycobacteria I. Basic aspects. Chapman & Hall, 1998.

68

CASE SIGNALMENT

52ND MEETING OF COMPARATIVE PATHOLOGY

July 9th, 2011

(中華民國比較病理學會第 52 次比較病理學研討會)

Case No.	Presenter	Institution	Slide No.	Signalment
Case 365	Dr. Y.L. Chen (陳燕麟 醫師)	Department of Pathology, Cardinal Tien Hospital, Taiwan (天主教耕莘醫院病理科)	CTH	31-year-old, woman
Case 366	Dr. M. T. Tsai (蔡睦宗 獸醫師)	Pingtung county Livestock Disease Control Center (屏東縣家畜疾病防治所)	Q98-240	10-day-old,piglet
Case 367	Dr. J. S. Hung (洪睿勝 獸醫師)	Buddhist Tzu Chi General Hospital and University, Taiwan (慈濟綜合醫院暨慈濟大學)	S2011-2576A6	42-year-old, man
Case 368	Dr. C. H. Lin (林智鴻 醫師)	Dept. of Path., Kaohsiung Medical University Chung-Ho Memorial Hospital, Taiwan (高醫大附設中和紀念醫院病理科)	KMU-10-21376	52-year-old, man
Case 369	Dr. Y. T. Bong (王逸葶 獸醫師)	Department of Veterinary Medicine, National Pingtung University of Science and Technology (國立屏東科技大學獸醫學系)	WA98-2135-30	Old female camel
Case 370	Dr. C. A. Wu (吳晉安 獸醫師)	Graduate Institute of Veterinary Pathology, National Chung Hsing University, Taiwan (國立中興大學獸醫病理生物學研究所)	CS11-0318	6-week-old, male, Sprague-Dawley rats
Case 371	Dr. C. W. Shih (施洽雯 醫師)	Department of Pathology, Lotung Poh-Ai Hospital, Taiwan (羅東博愛醫院病理科)	LP-11-1749	52-year-old, man
Case 372	Dr. H. S. Liang (梁赫烜 醫師)	School of Veterinary Medicine, National Taiwan University, Taiwan (國立臺灣大學獸醫專業學院)	NTU11-649A	3-year-old, male, Red guenon

CASE DIAGNOSIS

52ND MEETING OF COMPARATIVE PATHOLOGY

July 9th, 2011

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Case No.	Presenter	Institution	Slide No.	Diagnosis
Case 365	Dr. Y.L. Chen (陳燕麟 醫師)	Department of Pathology, Cardinal Tien Hospital, Taiwan (天主教耕莘醫院病理科)	CTH	Angiosarcoma, skin (mastectomy)
Case 366	Dr. M. T. Tsai (蔡睦宗 獸醫師)	Pingtung county Livestock Disease Control Center (屏東縣家畜疾病防治所)	Q98-240	Rhabdomyoma (Purkinjeoma), heart
Case 367	Dr. J. S. Hung (洪睿勝 獸醫師)	Buddhist Tzu Chi General Hospital and University, Taiwan (慈濟綜合醫院暨慈濟大學)	S2011-2576A6	Melioidosis (Burkholderia pseudomallei), lung
Case 368	Dr. C. H. Lin (林智鴻 醫師)	Dept. of Path., Kaohsiung Medical University Chung-Ho Memorial Hospital, Taiwan (高醫大附設中和紀念醫院病理科)	KMU-10-21376	Langerhans cell sarcoma, lung
Case 369	Dr. Y. T. Bong (王逸葶 獸醫師)	Department of Veterinary Medicine, National Pingtung University of Science and Technology (國立屏東科技大學獸醫學系)	WA98-2135-30	Biliary cystadenocarcinoma, liver
Case 370	Dr. C. A. Wu (吳晉安 獸醫師)	Graduate Institute of Veterinary Pathology, National Chung Hsing University, Taiwan (國立中興大學獸醫病理生物學研究所)	CS11-0318	Suppurative bronchopneumonia (*Bordetellae trematum)* with *Trichosomoides crassicauda* infestation
Case 371	Dr. C. W. Shih (施洽雯 醫師)	Department of Pathology, Lotung Poh-Ai Hospital, Taiwan (羅東博愛醫院病理科)	LP-11-1749	Malignant melanoma, nasal cavity
Case 372	Dr. H. S. Liang (梁赫烜 醫師)	School of Veterinary Medicine, National Taiwan University, Taiwan (國立臺灣大學獸醫專業學院)	NTU11-649A	Snake bite suspected, skin and spleen

Yen-Lin Chen (陳燕麟) MD, Jung-Hwa Chian(江蓉華) MD,
Fur-Jiang Leu (呂福江) MD PhD
Department of Pathology, Cardinal Tien Hospital

CASE HISTORY:

Signalment: 31-year-old woman

Clinical history: A 31-year-old woman came to OPD due to a breast mass at right breast. She denied fever, itching, pain, or other discomfort symptoms. Physical examination found a right breast palpable solid movable mass with size 4 x4 cm. Breast sonography was done showed a lobulated mass with hypervascularity. Mammography also showed a 4x4x3 cm ill-defined asymmetric density with some architecture distortion in upper quadrate of right breast. Needle biopsy was done and showed angiosarcoma. Subsequntly, total mastectomy and CCRT were performed. During the follow up course, another side breast also found metastatic angiosarcoma. Moreover, liver, colon, peritoneal and chest wall also found metastatic angiosarcoma during the follow up course. All the lesions were resected when they were discovered. The patient is still alive for the follow up course of 4 years and 7 months.

Gross findings: The specimen submitted consisted of a breast measuring 23 x 18 x 5 cm with nipple 1 x 1 x1 cm. On dissecting, there are multiple ill-defined dark blue to purple lesions measuring in total 4 x 4 x 3.5 cm with the nearest margin of 2 cm at upper quadrate of the breast tissue.

Yen-Lin Chen (陳燕麟) MD, Jung-Hwa Chian(江蓉華) MD,
Fur-Jiang Leu (呂福江) MD PhD
Department of Pathology, Cardinal Tien Hospital

CASE RESULT:

Diagnosis: Breast, right, mastectomy --- Angiosarcoma

Histopathological finding: Microscopically, the sections show picture of angiosarcoma. The tumor shows infiltrative borders and composed of anastomosing blood channels lining with atypical and plump endothelithum cells. Perineural invasion and necrosis were not identified in the sections.

Immnohistochemical stains: The immunohistochemical profile showed immunireactive for CD31, CD34, Factor VIII and high labeling index of MiB-1. Staining result for cytokeratin was negative.

Laboratory results:
CBC/DC: anemia (Hb: 6.9 g/dl, MCV: 84.2 fL)
Biochemistry (sugar, Ca, BUN, Cr, Na, K, Cl, AST, ALT) : WNL

Discussion: Angiosarcoma arises in the breast more often than in any other organ. Until recently, angiosarcoma of the breast was regarded as almost always fatal. Subsequent studies have shown it to be a morphologically heterogeneous group of neoplasms in which grade is prognostically significant. There are three types of angiosarcoma in the breast: Post radiation, post MRM and primary angiosarcoma. The initial clinical finding is a painless mass. Blue or purple discoloration of the skin reflects hemorrhage and vascularity of the lesion. Mammographic examination reveals ill-defined, lobulated tumors, with areas of high and low echogenicity on sonography. MRI may be more sensitive than mammography for detecting parenchymal involvement in women who develop cutaneous angiosarcoma. Ages at diagnosis ranges from the teens to 91 years with a mean age of 34. In view of the relative youth of patients with mammary angiosarcoma, coexistent pregnancy was present in 4 (6%) of 63 cases in one series. Patients with angiosarcoma diagnosed during pregnancy seem to have an especially poor prognosis, apparently because most have high-grade tumors. This probably reflects their youth rather than a particular association between high-grade angiosarcoma and pregnancy. The left and right breasts are involved with nearly equal frequency. Concurrent bilateral angiosarcomas are very uncommon.

The tumors vary in size from 1 to 20 cm or more, averaging about 5 cm. In many cases, angiosarcoma forms a friable, firm or spongy hemorrhagic tumor. Areas of cystic hemorrhagic necrosis are commonly evident in large, high-grade lesions. Focal hemorrhage or hemorrhagic discoloration in the surrounding breast is usually an indication of tumor extending beyond the grossly evident mass. Low-grade or type I tumors are composed of open, anastomosing vascular channels that proliferate diffusely in mammary glandular tissue and fat. Infiltration into lobules is characterized by spread of the vascular channels within the intralobular stroma, Papillary formations are absent or at most very infrequent. Mitotic figures are rarely seen in the neoplastic endothelial cells of a low-grade tumor. The vascular lumens are usually large, open, and anastomosing in low-grade ngiosarcomas. Red blood cells are typically present in small numbers, but occasional lesions are congested.

It shows immunoreactivity for factor VIII-related antigen, CD34 and CD31. These markers are especially useful for distinguishing epithelioid forms of angiosarcoma from carcinoma and other neoplasms. The Ki67-labeling index of angiosarcomas (mean, 38.1; median, 40.3) is substantially higher than the labeling index of hemangiomas (mean, 4.6; median, 1.7). The labeling index of low-grade angiosarcomas (mean, 29.4; median, 24.5) is considerably less than the labeling indices for intermediate (mean, 41.6; median, 42.9) and high-grade angiosarcomas (mean, 44.8; median, 43.5).

As for the prognosis, disease-free survival 5 and 10 years after treatment: low-grade, 76%; intermediate grade, 70%; and high-grade, 15%. The median duration of disease-free survival was also correlated with tumor grade (low, >15 years; intermediate, >12 years; and high, 15 months). Compared with radiation associated angiosarcoma, pimary angiosarcoma had a better disease-free survival in the first 3 years of follow-up, but the differences were not statistically significant when plotted in Kaplan-Meier curves. he most frequent sites of metastases are bone, the lungs, the liver, the contralateral breast, and the skin, other than local recurrences at the mastectomy site.

Total mastectomy is the recommended primary surgical therapy. Axillary dissection is not indicated for mammary angiosarcoma because metastases rarely involve these lymph nodes. Following surgery, systemic adjuvant chemotherapy may be offered, but the effectiveness of this treatment remains uncertain.

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MT Tsai (蔡睦宗)*, DVM, MS; WL Chen (陳文烈), DVM, BS; CH Hsiao (蕭春輝), DVM, MS ; ST Huang (黃旭田), DVM, MS ; JP Hsu (徐榮彬), DVM, MS, PhD.
Pingtung county Livestock Disease Control Center (屏東縣家畜疾病防治所)

Case History

Signalment: 10-day-old, piglet, TD hybrid black type, swine

Clinical History: Nine suckling piglets, 10-day-old, Taiwan TD hybrid black type, were presented to our lab from a farrow-to-finish pig farm. The morbidity and mortality were about 100/500% and 100/500% respectively. The newborn piglets showed signs of weakness and diarrhea.

Gross Findings: At necropsy, the wall of small intestine was severely congested, thickened and friable among three of nine 10-day-old suckling piglets. The mucosal surface was covered by a tightly adherent yellowish necrotic membrane which may be seen from the serosal surface as longitudinal grayish-yellow bands. The mucosa of stomach was also reddened. Additionally, multiple well-demarcated, nonencapsulated, round or elliptical, white to tan color nodules of various sizes, ranging from 0.2-1 cm in diameter, were found on the heart among five of nine 10-day-old suckling piglets. The nodules were irregularly round to oval in shape embedded in the left ventricular wall, the interventricular septum and right ventricular wall. Some of the nodules protruded out the ventricular wall or the endocardium. On the cut surface the nodules were homogeneous in tan color and firm. The tissue slide of this case was made from the piglet's heart.

MT Tsai (蔡睦宗)*, DVM, MS; WL Chen (陳文烈), DVM, BS; CH Hsiao (蕭春輝), DVM, MS ; ST Huang (黃旭田), DVM, MS ; JP Hsu (徐榮彬), DVM, MS, PhD.
Pingtung county Livestock Disease Control Center (屏東縣家畜疾病防治所)

Case Result

Histopathologic Findings: Heart: The myocardium contained multiple, well-circumscribed and nonenapsulated, coalescing masses consisting of groups of tightly arranged, large, interlacing, atypical, pleomorphic, swollen cardiomyocytes. The cells had variable distinct cell borders. The cytoplasm was mostly deep eosinophilic and often contained aggregates of cross-striated fibers and occasionally large, empty vaculoes, giving the cells a typical “spider cells” appearance. The nucleus was large, ovoid, centrally located, and contained stipple chromatin and one to two prominent nucleoli. No mitoses were seen. These atypical cells were embedded within an abundant fibrovascular tissue.

Laboratory results: Bacterial isolation: *Clostridium perfringens* type C and *E.coli* spp. were cultured from the small intestine by blood agar.

Morphologic diagnosis: Heart, myocardium: cardiomyocyte swelling and vacuolar degeneration, nodular, multifocal, mild to marked (cardiac rhabdomyoma), piglet, Taiwan TaoyuanxDuroc (TD) hybrid black type, swine.

Differential diagnosis:
1. Hemangiosarcoma
2. Neurofibroma (Schwannomas)
3. Rhabdomyosarcoma
4. Lymphoma
5. Myxomas
6. Chondrosarcoma
7. Granular cell tumor
8. chemodectomas

Diagnosis: *Clostridium perfringens* type C and *E. coli* coinfection with cardiac rhabdomyoma (new proposed term purkinjeoma) in piglets of Taiwan TD hybrid black type.

Discussion: Cardiac rhabdomyoma (CR) is defined as intracardiac nodules consisting of large, ovoid, and glycogen-filled striated muscle cells with occasional spider-web appearance, characterized by abundant, centrally located, fine, granular cytoplasm surrounding the nucleus and by thin, elongated projections radiating to the cell periphery. Mitotic figures are usually not present. It is relative rare, primary tumor of the cardiac muscle that occurs sporadically in pigs, guinea pigs, sheep, cattle, fallow deer and dogs. (Omar AR.,1969; Bradley R, et al., 1980; Kolly C, et al, 2004; Kizawa K, et al, 2002; Aupperle H, et al, 2007). The incidence of swine CR is believed to be highest in domestic animals as an incidental finding in pig, although a few case reports have been reported (Omar AR., 1969; Bradley R, et al., 1980). Typically, it is found as an incidental finding at necropsy or during meat inspection, most commonly in young animals. In 1994, a breed predisposition of CR was reported in red wattle and red wattle-cross bred swine (McEwen BJE., 1994). The occurrence of cardiac rhabdomyomas in stillborn and neonatal red wattle piglets in the absence of heart failure concurs with previous reports of the congenital and incidental nature of these lesions in pigs. However, the absence of intercurrent disease in one red wattle piglets suggest that CR may potentially cause sudden death, perhaps by interfering with normal myocardial conduction, as occurs in peoples (McEwen BJE., 1994). In pigs and guinea pigs, a familial predisposition to developed CR is described, also suggesting a genetic basis of the lesion (Kolly C, et al., 2004). CR of this case occurred among five of nine 10-day-old piglets of Taiwan TaoyuanxDuroc (TD) hybrid black type and three of nine 10-day-old piglets infected by *Clostridium perfringens* type C and *E. coli* in 2009. Fibrinous necrotic enteritis caused by *Clostridium perfringens* type C and *E. coli* was the main etiology. CR of the heart was only incidental finding. Whether there is a breed predisposition of swine CR in Taiwan TaoyuanxDuroc (TD) hybrid black type piglets and CR could interfere with normal myocardial conduction and heart failure in this case, it need more evidence to be elucidated. Also, we found another CR case with multiple circumscribed nonencapsulated cardiac nodules, ranging from 0.5-2.5 cm in diameter. It occurred in a 6-week-old LDY type pig sent by local veterinary practitioner in 2010.

The gross and histopathology of this CR case in 10-day-old piglets were similar to those previously reported in domestic animals (Omar AR., 1969; Bradley R, et al., 1980; Tanimoto T, et al., 1995; Kolly C, et al, 2004; Kizawa K, et al, 2002; Aupperle H, et al, 2007; Kobayashi T, et al., 2010;Jacobsen B, et al, 2010) and human (Bohm N, et al., 1980; Issacs H, Jr., 2004; Burke A, et al., 2008; Amonkar GP, et al., 2009). Macroscopically, the CRs were yellow to brown in color, usually well-defined multiple nodules less than 1cm in diameter. The CR nodules were found in the subendocardium and protruded into the lumen or subericardial and spread into the endocardium of the left ventricle, ventricular septum, and right ventricle in order of frequency. They can vary from barely visible to about 3 cm in diameter. Most reports described nodules 1-1.5 cm in diameter. Histologically, the CRs were circumscribed but not encapsulated and compressed the adjacent normal cardiac myocytes. The large ovoid CR cells contained various amount of myofibrils with cross striations and showed

varying degrees of cytoplasmic vacuolation. Their large oval nuclei were usually single but were sometimes binucleated with an irregular contour that contained a few prominent eosinophilic nucleoli.The large, non-vacuolated CR cells resembled the Purkinje cells. Occasionally, the CR cells showed “spider-web” appearance, characterized by a centrally located cytoplasmic mass containing the nucleus and giving off slender cytoplasmic projections. (Tanimoto T, et al.,1995). Although they bear some histopathological resemblance to Purkinje cells, cardiac rhabdomyoma cells share ultrastructural features of both cardiac myofibers and Purkinje cells, creating uncertainy as to their histogenesis. The relative paucity of poorly oriented myofibrils, abundant glycogen, binucleation, and desmosomal intercellular junctions in rhabdomyomas are characteristics of Purkinje cells. But intercalated discs, which are exclusive to cardiac myofibers, are also present in some rhabdomyoma cells. This combination of ultrastructural features has led to the hypotheses that cardiac rhabdomyomas arise from either two types of fibers or a pluripotential embryonic cell. (Hulland TJ.,1990; McEwen BJE.,1994). Not only is the histogenesis of cardiac rhabdomyomas unresolved, but even the nature of the lesion is disputed. It has been suggested that they are true neoplasms, harmatomas, lesions of anomalous glycogen storage, or gigantism of myocardial fibers (McEwen BJE., 1994). By means of histological, immmunohistochemical, and ultrastructural techniques, these new observations with some reports on the occurrence of CR in neonatal piglets, swine CR does not belong to the entity of harmatoma but may be a congenital dysplasia of the perinatal cardiac tissues with myofibrillar degeneration, affecting mainly cardiac myocytes and rarely Purkinje cells (Tanimoto T, et al., 1995). According to the latest report, multiple circumscribed nodules found in the myocardium of two meat hybrid pigs of about 30kg were composed of large, vacuolated, glycogen-loaded cells. They expressed vimentin and desmin, neuro-specific enolase, and atrial natriuretic peptide. In addition, these cells expressed protein gene product 9.5 immunoreactivity-provide further evidence for the Purkinje fiber cell origin of the porcine myocardial proliferation. Therefore, the new term *purkinjeoma* or *Purkinjeomatosis* is proposed for the cardiac rhabdomyoma in pigs (Jacobsen B, et al., 2010).

Various primary and secondary neoplasms develop either in or near heart of the animals. Primary neoplasms include rhabdomyoma, rhabdomyosarcoma, schwannoma, and hemangosarcoma (Van Vleet JF, et al.; 2007). Other tumors of heart and extracardiac tissues include chemodectomas, lymphoma, myxoma, chondrosarcoma, granular cell tumor in animals.

In human, cardiac rhabdomyoma is the most common benign congenital cardiac tumor. It developed in utero and often detected early on prenatal ultrasound or before the age of 1 year. It involves the myocardium of both ventricles and the interventricular septum. Grossly, they are well-defined masses ranging from 0.3 to 9 cm. The histology is distinct showing the characteristic spider cells. On immunolohistochemistry the tumor cells are myoglobin-, actin-, desmin, and vimentin-positive. CR is frequently associated with tuberous sclerosis (TS) of brain, sebaceous

adenoma, and hamartomatous lesions of kidney and other organ. It may be the first sign of TS and help confirm the diagnosis before skin or brain scan changes appear. Noncardiac effects of TS develop as the individual gets older, while rhabdomyomas become less common with increasing age. CR and TS combination is important and has usually been explained by strong clinical association. TSC1 and TSC2 gene mutations have been associated with this combination. The prognosis of CR is good. They regress in size and may actually disappear. However, surgical removal is necessary in life-threatening conditions especially in large tumors causing intracardiac obstruction. Considering the close association between TS and CR, in case of any family with a history of TS, a search for CR is necessary. Similarly, any fetus with a cardiac tumor on ultrasonography require search for TS in other family members. Genetic counseling should be provided in all these cases (Amonkar GP, et al., 2009). Familial molecular analysis of *TSC*1 and *TSC*2 in cases with prenatally diagnosed cardiac rhabdomyomas and cerebral tuberous sclerosis lesions is helpful in prenatal diagnosis and genetic counseling (Chen CP, et al., 2008).

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Jui-Sheng Hung (洪睿勝) ,Yung-Hsiang Hsu (許永祥) MD
Department of Pathology, Buddhist Tzu-Chi General Hospital,Hualien
Department of Internal medicine, Buddhist Tzu-Chi General Hospital,Hualien

CASE HISTORY:

Signalment: 42-year-old man

Clinical history : Mr. Chang, a 42 year-old patient underlying with DM and hypertension with medical control, liver cirrhosis and tidia pedis for 5 years. He had right leg necrotizing fascilitis s/p with I&D on 2010/8/11 and debridement on 8/18. The pathologic report shows necrotizing inflammation with granulation tissue. In the following days, he was under F/U at OPD and had right leg erythema and local heat with pus formation recurred several times s/p I&D and wet dressing. Due to recurrent wound, he was admitted to Plasty ward for wound debridement.

He was in stable condition with right leg anterior part erythema, swelling and warmth acompanid by mild tenderness and the erythematous change didn`t radiated up to right thigh. He complained the right inghinal lymadenopathy when the symptoms became active. There was no fever and no chills, no dyspnea,cough and no abdominal pain. No travel history neither inset bited recently.

After admission, he udnerwent several times surgical intervention with debridement, on vac device and rotation muscle flap. However the wound culture grew Burkholderia pseudomallei, consulted infection man for evaluation. During the hospitalization, antibiotics with Tienem and Baktar were prescribed for him. Since the wound condition was stable, he was transferred to infection ward for melioidosis treatment. After transferral, Sulbactam and Baktar was prescribed for MDRAB and melioidosis. Splenctomy was suggested but the patient was under consideration. Rotation flap was healing well. Follow up abdominal echogram revealed cirrhosis is likely and splenomegaly. Abdominal CT on 3/1 showed persistent of spleen abscess with slightly improved. Surgical intervention was considered. We consult GS doctor for spleenectomy. Diffuse papular skin rash with itching was noted after addition of sulbactam. Drug allergy was suspected. We consult Dermatologist and add prednisolone for symptom relieving.

The splenectomy was performed on 03/08 and confirmed the diagnosis of melioidosis. After the operation he recovered well. Imipenem was used since 2011-01-21. Add sulbactam for MRAB, and Baktar for possible Stenotrophomonas maltiphilia superinfection. Due to the wound got better, so he was take over to infection. The condition of wound was improving gradually. Antibiotics regimen

shifted to high dose Baktar and Doxycycline. The patient was then discharged with closely follow up in the OPD.

Gross findings: 100/03/08 Splenectomy

Huge spleen, 15*12*8 cm in size, with multiple fibrin coating over the surface and there are multiple wedge infarction areas, no obvious abscess found.

On cut, only multiple fibrotic scar lesions are seen.

Jui-Sheng Hung (洪睿勝) ,Yung-Hsiang Hsu (許永祥) MD
Department of Pathology, Buddhist Tzu-Chi General Hospital,Hualien
Department of Internal medicine, Buddhist Tzu-Chi General Hospital,Hualien

CASE RESULT:

Diagnosis: Melioidosis

Histopathology findings:
Microscopically, the tibia shows granulomatous inflammation with prominent caseous like necrosis consistent with melioidosis according to culture and Gram stain showing G (-)balli result. Microscopically, the spleen shows granulomatous inflammation with fibrosis without suppurative lesions.

Diagnostic criteria :

Histopathology: Microscopic examination of tissue specimen shows granuloma of closely aggregated epithelioid cells with multinucleated giant cells with central suppurative lesions.
Blood culture : Burkholderia pseudomallei

Discussion: Melioidosis is a disease of humans and animals; it has enormous clinical diversity, spanning asymptomatic infection, localized skin ulcers or abscesses, chronic pneumonia mimicking tuberculosis, and fulminant septic shock with abscesses in multiple internal organs. Most disease is from recent infection, but latency with reactivation is described up to 62 years after exposure. Most cases are reported from Southeast Asia and northern Australia, but melioidosis is increasingly being recognized in people infected in an endemic region who return or travel to Europe and the United States. The causative bacterium, Burkholderia pseudomallei, is also considered a potential biologic warfare agent. In this case, he was infected with Burkholderia pseudomallei diagnosed from culture of wound over right lower leg. Before culture data revised, commercial kits identified the bacteria as Burkholderia cepacia, another subgroup of hospital-acquired infection. At the same time, the pathological finding shows necrotizing inflammation with granulomas which gave another differential diagnosis to us as tuberculosis. According to concurrent conclusion, the specimen of meliodosis showed suppurative granulomatous lesions. The centers of the abscesses are necrotic and contain neutrophils in a fibrin mesh. A narrow necrotic rim containing histiocytes forms the boundary of the abscess. **Necrosis** is prominent feature of even the very early lesions, a finding that probably reflects toxin production by Burkholderia pseudomallei. Large numbers of bacteria are seen in the abscesses, but seldom in the surrounding tissue. These two diagnosis(Tuberculosis and

Melioidosis) are almost the same that definitive diagnosis of melioidosis requires a positive culture of B. pseudomallei. By the way, B. pseudomallei readily grows in commercially available blood culture media, but it is not unusual for laboratories in nonendemic locations to misidentify the bacteria as a Pseudomonas species, especially because some commercial identification systems are poor at identifying B. pseudomallei. There is no pathology difference between these two disease lesion. Meliodosis had the name of “The Great Imitator ” as tuberculosis and our case is typical meiliodosis with complications include cellulutis, osteomyelitis and splenic abscesses.

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Lin, C.H. (林智鴻), M.D. Hsin-Ling Yin(尹莘玲) M.D ,and Chee-Yin Chai (蔡志仁) MD, PhD
Department of Pathology, Kaohsiung Medical University Hospital *(高醫附設醫院病理科)*

CASE HISTORY:

Signalment: 52-year-old man

Clinical History: This 52 year-old male, denied any systemic diseases, was otherwise healthy before. About a month ago, he suffered from intermittent fever up to 38'C. Associated signs and symptoms including cough with yellowish sputum but denied other discomfort. The fever and productive cough persisted after medication for symptom relief. Due to above, he visited our chest OPD for help.
Physical examination showed no significant finding with clear breathing sound. The image studies were arranged and CT scan showed lung mass lesion in the right upper lobe with suspicious mediastinal, right upper bronchus and SVC invasion with thrombosis, intrapulmonary metastasis in both lungs. CT guided biopsy for right upper lobe and wedge resection for left upper and lower lobes were performed.

Clinical Pathology: RBC: 3.25×10^6/uL (3-5×10^6/uL), Hb: 10.8 gm/dL (14.0-18.0 gm/dL), Hct: 32.9 % (40-54%), WBC: 14400/uL (4500-11000/uL), Plt: 40.5×10^4/dL (15-40×10^4/dL), Lymphocyte: 12% (20.0-45.0%), Segment: 80% (45.0-75.0%), Monocyte: 7% (0.0-9.0%), Eosinophil: 0% (1.0-3.0%), Basophil: 0% (0.0-1.0%). BUN: 15.7 mg/dL (7-22 mg/dL), Creatinine: 0.87 mg/dL (0.6-1.3 mg/dL), CEA: 0.54(0-5), AFP: 3.09(<9.0), PSA; 0.28 (0-4), CA19-9: <15 (<37)

Gross Findings:
CT-guided biopsy of upper lobe of right lung measures 0.3 x 0.1 x 0.1cm
Thoracoscopic wedge resection of upper lobe of left lung with a tumor measures 1.7x 1.3 x 0.4 cm. The tumor is well defined, not encapsulated, and grayish firm on cut.
Thoracoscopic wedge resection of lower lobe of left lung with a tumor measures 1.5 x 1.4 x 1.0 cm. The tumor is well defined, not encapsulated, and grayish firm on cut.
The section provided is from left upper lobe tumor.

Lin, C.H. (林智鴻), M.D. Hsin-Ling Yin(尹莘玲) M.D ,and Chee-Yin Chai (蔡志仁) MD, PhD
Department of Pathology, Kaohsiung Medical University Hospital *(高醫附設醫院病理科)*

CASE RESULT:

Histopathologic Findings: The tumors in both left upper and lower lobes are well defined without capsule. They are Hypercellular tumors composed of large, pleomorphic spindle cells arranged haphazardly. The tumor cells have oval or spindly shaped with abundant eosinophilic cytoplasm. Frank malignant cytologic features with large pleomorphic nuclei with vesicular chromatin are noted. Occasional grooving of nuclei or small nucleoli are present. Multinucleated giant cells with atypical features are also seen. Abundant mixed inflammatory cell infiltrate, including plasma cells, lymphocytes, neutrophils and some eosinophils are prominent. Mitotic activity is easily counted. (51/10HPF)

Immunohistochemistry: The neoplastic cells are immunoreactive for Vimentin, S100, CD1a, LCA, and CD68. Pan-cytokeratin(AE1/AE3), EMA, TTF-1, CD20, CD3, CD21, CD30, ALK-1, SMA are negative.

Differential Diagnosis:
1. Langerhans cell sarcoma
2. Hsitiocytic sarcoma
3. Follicular dendritic cell sarcoma
4. Undifferentiated large-cell carcinoma
5. Anaplastic large cell lymphoma

Diagnosis: Langerhans cell sarcoma

Discussion: Langerhans cell sarcoma is a high-grade neoplasm with overtly malignant cytologic features and Langerhans cell phenotype. This is a rare neoplasm, first reported by Wood et al. in 1984. Most reported cases are in their adult age. Female predominance is described in one series. Skin and underlying soft tissue are most common, with multiorgan involvement.

The most prominent feature is the overtly malignant cytology of a pleomorphic tumour, and only the phenotype and/or ultrastructure will reveal the Langerhans cell derivation. Chromatin is clumped and nucleoli are conspicuous. Some cells may have the complex grooves of the LHC cell, a key clue to the diagnosis. The mitotic rate is high, usually more than 50 per 100 high power fields. Rare eosinophils may be admixed.

Differential diagnosis includes sarcomatous carcinoma, lymphomas with anaplastic features (anaplastic large cell lymphoma, large B cell lymphoma), and other histiocytic and dendritic cell neoplasms. Immunophenotype of keratin, B- and T- cell markers, CD21, CD35, and CD68 are helpful in differentiating these entities.

LCS is an exceedingly rare cancer. Only less than 30 cases of LCS have been reported in the English language literature to date. Usually, LCS shows multiorgan involvement, including the skin, lymph nodes, lungs, bone, liver, and spleen. Most of cases showed a poor prognosis and short survival

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Bong, Y.T. (王逸葶), Chang, T.C. (張聰洲教授),
Department of Veterinary Pathology, National Pingtung University of Science and Technology(國立屏東科技大學獸醫教學醫院病理科)

CASE HISTORY:

Signalment: Old female camel.

Clinical History: The camel was raised in the Forest Paradise in southern Taiwan, died on 1st June, 2009 and was sent to the pathology laboratory of National Pingtung University of Science and Technology for examinations and necropsy. The camel was donated by a Buddhist organization, so no further clinical datas were obtained.

Gross Findings: Gross examination showed a subcutaneous mass at the right lateral region of the abdomen, caudal to the twelfth rib, and was 28cm in diameter and about 6 cm in thickness. A cut surface of the mass was elastic firm in consistency and milky white in color. Smaller, rough, irregular mass could be seen on the joint of four limbs. After exposing the abdomen, 1000 c.c of yellowish ascites could be seen, and the intestinal tract was reddish in color. Small granules about 0.5cm to 3cm in diameter were scattered on the serosa of the abomasum, and were yellow to dark red in color. The mucosa of the abomasum were thickend, reddish with chalky white materials on the surface. The liver was slightly yellow and was firm. Different size of cysts could be seen on the surface of liver, and were 0.5cm to 5cm in diameter. A cut surface of the liver showed a dark green irregular mass, about 3cm in length and 2cm in width. The mass was rough and irregular and compressed the nearby parenchyma, resulted in the fibrosis of the liver. The spleen was notably enlarge and the surface was rough. A white mass of 3cm in diameter could be seen on the cut surface of the spleen. Miliary nodules could be seen in the middle and caudal lobe of the lung, and a cut surface of the nodules were rough and yellow. Infarct of the renal cortex was noted.

Bong, Y.T. (王逸葶), Chang, T.C. (張聰洲教授),
Department of Veterinary Pathology, National Pingtung University of Science and Technology(國立屏東科技大學獸醫教學醫院病理科)

CASE RESULT:

Histopathologic Findings: The cyst-like structure could be seen in the liver, lung, spleen and lymph nodes with massive connective tissue surrounded. The parenchyma of the liver was occupied by the cysts and mucous could be seen within the cysts. In high power field, the mucous were composed of detached polymorphism epithelial cells, calcium salt, neutrophils. Mutiple cysts could also be found in the parenchyma of the spleen, and the content were mostly colloid fliud, detached epithelium and erythrocytes. The epithelium of the cysts were composed of cuboidal to low columnar epithelium. Various size of cysts could be seen in the lung, and the epithelium were also composed of columnar epithelial cell, with mucous within. The serosa through the mucosa of the abomasum were infiltrated by cystic gland. Tumor cells also invaded the lymph nodes. Renal infarct was noted, necrosis of the renal tubules and the glomeruli could be seen.

Immunohistochemistry: The epithelial of the cysts are immunohistochemically positive in liver, spleen, lung, abomasum for cytokeratin using chromogen AEC and super sensitive non-biotin HRP detection system.

Differential Diagnosis:
- Biliary cystadenocarcinoma
- Cystic echinococcosis
- Bile duct carcinoma

Diagnosis:
- Biliary cystadenocarcinoma
- Renal infarct
- Collagenous nevus

Discussion: The rare biliary cystadenocarcinoma originated from the bile duct which can arise in the liver or extrahepatic biliary system characterized by mucous-excreting, multilocular, cystic tumor. Large monolocular or multilocular cysts in the liver are shown by imaging examination with coarse, cystic wall often covered with mural nodules protecting into the cyst. The lesion contained septations and nodularities with calcification within the septa and the tumor wall. Most of the cysts are filled with large amount of clear, yellow mucous-like fluid. Benign cystadenoma is considered a premalignant form. The aetiology remains unclear. They are possibly due to an enteric malformation from the pleuripotential embryonic foregut.

Biliary cystadenocarcinoma is a rare malignant epithelial tumor of the liver with an incidence of 0.41%. It was classified into three groups histologicaly: (1) primary malignant tumor originating from the intrahepatic bile duct, (2) cancer development from intrahepatic biliary cystadenoma and (3) congenital intrahepatic biliary malformation. It can subdivided into two groups, tumors with ovarian-like stroma normal has an indolent course, and may arise from pre-existing biliary cystadenoma. This kind of tumor can only be found in females, and often with good prognosis. As for those which lack ovarian-like stroma are of more aggressive course, and are not not associated with pre-existing cystadenoma. It can occur to both males and females and usually have poor prognosis.

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Ching-Ann Wu (吳晉安)DVM,[1*], Hsiao-Jui Lin (林筱瑞) DVM,[2], Yi-Tin Tsai (蔡伊婷) DVM,[1], Shu-Jing Chang (張淑菁), BS[3], Wen-Fa Chang (張文發) DVM, MS[3] and Jiunn-Wang Liao (廖俊旺) DVM, PhD[1, 3].

1. Graduate Institute of Veterinary Pathology, National Chung Hsing University
(國立中興大學獸醫病理生物學研究所)
2. Department of Veterinary Medicine, National Chung Hsing University
(國立中興大學獸醫學系)
3. Animal Disease Diagnostic Center, National Chung Hsing University
(國立中興大學動物疾病診斷中心)

CASE HISTORY:

Signalment: Sprague-Dawley rats, male, 6 weeks old.

Clinical History:
One private Sprague-Dawley (SD) rat raising farm located in the central Taiwan that has imported a new group of mature female and male rats from another rat farm during early February 2011. However, after importing new rats, the original adult rats started to develop respiratory signs that included panting, sneezing, bubble watery breathing sound and later died between early and mid Feb 2011. The morbidity and mortality rates were 5.5% (110/2000) and 54.5% (60/110), respectively.

Gross Findings:
Significant emaciation was associated with thinness body, inactivity and coarse feather were observed. The cranioventral lobe of lung showed marked consolidation with multifocal abscess. The others included numerous whitish parasites attached on the mucosa of urinary bladder, and a cyst on the liver. Small intestinal serosa was reddish and filled with foamy discharge. Blood vessels were engorged on the serosa in both cecum and colon.

Ching-Ann Wu (吳晉安)DVM,[1*], Hsiao-Jui Lin (林筱瑞) DVM,[2], Yi-Tin Tsai (蔡伊婷) DVM,[1], Shu-Jing Chang (張淑菁), BS[3], Wen-Fa Chang (張文發) DVM, MS[3] and Jiunn-Wang Liao (廖俊旺) DVM, PhD[1, 3].

4. Graduate Institute of Veterinary Pathology, National Chung Hsing University
(國立中興大學獸醫病理生物學研究所)
5. Department of Veterinary Medicine, National Chung Hsing University
(國立中興大學獸醫學系)
6. Animal Disease Diagnostic Center, National Chung Hsing University
(國立中興大學動物疾病診斷中心)

CASE RESULT:

Histopathologic Findings: The visceral pleura of lungs was attached by a moderate amount of fibrin and infiltrated with massive inflammatory cells. Chronic bronchitis, bronchiolitis and accompanied with bronchiectasis and bronchiolectasis, which were characterized by dilation of airways and fulled with mononuclear inflammatory cells, with variable degrees of hyperplasia of respiratory epithelium. The lumens of bronchi were plugged with markedly purulent exudates resulting in the dilated bronchi. The alveoli were filled with marked purulent eosinophilic exudates. Focal hemorrhages mixed with significant neutrophils, macrophages, lymphocytes, and plasma cells were observed in the lung parenchyma. The tracheal lumen was filled with cellular debris and purulent exudates. Numerous lymphocytes infiltrated into the submucosa.

Focal hemorrhagic lesion was noted in the intestinal mucosa. Epithelial necrosis and sloughed villi were presented. Furthermore, large amounts of bacterial clumps with neutrophilic infiltration were observed under high-power field. One pinworm was found in the lumen of the colon.
There was a cyst entrapped parasite in the liver parenchyma, which was encapsulated by fibrous tissue with minal inflammatory reaction. The scolex of the parasite was distinctly large and invaginated while the rostellum armed with double and alternating rings of hooks arranged in a circular pattern and mature muscle tissue were also observed by microscopic examination. Behind the scolex, there was a long neck with a terminally bulged portion. All of these were characteristics of the larva of *Taenia taeniaformis*.

One part section of parasite was seen in the pelvic region of kidney. Transitional epithelium in the pelvic was compressed by the parasite with no tissue response.

Light Microscopic Examination:
A direct smear was made from the mucosal layer of urinary bladder. Large amounts of thick-walled,

golden, and double operculated ova and microfilaria were seen. A white linear worm from the mucosal layer of urinary bladder was put onto a slide. Transparent wavy membranes were found around part of the worm, combined with male worms in the female genital tract that were characteristics of *Trichosomoides crassicauda*.

Another specimen was collected from the liver of rat A and the lung of both rat A and B and incubated on BUG agar, which amplified bacterial colony by sterile method. The bacteria were then cultivated on blood agar.

Bordetella trematum was identified in the both lung A and B and showed susceptible to colistin, docycycline hydrochloride, flofenicol and gentamycin treatment.
Staphylococcus pasteuri was also isolated in the liver A of rats.

Differential Diagnosis:
Gram-negative respiratory infections
1. *Bordetella* spp. infection
2. Cilia-associated respiratory (CAR) bacillus infection
3. Murine repiratory mycoplasmosis
4. *Pasteurella pneumotropica* infection

Gram-positive bacterial infections
1. *Corynebacterium kutscheri* infection
2. Pseudotuberculosis

Diagnosis:
Suppurative Bronchopneumonitis with Polyparasitism in a Conventional Sprague-Dawley Rat.

Discussion: Sprague-Dawley rats were bred by R. Dawley, Sprague-Dawley Company, Madison, Wisconsin, in 1925. Multiple lines that developed by inbreeding were outbred to develop a stable and heterogeneous stock. Life span of rats is 24-36 months. Age at pairing is 8-10 weeks and length of gestation is 21-23 days. The normal body weight of mature male rat is above 360 gram and female is 230 gram.

Bordetellae are Gram-negative bacteria that usually cause respiratory tract infections in humans and animals, which are composed of nine different species at least. Previous studies have showed that *Bordetella trematum* strain was isolated from wounds or ear infections (otitis media) of humans, but not from the respiratory tract. Briefly speaking, not only etiology but also infective mechanism of *Bordetellae trematum* is still unknown clearly so far.

In this case report, *Bordetellae trematum* was isolated from the lungs of two different SD rats. From the history, clinical signs, histopathological examinations and microbiological identifications, *Bordetellae trematum*, which had never been associated with any respiratory infections, was strongly suspected to have caused the severe locally extensive suppurative bronchopneumonia that was responsible for the death of the two rats. Microscopically, pulmonary lesions were spread to the trachea and bronchi, indicating that transmission were by inhalation or direct contact with infected animals. Air-borne infection led to high morbidity and mortality rates.

Staphylococcus pasteuri is a Gram positive, coagulase-negative *staphylococcus*. Concerning *Staphylococcus pasteuri* involvement in human or animal disease, the organism has only recently been found to cause a bacteremia episode in a leukemia patient. Very little is presently known about its ecological niches and ability to cause disease in animals and man. In this case, *Staphylococcus pasteuri* was isolated from the liver, though no significant histopathological lesion was observed. In order to prevent further deterioration, infected rats should be given effective antibiotics such as doxycycline, enrofloxacin and gentamicin, based on drug sensitivity test.

Trichosomoides crassicauda, a nematode of the urinary bladder of rats, occurs in the wall of the bladder and occasionally in the upper ureter and within the renal pelvis of wild and laboratory rats. Infestation with *T. crassicauda* is usually without significant clinical signs. The eggs are passed in the urine of infested animals, whose offspring become infested prior to weaning. In this case, large numbers of linear worms were observed in the urinary bladder. From the characteristic worm and egg from infected urinary bladder, *Trichosomoides crassicauda* was identified.

Taenia taeniaeformis is a parasite characterized by a cosmopolitan geographic distribution. The final hosts are carnivores, including domestic cats and dogs. The intermediate hosts of *Taenia taeniaeformis* are mouse, rat, cat, muskrat, squirrel, rabbit, other rodent, bat and human. *Cysticercus fasciolaris*, the larval form of *T.taeniaeformis* is also known as *Taenia crassicollis*, *Hydatigena fasciolaris*, *Strobilocercus fasciolaris* and bladder worms. The larval forms of *T. taeniaeformis* are commonly found in the liver of an intermediate host after drinking contaminated water or fed materials infected with cat feaces. *Taenia taeniaeformis* larva has a big scolex, long neck (strobila, 3–4 cm) and pseudo-segmentation of entire body length with a terminally bulged portion. A stained larva reveals an armed rostellum characterized by 2 rows of hooks and four suckers. In this case, a hepatic lesion was observed. Based on the lesion morphology, location, characteristics of larva, *Cysticercus fasciolaris* was identified.

In this case, this private experimental rat farm was severe infected with four pathogens, *Bordetellae trematum*, *Trichosomoides crassicauda*, *Taenia taeniaeformis* and pinworm. The most important way of controlling the infectious diseases is by proper treatment and management practices.

Infected rats should be destroyed or isolated from the others to prevent infection. New rats should be imported with caution. Disinfectant is necessary to maintain proper sanitation. Staffs in direct contact with rats should sterilize and wear clean clothes before going into rat farms. A well-balanced diet and appropriate rearing environment with suitable temperatures, moisture, and low stock densities are essential for rat's recovery and restoration of growth.

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Shih, C.W (施洽雯), M.D., M.S Chen, C.T. (陳朱德), M.D.
Department of Pathology, Lotung Poh-Ai Hospital (羅東博愛醫院病理科)

CASE HISTORY:

Signalment: 52-year-old man.

Clinical History: The 52-year-old man who was quite well until about one month age he began to suffered from epistaxis. He came to our ENT OPD for help. The functional endoscope showed an easy bleeding tumor over left inferior turbinate posterior end. CT scan showed a mass lesion at left inferior turbinate with extension into posterior nasal cavity. Chest x-ray showed borderline cardiomegaly and prominent of left pulmonary hilum. No mass was noted. Admission was suggested for further management. Operation was performed on 2011-3-3. The nasal tumor was totally removed. Metastatic workup including whole body bone scan, abdominal echo and whole body CT scan showed no metastasis. Post-operative radiotherapy was recommended and began on 2011-3-17.

Clinical Pathology: RBC: 4.18x10^6/uL (0-5 x10^6/uL), Hb: 14.7 gm/dL (12.0-16.0 gm/dL), Hct: 42.9 % (37-47%), WBC: 4500/uL (4500-11000/uL), Plt: 23.0 x10^4/dL (15-40 x10^4/dL), Lymphocyte: 36.1% (20.0-45.0%), Neutrophil: 50.2% (45.0-75.0%), Monocyte: 11.0% (0.0-9.0%), Eosinophil:1.9% (1.0-3.0%), Basophil: 0.8% (0.0-1.0%). BUN: 10 mg/dL (7-22 mg/dL), Creatinine: 0.9 mg/dL (0.6-1.3 mg/dL), Glucose: 98 mg/dL (70-110 mg/dL), AST: 26 U/L (5-40 U/L), ALT: 22 U/L (5-40 U/L), Na:140.7 mmol/L (133-145 mmol/L), K: 4.4 mmol/L (3.3-5.1 mmol/L).

Gross Findings: The specimen submitted consisted of an uncapsulated hemorrhagic mass measuring up to 3.6 x 2.3 x 2.0 cm in size. The mass was soft elastic in consistency and reddish-black in color. Within the hemorrhagic tissue, there were areas of grayish-brown solid tissue.

Shih CW * (施洽雯), MD, MS. Chen, C.T. (陳朱德), M.D.
Department of Pathology, Lotung Poh-Ai Hospital. (羅東博愛醫院病理科)

CASE RESULT:

Histopathologic Findings: The tissue obtained from the left nasal cavity is composed of proliferated epithelioid or spindle tumor cells arranged in lobules and small bundles. The tumor cells are irregular in size and shaped with large and hyperchromatic nuclei and distinct nucleoli. Frequent mitoses are noted. Areas of whorl formation, congestion of blood vessels, hemorrhage and necrosis are also noted. No lymphatic ducts or blood vessels invasion is noted.

Immunochemistry: Immunohistochemical stain for cytokeratin, vimentin, SMA, S100, HMB45 and CD34 were performed. The tumor cells were positive for vimentin, S100 and HMB45, and negative for SMA, CD34, and cytokeratin.

Differential Diagnosis:
1. Leiomyosarcoma.
2. Malignant peripheral nerve sheath tumor.
3. Malignant melanoma.
4. Malignant fibrous histiocytoma.
5. Spindle cell carcinoma.

Diagnosis: Malignant melanoma of nasal cavity.

Comments: Melanomas are tumors arising from melanocytes which are neuroectodermally derived cells located in the basal layers of skin, skin adnexa and some of the mucosal membrane. Common sites for melanomas are head, neck and the lower extremities as they are exposed to sunlight, which is one of the predisposing factors. Less common sites of involvement are oral and genital mucosa, nail beds, conjunctiva, orbit, esophagus, nasal mucosa or nasopharynx, vagina and leptomeninges.

Primary melanoma of head and neck accounts for 25% to 30% of all melanomas . The incidence of melanomas arising from mucosal surface of aero and digestive tract varies from 0.4 to 4% , the majority arising in the nasal cavity or paranasal sinuses. Malignant melanoma of the nasal cavity was first described by Lucke in 1869. The incidence in the nose and paranasal sinuses ranges between 0.5% and 1% of all melanomas. The nasal cavity is more commonly affected than the

paranasal sinuses, and the maxillary sinuses are more frequently involved than the ethmoid sinuses.

The peak age for nasal melanoma is during sixth to seventh decade. A slight male predominance has also been reported.

The melanoma and the melanotic cells showed loss of heterozygosity for the p16 gene, which is implicated in melanoma development. The cause of melanoma in solar-hidden mucosa is unclear, although smoking may have a role in activation of melanocytes leading to dysplasia or malignant change, there is no apparent correlation with chronic irritation, infection or allergy

Microscopically, the section showed a tumor composed of epitheloid and spindle cells arranged in lobules and small bundles. The nuclei were pleomorphic, hyperchromatic and contained prominent nucleoli. Scattered or frequent mitoses and tumor giant cells can be seen. Pigmentation is variable. An amelanotic melanoma has to be differentiated from other malignancies. Immunoreactivity was found for vimentin, S-100, HMB45, and MelanA protein.

Various methods of therapy, including surgery, irradiation alone, irradiation with surgery and chemotherapy have been used in treating malignant melanoma of the nasal cavity. The mainstay of the treatment is wide surgical excision; chemotherapy and radiotherapy being not very effective. Among the recent techniques of immunotherapy, use of genetically altered tumor cells to elicit a T cell response has been used in the treatment of malignant melanomas, by stimulating response to certain melanoma antigens. Patients with unresectable local disease or those who do not agree for surgery, should be considered for radiotherapy alone as a definitive management, where as chemotherapy should be reserved for patients with systemic disease.

The overall prognosis and survival rate of these tumors is very poor. The site or size of the tumor gives no indication of the prognosis. The most powerful predictor of survival is the presence of distant metastasis at the time of diagnosis and the status of regional lymph nodes. Systemic spread occurs in 25% of cases and regional lymph node metastases in 36% of cases. The 5- years survival varies between 10-40% and the median survival is 21-24 months. About one half of patients die within 3 years; of those alive at 5 years, 50% may have residual disease.

In conclusion, malignant melanoma is the least common but most dangerous form of nasal cancer. Early diagnosis is crucial for optimum management since patients often present quite late. When the diagnosis is finally made, the tumor should be excised with wide local excision with tumor free margins. These tumors have poor prognosis owing to higher rates of local recurrence and distant metastasis. So far, surgery has been the mainstay of the treatment of these tumors, provided they are resectable. Surgery, along with adjuvant radiotherapy, should be used for patients with

either regional metastases or large bulky primary disease.

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Liang, He-Shiuan (梁赫烜) ; Jeng, Chian-Ren (鄭謙仁), DVM, Ph. D
Graduate Institute of Molecular and Comparative Pathobiology, School of Veterinary Medicine National Taiwan University (國立臺灣大學獸醫專業學院分子暨比較病理生物學研究所)

CASE HISTORY:

Signalment: 3-year-old, male, Red guenon

Clinical History: The guenon was found dead in the shelter with prominent purplish facial skin and bleeding of the eyes, and then the animal was submitted to the veterinary office for necropsy.

Gross Findings: From the left facial region and calvaria to the left scapular region, there were prominent subcutaneous hemorrhage and edema. The left upper and lower, right upper eyelids were swollen with fluid accumulation. The bilateral cranial lobes of lung were entirely swollen with blunt margins and soft texture, which were milder but also noted at middle and caudal lobes. There were multiple petechiated hemorrhage on the liver surface with normal texture and size. The entire alimentary tract was relatively normal with ingested food in the lumen. The blood vessels of the leptomeninge were slightly engorged than normal. The external appearance of the heart was absent of lesion, whereas after opening, there were multifocal petechiated hemorrhage at the sub-aortic region and the tip of the left caudal papillary muscle. The external appearance of the spleen was unremarkable, whereas after incising, the entire splenic parencyma became dark, semi-solid and flowable. There was multiple petechiated hemorrhage on the surface of bilateral kidneys, while the cut surfaces were relatively normal. The corneas of two eyes were cloudy and mildly swollen, most likely due to compression by the eyelids.

Liang, He-Shiuan (梁赫烜); Jeng, Chian-Ren (鄭謙仁), DVM, Ph. D
Graduate Institute of Molecular and Comparative Pathobiology, School of Veterinary Medicine National Taiwan University (國立臺灣大學獸醫專業學院 分子暨比較病理生物學研究所)

CASE RESULT:

Histopathologic Findings:
Skin: The subcutaneous region is noted with severe hemorrhage, edema and deposition of fibrin. The adjacent and regional skeletal myofibers become variably sized and homogenous, occasionally, there are neutrophils and macrophages adhered to the lysed myofibers.

Heart: There is extensive hemorrhage under the endocardium of left ventricle.

Kidney: There is a focal lymphocytic aggregation in the interstitium, and elsewhere is unremarkable.

Liver: The liver displays marked regional distributed hydropic degeneration, mainly zone2 & 3. The affected parenchyma is infiltrated by few neutrophils and lymphocytes.

Spleen: The spleen is loss of normal architecture, deformed and filled with numerous hemogenized RBCs in the central region, suggestive of hemorrhage, and the trabecular and some of the vessels are noted with individual necrosis.

Lung: There is prominent and severe emphysema with parts of the interstitial thickened, which are mainly infiltrated by neutrophils and, less, lymphoplasmacytic cells.

Eye: There is locally extensive corneal stromal edema, while the layers of cornea are intact.

Diagnosis:
1. Hemorrhage, severe, diffuse, with multiple individual trabecular and vascular necrosis, spleen.
2. Hemorrhage and edema, severe, locally-extensive, with numerous fibrinous deposition and myocytolysis, subcutaneous layer of skin.
3. Pulmonary emphysema, moderate, diffuse, with mild interstitial aggregation of neutrophils and lymphoplasmacytic cells.
4. Corneal edema.
5. Hydropic degeneration, moderate to severe, diffuse, acute, with few neutrophilic and lymphoplasmacytic infiltrations, liver.
6. Subendocardial hemorrhage, mild to moderate, left ventricle.

Discussion: The guenon has been noted to tease with a point-scaled pit viper. The venom of the pit viper contains multiple different functioned components, such as cardiotoxin, waprin proteins, platelet aggregation factors, C-type lectin-like protein, metalloprotease, and the most novel, phospholipase A2.

Phospholipase A2 (PLA2) is probably the most thoroughly investigated toxins both in hemotoxic and presynaptic neurotoxic snake venoms. PLA2 has also been classified as a presynaptic neurotoxin, identified in the venoms of *Crotalidae*, *Elapidae*, *Hydrophiidae* and *Viperidae* snakes. PLA2 are ubiquitous intra- and extra-cellular enzymes which could hydrolyze glycerophospholipids at the *sn*-2 position of the glycerol backbone and release lysophospholipids and fatty acids, in turn arachidonate metabolites control inflammation and pain. PLA2 are responsible for the local inflammation following *viperid* snakebite envenomation. Venoms are rich sources of a large number of PLA2 isozymes, which can have pharmacological effects *in vivo.*

For hemotoxic venoms, conspicuous toxic consequence of snake envenoming is hemorrhage, which can become systemic and potentially lethal. Hemorrhages are principally caused by metalloproteases (also called hemorrhagins), enzymes degrading proteins of extracellular matrix and components of the hemostatic system, that can also have cytotoxic effect on endothelial cells. The majority of metalloproteases belong to the family of zinc endopeptidases grouped together as a superfamily known as zinc-dependent Snake Venom Metallo Proteinases (SVMP, also called metzincins or hemorrhagins). The metzincins are subdivided into four multigene families: seralysins, astacins, ADAMs/adamalysins, and MMPs. On the basis of sequence similarity they share a highly conserved motif containing three histidines that bind to zinc at the catalytic site and a conserved methionine that sits beneath the active site. All metalloproteases contain approximately 1 mole of zinc per mole of toxin. When zinc is removed from hemorrhagic toxins, for example with a chelator, proteolytic and hemorrhagic activities are simultaneously abolished due to structural alterations.

All the above toxins contribute to the independent or coordinated reaction to cause hemolysis, hemorrheage, myocardial contraction and fibrinolytic effects. In this case, due to the severe hemorrhagic lesions, the guenon is highly suspected to be bitten by the *Viperidae* family, most likely the *Protobothrops mucrosquamatus,* especially in Taiwan. The excessively loss of blood leads insufficient perfusion and sequentially compensatory labor breathing to correct internal hypoxic conditions, and then causes the emphysema. According to the literature, they indicate that the main cause of death is usually the acute renal failure, instead of hemorrhage. In our observation, the injury of the kidney is scant histologically; however, acute function failure of the kidneys due to low perfusion caused by hemolysis and hemorrhage associated with hypoxic injuries all may contribute the animal's death.

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中華民國比較病理學會章程

第一章　總則

第一條　本會定名為中華民國比較病理學會，英文名稱為 Chinese Society of Comparative Pathology (CSCP) (以下簡稱本會)。

第二條　本會依內政部人民團體法設立，為非營利目的之社會團體，以結合人類醫學與動物醫學資源，提倡比較病理學之研究與發展，交換研究教學心得，聯絡會員友誼及促進國際間比較醫學之交流為宗旨。

第三條　本會以全國行政區域為組織區域，會址設於主管機關所在地區，並得報經主管機關核准設主分支機構。前項分支機構組織簡則由理事會擬訂，報請主管機關核准後行之。會址及分支機構之地址於設置及變更時應報請主管機關核備。

第四條　本會之任務如左：

一、　提倡比較病理學之研究與發展。

二、　舉辦學術演講會、研討會及相關訓練課程。

三、　建立國內比較醫學相關資料庫。

四、　發行比較病理學相關刊物。

五、　促進國內、外比較醫學之交流。

六、　其他有關比較病埋學術發展之事項。

第五條　本會之主管機關為內政部。目的事業主管機關依章程所訂之宗旨與任務，主要為行政院衛生署及農業委員會，其目的事業應受各該事業主管機關之指導與監督。

第二章　會員

第六條　本會會員申請資格如下：

一、　一般會員：贊同本會宗旨，年滿二十歲，具有國內外大專院校(或同等學歷)生命科學及其它相關科系畢業資格或高職畢業從事生命科學相關工作滿兩年者。

二、　學生會員：贊同本會宗旨，在國內、外大專院校生命科學或其它相關科系肄業者 (檢附學生身份證明)。

三、　贊助會員：贊助本會工作之團體或個人。

四、　榮譽會員：凡對比較病理學術或會務之推展有特殊貢獻，經理事會提名並經會員大會通過者。

前項一、二、三項會員申請時應填具入會申請書，經一般會員二人

之推薦，經理事會通過，並繳納會費。學生會員身份改變成一般會員時，得再補繳一般會員入會費之差額後，即成為一般會員，榮譽會員免繳入會費與常年會費。

第七條　一般會員有表決權、選舉權、被選舉與罷免權，每一會員為一權。贊助會員、學生會員與榮譽會員無前項權利。

第八條　會員有遵守本會章程、決議及繳納會費之義務。

第九條　會員有違反法令、章程或不遵守會員大會決議時，得經理事會決議，予以警告或停權處分，其危害團體情節重大者，得經會員大會決議予以除名。

第十條　會員喪失會員資格或經會員大會決議除名者，即為出會。

第十一條　會員得以書面敘明理由向本會聲明退會。但入會費與當年所應繳納的常年會費不得申請退費。

第三章　組織及職員

第十二條　本會以會員大會為最高權力機構。

第十三條　會員大會之職權如下：

一、　訂定與變更章程。

二、　選舉及罷免理事、監事。

三、　議決入會費、常年會費、事業費及會員捐款之方式。

四、　議決年度工作計畫、報告、預算及決算。

五、　議決會員之除名處置。

六、　議決財產之處分。

七、　議決本會之解散。

八、　議決與會員權利義務有關之其他重大事項。

前項第八款重大事項之範圍由理事會訂定之。

第十四條　本會置理事十五人，監事五人，由會員選舉之，分別成立理事會、監事會。

選舉前項理事、監事時，依計票情形得同時選出候補理事五人，候補監事一人，遇理事或監事出缺時，分別依序遞補之。

本屆理事會得提出下屆理事及監事候選人參考名單。

第十五條　理事會之職權如下：

一、　審定會員之資格。

二、　選舉及罷免常務理事及理事長。

三、　議決理事、常務理事及理事長之辭職。

四、　聘免工作人員。

五、　擬訂年度工作計畫、報告、預算及決算。

六、　其他應執行事項。

第十六條　理監事置常務理事五人，由理事互選之，並由理事就常務理事中選舉一人為理事長。

理事長對內綜理監督會議，對外代表本會，並擔任會員大會、理事會主席。

理事長因事不能執行職務時，應指定常務理事一人代理之，未指定或不能指定時，由常務理事互推一人代理之。

理事長或常務理事出缺時，應於一個月內補選之。

第十七條　監事會之職權如左：

一、監察理事會工作之執行。

二、審核年度決算。

三、選舉及罷免常務監事。

四、議決監事及常務監事之辭職。

五、其他應監察事項。

第十八條　監事會置常務監事一人，由監事互選之，監察日常會務，並擔任監事會主席。

常務監事因事不能執行職務時，應指定監事一人代理之，未指定或不能指定時，由監事互推一人代理之。監事會主席（常務監事）出缺時，應於一個月內補選之。

第十九條　理事、監事均為無給職，任期三年，連選得連任。理事長之連任以一次為限。

第二十條　理事、監事有下列情事之一者，應即解任：

一、喪失會員資格。

二、因故辭職經理事會或監事會決議通過者。

三、被罷免或撤免者。

四、受停權處分期間逾任期二分之一者。

第二十一條　本會置祕書長一人，承理事長之命處理本會事務，令置其他工作人員若干人，由理事長提名經理事會通過後聘免之，並報主管機關備查。但祕書長之解聘應先報主管機關核備。

前項工作人員不得由選任之職員（理監事）擔任。

工作人員權責及分層負責事項由理事會令另定之。

第二十二條　本會得設各種委員會、小組或其它內部作業組織，其組織簡則由理事會擬定，報經主機關核備後施行，變更時亦同。

第二十三條　本會得由理事會聘請無給顧問若干人，其聘期與理事、監事之任期同。

第四章　會議

第二十四條　　會員大會分定期會議與臨時會議兩種，由理事長召集，召集時除緊急事故之臨時會議外應於十五日前以書面通知之。定期會議每年召開一次，臨時會議於理事會過半數認為必要，或經會員五分之一以上之請，或監事會半數函請召集時召開之。

第二十五條　會員不能親自出席會員大會時，得以書面委託其他會員代理，每一會員以代理一人為限。

第二十六條　會員大會之決議，以出席人數過半之同意行之。但章程之訂定與變更、會員之除名、理事及監事之罷免、財產之處置、本會之解散及其他與會權利義務有關之重大事項應有出席人數三分之二以上同意。但本會如果辦理法人登記後，章程之變更應以出席人數四分之三以上之同或全體會員三分之二以上書面之同意行之。

第二十七條　理事會及監事會至少每六個月各舉行會議一次，必要時得召開聯席會議或臨時會議。

前項會議召集時除臨時會議外。應於七日以以書面通知，會議之決議各以理事、監事過半數之出席，出席人較多數之同意行之。

第二十八條　理事應出席理事會議，監事應出席監事會議，不得委託出席；理事、監事連續二次無故缺席理事會、監事會者，視同辭職。

第五章　　經費及會計

第二十九條　本會經費來源如下：

一、入會費：一般會員新台幣壹仟元，學生會員壹佰元，贊助會員伍仟元，於入會時繳納。

二、常年會費：一般會員新台幣五佰元，學生會員壹佰元。

三、事業費。

四、會員捐款。

五、委託收益。

六、基金及其孳息。

七、其他收入。

第三十條　　本會會計年度以國曆年為準，自每年一月一日起至十二月三十一日止。

第三十一條　本會每年於會計年度開始前二個月由理事會編造年度工作計劃、收支預算表、員工待遇表，提會員大會通過（會員大會因故未能如期召開者，先提理監事聯席會議通過），於會計年度開始前報主管機關核備．並於會計年度終了後二個月內由理事會編造年度工作報

告、收支決算表、現金出納表、資產負債表、財產目錄及基金收支表，送監事會審核後，造具審核意見書送還理事會，提會員大會通過，於三月底前報主管機關核備（會員大會未能如期召開者，需先報主管機關備查）。

第三十二條　本會解散後，剩餘財產歸屬所在地之地方自治團體或主管機關指定之機關團體所有。

第三十三條　本章程未規定事項，悉依有關法令規定辦理。

第三十四條　本章程經大會通過，報經主管機關核備後施行，變更時亦同。

第三十五條　本章程經本會民國八十五年二月四日第一屆第一次會員大會通過，並報經內政部 85 年 3 月 14 日台(85)內社字第 8507009 號函准予備查。

中華民國比較病理學會第六屆理監事名單簡歷冊								
職別	姓名	性別	出生年月日	學歷	經歷	現任本職	電話	傳真
理事長	施洽雯	男	46/08/30	國防醫學院病理研究所	中山醫學院病理科副教授	羅東博愛醫院病理科主任	039-543131-2716	039-551543
常務理事	呂福江	男	37/11/21	美國漢尼門大學病理學博士	國防醫學院病理學研究所所長	耕莘醫院病理部主任	02-22193391 ext65236 0968-666741	02-2193506
常務理事	許永祥	男	48/10/30	國立台大醫學院病理研究所碩士	台大醫院病理科住院醫師	慈濟醫院病理科主任	03-8565301-2197	03-8574265
常務理事	張俊梁	男	45/5/6	國防醫學院醫學科學研究所博士	國防醫學院兼任助理教授	國軍桃園總醫院病理檢驗部主任	02-2303-2209 03-4799595 0966008531	02-2303-5192
常務理事	廖俊旺	男		國立台灣大學獸醫學研究所博士	農業藥物毒物試驗所應用毒理組副研究員	中興大學獸醫病理學研究所教授	04-22840894 ext406	04-22862073
理事	劉振軒	男	42/10/9	美國加州大學戴維斯校區比較病理學博士	台灣養豬科學研究所主任	國立台灣大學獸醫專業學院院長	02-33663760	02-23633289
理事	祝志平	男	46/02/25	台大病理研究所碩士	台北醫學院講師	林新醫院病理科主任	039-544106ext6113 0913-379889	039-572916
理事	李進成	男	49/06/06	英國倫敦大學神經病理博士	長庚醫院內科醫師	新光吳火獅紀念醫院病理檢驗科醫師	02-28389306	02-28389306
理事	陳三多	男	40/08/11	比利時魯汶大學博士	中興大學獸醫系教授	中興大學獸醫病理研究所教授	04-22853552	04-22853552
理事	張文發	男				國立中興大學獸醫學院 動物疾病診斷中心副主任		
理事	張聰洲	男	41/11/29	國立中興大學獸研所碩士班	國立屏東技術學院助教	國立屏東科技大學副教授	06-2333529	08-7740295
理事	賴銘淙	男	47/10/14	清華大學生命科學院博士	華濟醫院病理科主任	彰濱秀傳紀念醫院病理科主任	04-3250487	
理事	蔡睦宗	男	49/10/25	國立台灣大學獸醫學系公共衛生組碩士	台灣養豬科學研究所比較醫學系約聘技術員	屏東縣家畜疾病防治所技士	08-7224109	08-7224432
理事	陳憲全	男	25/5/18	日本麻布大學獸醫學研究科博士	US Veterinary Medical Officer, USDA/AFIS Philadelphia District Guloff Station, Elisabethtown, PA, USA	玉樹生技病理顧問有限公司首席獸醫病理學家/台灣動物科技研究所顧問	02-27832557 037-585875	037-585850
理事	朱旆億	男		國立台灣大學醫學系		彰化基督教醫院病理科	05-5512383	
常務監事	江蓉華	男		國防醫學院醫學士	國軍花蓮總醫院病理部主任	耕莘醫院組織病理科主任		
監事	林永和	男	46/02/24	台大病理研究所	台北醫學院病理科講師	台北醫學院病理科講師	02-27361661ext641	02-23770054
監事	梁鍾鼎	男	51/01/25	台灣大學獸醫學研究所博士班	國家實驗動物中心副研究員	國家實驗動物中心首席獸醫師	02-2789-5569	02-27895588
監事	阮正雄	男	30/05/28	日本國立岡山大學 大學院醫齒藥總合研究科 博士	1. 台北市立婦幼綜合醫院病理科主任及婦產科主治醫師 2. 台北醫學大學副教授兼細胞學中心主任 3. 高雄市防癌篩檢中心細胞學主任	童綜合醫院婦產科及病理科主治醫師	0939-665921 02-2362-2656	02-23622656 04-26581919 轉4320 (辦公室)
監事	張清棟	男		美國奧本大學獸醫學院病理生物系獸醫學博士	美國康乃爾大學獸醫學院研究	屏東科技大學獸醫學系副教授	08-7703202 ext5049、5147	08-7740373

How-To Access Comparative Pathology Virtual Slides

Hosted at the Web Library in NTU Vet Med Digital Pathology Lab

(中華民國比較病理學會數位式組織切片影像資料庫)

Comparative Pathology glass slides are now digitalized and accessible to all participants through the internet and a web browser (see below for detail instruction).

1. Please make sure that your web browser (e.g. Internet Explorer, Firefox or Safari) is equipped with "flash player." If not, it can be added from http://www.adobe.com/products/flashplayer/ for free.

2. Please go to the NTU Vet Med Digital Pathology Lab web site at http://140.112.96.83:82/CSCP/ with your web browser.

3. A pop-up window appears to ask for "User name" and "Password." Enter “guest " for both boxes.

4. Choose a Comparative Pathology meeting (e.g. 52nd CSCP)

5. Pick any case you'd like to read (e.g. case365-372)

中華民國比較病理學會
第一次至第五十二次比較病理學研討會病例分類一覽表

分類	病例編號	診斷	動物別	提供單位
腫瘤	1.	Myxoma	Dog	美國紐約動物醫學中心
	2.	Chordoma	Ferret	美國紐約動物醫學中心
	3.	Ependymoblastoma	Human	長庚紀念醫院
	8.	Synovial sarcoma	Pigeon	美國紐約動物醫學中心
	18.	Malignant lymphoma	Human	長庚紀念醫院
	19.	Malignant lymphoma	Wistar rat	國家實驗動物繁殖及研究中心
	24.	Metastatic thyroid carcinoma	Human	省立新竹醫院
	25.	Chordoma	Human	新光吳火獅紀念醫院
	34.	Interstitial cell tumor	Dog	中興大學獸醫學系
	35.	Carcinoid tumor	Human	長庚紀念醫院
	36.	Hepatic carcinoid	Siamese cat	美國紐約動物醫學中心
	38.	Pheochromocytoma	Ferret	美國紐約動物醫學中心
	39.	Extra adrenal pheochromocytoma	Human	新光吳火獅紀念醫院
	40.	Mammary gland fibroadenoma	Rat	國家實驗動物繁殖及研究中心
	41.	Fibroadenoma	Human	省立豐原醫院
	42.	Canine benign mixed type mammary gland tumor	Pointer bitch	中興大學獸醫學系
	43.	Phyllodes tumor	Human	台中榮民總醫院
	44.	Canine oral papilloma	Dog	台灣大學獸醫學系
	45.	Squamous cell papilloma	Human	中國醫藥學院
	47.	Lung: metastatic carcinoma associated with cryptococcal infection. Liver: metastatic carcinoma. Adrenal gland, right: carcinoma (primary)	Human	三軍總醫院
	56.	Gastrointestinal stromal tumor	Human	台中榮民總醫院
	59.	Colonic adenocarcinoma	Dog	美國紐約動物醫學中心
	62.	Submucosal leiomyoma of stomach	Human	頭份為恭紀念醫院
	64.	1.Adenocarcinoma of sigmoid colon 2.Old schistosomiasis of rectum	Human	省立新竹醫院
	71.	Myelolipoma	Human	台北耕莘醫院

72.	Reticulum cell sarcoma	Mouse	國家實驗動物繁殖及研究中心
73.	Hepatocellular carcinoma	Human	新光吳火獅紀念醫院
74.	Hepatocellular carcinoma induced by aflatoxin B1	Wistar strain rats	台灣省農業藥物毒物試驗所
81.	Angiomyolipoma	Human	羅東博愛醫院
82.	Inverted papilloma of prostatic urethra	Human	省立新竹醫院
84.	Nephrogenic adenoma	Human	國泰醫院
86.	Multiple myeloma with systemic amyloidosis	Human	佛教慈濟綜合醫院
87.	Squamous cell carcinoma of renal pelvis and calyces with extension to the ureter	Human	台北病理中心
88.	Fibroepithelial polyp of the ureter	Human	台北耕莘醫院
90.	Clear cell sarcoma of kidney	Human	台北醫學院
93.	Mammary gland adenocarcinoma, complex type , with chondromucinous differentiation	Dog	台灣大學獸醫學系
94.	1.Breast, left, modified radical mastectomy, showing papillary carcinoma, invasive 2.Nipple, left, modified radical mastectomy, papillary carcinoma, invasive 3.Lymph node, axillary, left, lymphadenectomy, palillary carcinoma, metaststic	Human	羅東聖母醫院
95.	Transmissible venereal tumor	Dog	中興大學獸醫學系
96.	Malignant lymphoma, large cell type, diffuse, B-cell phenotype	Human	彰化基督教醫院
97.	Carcinosarcomas	Tiger	台灣養豬科學研究所
98.	Mucinous carcinoma with intraductal carcinoma	Human	省立豐原醫院
99.	Mammary gland adenocarcinoma, type B, with pulmonary metastasis, BALB/cBYJ mouse	Mouse	國家實驗動物繁殖及研中心
100.	Malignant fibrous histiocytoma and paraffinoma	Human	中國醫藥學院
102.	Pleomorphic adenoma (benign mixed tumor)	Human	佛教慈濟綜合醫院
103.	Atypical central neurocytoma	Human	新光吳火獅紀念醫院
104.	Cardiac schwannoma	SD rat	國家實驗動物繁殖及研究中心
109.	Desmoplastic infantile ganglioglioma	Human	高雄醫學院
107.	1.Primary cerebral malignant lymphoma 2.Acquired immune deficiency syndrome	Human	台北市立仁愛醫院
111.	Schwannoma	Human	三軍總醫院

114.	Osteosarcoma	Dog	美國紐約動物醫學中心
115.	Mixed germ-cell stromal tumor, mixed sertoli cell and seminoma-like cell tumor	Dog	美國紐約動物醫學中心
116.	Krukenberg's Tumor	Human	台北病理中心
117.	Primary insular carcinoid tumor arising from cystic teratoma of ovary.	Human	花蓮慈濟綜合醫院
119.	Polypoid adenomyoma	Human	大甲李綜合醫院
120.	Gonadal stromal tumor	Human	耕莘醫院
122.	Gestational choriocarcinoma	Human	彰化基督教醫院
123.	Ovarian granulosa cell tumor	Horse	中興大學獸醫學系
129.	Kaposi's sarcoma	Human	華濟醫院
131.	Basal cell carcinoma (BCC)	Human	羅東聖母醫院
132.	Transmissible venereal tumor	Dog	臺灣大學獸醫學系
137	Canine Glioblastoma Multiforme in Cerebellopontine Angle	Dog	中興大學獸醫病理研究所
143	Osteosarcoma associated with metallic implants	Dog	紐約動物醫學中心
144	Radiation-induced osteogenic sarcoma	Human	花蓮慈濟綜合醫院
145	Osteosarcoma, osteogenic	Dog	臺灣大學獸醫學系
146	Pleomorphic rhabdomyosarcoma	Human	行政院衛生署新竹醫院
147	Papillary Mesothelioma of pericardium	Leopard	屏東科大學獸醫學系
148	Cystic ameloblastoma	Human	台北醫學院
149	Giant cell tumor of bone	Canine	中興大學獸醫學院
150	Desmoplastic small round cell tumor (DSRCT)	Human	華濟醫院
152	Hepatocellular carcinoma	Human	羅東聖母醫院
158	Hemangiopericytoma	Human	羅東聖母醫院
160	Cardiac fibroma	Human	高雄醫學大學病理學科
166	Nephroblastoma	Rabbit	紐約動物醫學中心
168	Nephroblastoma	Pig	台灣動物科技研究所
169	Nephroblastoma with rhabdomyoblastic differentiation	Human	高雄醫學大學病理科
172	Spindle cell sarcoma	Human	羅東聖母醫院
174	Juxtaglomerular cell tumor	Human	新光醫院病理檢驗科
190	Angiosarcoma	Human	高雄醫學大學病理學科
192	Cardiac myxoma	Human	彰化基督教醫院病理科
194	Kasabach-Merrit syndrome	Human	慈濟醫院病理科
195	Metastatic hepatocellular carcinoma, right atrium	Human	新光醫院病理科

197	Papillary fibroelastoma of aortic valve	Human	新光醫院病理科
198	Extraplacental chorioangioma	Human	耕莘醫院病理科
208	Granulocytic sarcoma (Chloroma) of uterine cervix	Human	高雄醫學大學病理學科
210	Primary non-Hodgkin's lymphoma of bone, diffuse large B cell, right humerus	Lymphoma	彰化基督教醫院病理科
213	Lymphoma, multi-centric type	Dog	中興大學獸醫系
214	CD30 (Ki-1)-postitive anaplastic large cell lymphoma (ALCL)	Human	新光醫院病理科
215	Lymphoma, mixed type	Koala	台灣大學獸醫學系
217	Mucosal associated lymphoid tissue (MALT) lymphoma, small intestine	Cat	臺灣大學獸醫學研究所
218	Nasal type NK/T cell lymphoma	Human	高雄醫學大學病理科
222	Acquired immunodeficiency syndrome (AIDS)with disseminated Kaposi's sarcoma	Human	慈濟醫院病理科
224	Epithelioid sarcoma	Human	彰化基督教醫院病理科
226	Cutaneous B cell lymphoma , eyelid , bilateral	Human	羅東聖母醫院病理科
227	Extramammary Paget's disease (EMPD) of the scrotum	Human	萬芳北醫皮膚科,病理科
228	Skin, back, excision, CD30+diffuse large B cell lymphoma, Soft tissue, leg , side not stated, excision, vascular leiomyoma	Human	高雄醫學大學附設醫院病理科
231	Malignant melanoma, metastasis to intra-abdominal cavity	Human	財團法人天主教耕莘醫院病理科
232	Vaccine-associated rhabdomyosarcoma	Cat	台灣大學獸醫學系
233	1. Pleura: fibrous plaque, 2. Lung: adenocarcinoma, 3. Brain: metastatic adenocarcinoma	Human	高雄醫學大學附設中和醫院病理科
235	1. Neurofibromatosis, type I 2. Malignant peripheral nerve sheath tumor (MPNST)	Human	花蓮慈濟醫院病理科
239	Glioblastoma multiforme	Human	羅東聖母醫院
240	Pineoblastoma	Wistar rat	綠色四季
241	Chordoid meningioma	Human	高醫病理科
243	Infiltrating lobular carcinoma of left breast with meningeal carcinomatosis and brain metastasis	Human	花蓮慈濟醫院病理科
245	Microcystic Meningioma.	Human	耕莘醫院病理科
247	Well-differentiated fetal adenocarcinoma without lymph node metastasis	Human	新光吳火獅紀念醫院
249	Adenocarcinoma of lung.	Human	羅東聖母醫院

252	Renal cell carcinoma	Canine	國立台灣大學獸醫學系獸醫學研究所
253	Clear cell variant of squamous cell carcinoma, lung	Human	高雄醫學大學附設中和醫院病理科
256	Metastatic adrenal cortical carcinoma	Human	耕莘醫院病理科
258	Hashimoto's thyroiditis with diffuse large B cell lymphoma and papillary carcinoma	Human	高雄醫學大學附設中和醫院病理科
262	Medullar thyroid carcinoma	Canine	臺灣大學獸醫學系
264	Merkel cell carcinoma	Human	羅東博愛醫院
266	Cholangiocarcinoma	Human	耕莘醫院病理科
268	Sarcomatoid carcinoma of renal pelvis	Human	花蓮慈濟醫院病理科
269	Mammary Carcinoma	Canine	中興大學獸醫學系
270	Metastatic prostatic adenocarcinoma	Human	耕莘醫院病理科
271	Malignant canine peripheral nerve sheath tumors	Canine	臺灣大學獸醫學系
272	Sarcomatoid carcinoma, lung	Human	羅東聖母醫院
273	Vertebra,T12,laminectomy, metastatic adenoid cystic carcinoma	Human	彰化基督教醫院
274	rhabdomyosarcoma	Canine	臺灣大學獸醫學系
275	Fetal rhabdomyosarcoma	SD Rat	中興大學獸醫學系
276	Adenocarcinoma, metastatic, iris, eye	Human	高雄醫學大學
277	Axillary lymph node metastasis from an occult breast cancer	Human	羅東博愛醫院
278	Hepatocellular carcinoma	Human	國軍桃園總醫院
279	Feline diffuse iris melanoma	Faline	中興大學獸醫學系
280	Metastatic malignant melanoma in the brain and inguinal lymph node	Human	花蓮慈濟醫院病理科
281	Tonsil Angiosarcoma	Human	羅東博愛醫院
282	Malignant mixed mullerian tumor	Human	耕莘醫院病理科
283	Renal cell tumor	Rat	中興大學獸醫學系
284	Multiple Myeloma	Human	花蓮慈濟醫院病理科
285	Myopericytoma	Human	新光吳火獅紀念醫院
287	Extramedullary plasmacytoma with amyloidosis	Canine	臺灣大學獸醫學系
288	Metastatic follicular carcinoma	Human	羅東聖母醫院病理科
289	Primitive neuroectodermal tumor (PNET), T-spine.	Human	羅東博愛醫院病理科
292	Hemangioendothelioma of bone	Human	花蓮慈濟醫院病理科
293	Malignant tumor with perivascular epithelioid differentiation, favored malignant PEComa	Human	彰化基督教醫院
297	Mucin-producing cholangiocarcinoma	Human	基隆長庚醫院
300	Cutaneous epitheliotropic lymphoma	Canine	臺灣大學獸醫專業學院
301	Cholangiocarcinoma	Felis Lynx	臺灣大學獸醫專業學院

302	Lymphoma	Canine	臺灣大學獸醫專業學院
303	Solitary fibrous tumor	Human	彰化基督教醫院
304	Multiple sarcoma	Canine	臺灣大學獸醫專業學院
306	Malignant solitary fibrous tumor of pleura	Human	佛教慈濟綜合醫院暨慈濟大學
307	Ectopic thymic carcinoma	Human	彰濱秀傳紀念醫院病理科
308	Medullary carcinoma of the right lobe of thyroid	Human	彰化基督教醫院病理科
309	Thyroid carcinosarcoma with cartilage and osteoid formation	Canine	臺灣大學獸醫專業學院
312	Lymphocytic leukemia/lymphoma	Koala	臺灣大學獸醫專業學院
313	Neuroendocrine carcinoma of liver	Human	佛教慈濟綜合醫院暨慈濟大學
314	Parachordoma	Human	羅東博愛醫院病理科
315	Carcinoma expleomorphic adenoma, submandibular gland	Human	天主教耕莘醫院病理科
316	Melanoma, tongue	Canine	國立臺灣大學獸醫專業學院
317	Renal cell carcinoma, papillary type	Canine	國立臺灣大學獸醫專業學院
323	Metastatic papillary serous cystadenocarcinoma, abdomen	Human	國軍桃園總醫院
324	Malignant gastrointestinal stromal tumor	Human	天主教耕莘醫院
329	Sclerosing stromal tumor	Human	彰化基督教醫院
330	Pheochromocytoma	Human	天主教耕莘醫院
334	Metastatic infiltrating ductal carcinoma, liver	Human	佛教慈濟綜合醫院
335	Adenoid cystic carcinoma, grade II, Rt breast	Human	天主教耕莘醫院
336	Malignant lymphoma, diffuse, large B-cell, right neck	Human	林新醫院
337	Pulmonary carcinoma, multicentric	Dog	國立臺灣大學獸醫專業學院
338	Malignant melanoma, multiple organs metastasis	Rabbit	國立中興大學獸醫學院
340	Mucinous-producing urothelial-type adenocarcinoma of prostate	Human	天主教耕莘醫院

	342	Plexiform fibromyxoma	Human	彰化基督教醫院
	343	Malignant epithelioid trophoblastic tumor	Human	佛教慈濟綜合醫院
	344	Epithelioid sarcoma	Human	林新醫院
	346	Transmissible venereal tumor	Dog	國立臺灣大學獸醫專業學院
	347	Ewing's sarcoma (PNET/ES tumor)	Human	天主教耕莘醫院病理科
	348	Malignant peripheral nerve sheath tumor, epithelioid type	Human	林新醫院病理科
	349	Low grade fibromyxoid sarcoma	Human	高醫大附設中和紀念醫院病理科
	351	Orbital embryonal rhabdomyosarcoma	Dog	Gifu University, Japan (岐阜大学)
	354	Granular cell tumor	Dog	國立臺灣大學獸醫專業學院
	356	Malignant neoplasm of unknown origin, cerebrum	Dog	國立臺灣大學獸醫專業學院
	357	Small cell Carcinoma, Urinary bladder	Human	天主教耕莘醫院病理科
	364	Perivascular epithelioid cell tumor, in favor of lymphangiomyomatosi	Human	高醫大附設中和紀念醫院病理科
	365	Angiosarcoma, skin (mastectomy)	Human	天主教耕莘醫院病理科
	366	Rhabdomyoma (Purkinjeoma), heart	Swine	屏東縣家畜疾病防治所
	368	Langerhans cell sarcoma, lung	Human	高醫大附設中和紀念醫院病理科
	369	Biliary cystadenocarcinoma, liver	Camel	*國立屏東科技大學獸醫教學醫院病理科*
	371	Malignant melanoma, nasal cavity	Human	*羅東博愛醫院病理科*
細菌	6.	Tuberculosis	Monkey	臺灣大學獸醫學系
	7.	Tuberculosis	Human	省立新竹醫院
	12.	H. pylori-induced gastritis	Human	台北病理中心
	13.	Pseudomembranous colitis	Human	省立新竹醫院
	26.	Swine salmonellosis	Pig	中興大學獸醫學系
	27.	Vegetative valvular endocarditis	Pig	台灣養豬科學研究所
	28.	Nocardiosis	Human	台灣省立新竹醫院
	29.	Nocardiosis	Largemouth bass	屏東縣家畜疾病防治所
	32.	Actinomycosis	Human	台灣省立豐原醫院

33.	Tuberculosis	Human	苗栗頭份為恭紀念醫院
53.	Intracavitary aspergilloma and cavitary tuberculosis, lung.	Human	羅東聖母醫院
54.	Fibrocalcified pulmonary TB, left Apex. Mixed actinomycosis and aspergillosis lung infection with abscess DM, NIDDM.	Human	林口長庚紀念醫院
58.	Tuberculous enteritis with perforation	Human	佛教慈濟綜合醫院
61.	Spirochetosis	Goose	國立嘉義農專獸醫科
63.	Proliferative enteritis (*Lawsonia intracellularis* infection)	Porcine	屏東縣家畜疾病防治所
68.	Liver abscess (Klebsillae pneumoniae)	Human	台北醫學院
77.	1. Xanthogranulomatous inflammation with nephrolithiasis, kidney, right. 2. Ureteral stone, right.	Human	羅東聖母醫院
79.	Emphysematous pyelonephritis	Human	彰化基督教醫院
89.	1. Severe visceral gout due to kidney damaged 2. Infectious serositis	Goose	中興大學獸醫學系
108.	Listeric encephalitis	Lamb	屏東縣家畜疾病防治所
113.	Tuberculous meningitis	Human	羅東聖母醫院
134.	Swine salmonellosis with meningitis	Swine	中興大學獸醫學系
135.	Meningoencephalitis, fibrinopurulent and lymphocytic, diffuse, subacute, moderate, cerebrum, cerebellum and brain stem, caused by Streptococcus spp. infection	Swine	國家實驗動物繁殖及研究中心
140	Coliform septicemia of newborn calf	Calf	屏東縣家畜疾病防治所
161	Porcine polyserositis and arthritis （Glasser's disease）	Pig	中興大學獸醫學院
162	Mycotic aneurysm of jejunal artery secondary to infective endocarditis	Human	慈濟醫院病理科
170	Chronic nephritis caused by Leptospira spp	Pig	中興大學獸醫學院
173	Ureteropyelitis and cystitis	Pig	中國化學製藥公司
254	Pulmonary actinomycosis.	Human	耕莘醫院病理科
259	Tuberculous peritonitis	Human	彰化基督教醫院病理科
260	Septicemic salmonellosis	Piglet	屏東科技大學獸醫系
261	Leptospirosis	Human	慈濟醫院病理科
267	Mycobacteriosis	Soft turtles	屏東科技大學獸醫系
290	*Staphylococcus* spp. infection	Formosa Macaque	中興大學獸醫病理學研究所

	291	Leptospirosis	Dog	台灣大學獸醫學系
	296	Leptospirosis	Human	花蓮慈濟醫院
	305	Cryptococcus and Tuberculosis	Human	彰濱秀傳紀念醫院
	319	Placentitis, Coxiella burnetii	Goat	台灣動物科技研究所
	321	Pneumonia, Buirkholderia pseudomallei	Goat	屏東縣家畜疾病防治所
	339	Mycoplasmosis	Rat	國家實驗動物中心
	352	Chromobacterium violaceum Septicemia	Gibbon	Bogor Agricultural University, Indonesia
	353	Salmonellosis	Pig	國立中興大學獸醫學院
	367	Melioidosis (Burkholderia pseudomallei), lung	Human	花蓮慈濟醫院
	370	Suppurative bronchopneumonia (*Bordetellae trematum)* with *Trichosomoides crassicauda* infestation	Rat	國立中興大學獸醫學院
病毒	21.	Newcastle disease	Chickens	台灣大學獸醫學系
	22.	Herpesvirus infection	Goldfish	台灣大學獸醫學系
	30.	Demyelinating canine distemper encephalitis	Dog	台灣養豬科學研究所
	31.	Adenovirus infection	Malayan sun bears	台灣大學獸醫學系
	50.	Porcine cytomegalovirus infection	Piglet	台灣省家畜衛生試驗所
	55.	Infectious laryngo-tracheitis (Herpesvirus infection)	Broilers	國立屏東技術學院獸醫學系
	69.	Pseudorabies (Herpesvirus infection)	Pig	台灣養豬科學研究所
	78.	Marek's disease in native chicken	Chicken	屏東縣家畜疾病防治所
	92.	Foot- and- mouth disease (FMD)	Pig	屏東縣家畜疾病防治所
	101.	Swine pox	Pig	屏東科技大學獸醫學系
	110.	Pseduorabies	Piglet	國立屏東科技大學
	112.	Avian encephalomyelitis	Chicken	國立中興大學
	128.	Contagious pustular dermatitis	Goat	屏東縣&台東縣家畜疾病防治所
	130.	Fowl pox and Marek's disease	Chicken	中興大學獸醫學系
	133.	Japanese encephalitis	Human	花蓮佛教慈濟綜合醫院
	136	Viral encephalitis, polymavirus infection	Lory	美國紐約動物醫學中心
	138	1.Aspergillus spp. encephalitis and myocarditis	Dog	台灣大學獸醫學系

	2.Demyelinating canine distemper encephalitis		
153	Enterovirus 71 infection	Human	彰化基督教醫院
154	Ebola virus infection	African Green monkey	行政院國家科學委員會實驗動物中心
155	Rabies	Longhorn Steer	台灣大學獸醫學系
163	Parvoviral myocarditis	Goose	屏東科技大學獸醫學系
199	SARS	Human	台大醫院病理科
200	TGE virus	swine	臺灣動物科技研究所
201	Feline infectious peritonitis(FIP)	Feline	台灣大學獸醫學系
209	Chicken Infectious Anemia (CIA)	Layer	屏東防治所
219	1.Lymph node:Lymphdenitis, with lymphocytic depletion and intrahistiocytic basophilic cytoplasmic inclusion bodies. Etiology consistent with Porcine Circovirus(PCV)infection. 2.Lung: Bronchointerstitial pneumonia,moderate, lymphoplasmacytic, subacute.	Pig	臺灣動物科技研究所
220	Cytomegalovirus colitis	Human	彰化基督教醫院病理科
221	Canine distemper virus Canine adenovirus type ll co-infection	Canine	國家實驗動物繁殖及研究中心
223	1. Skin, mucocutaneous junction (lip): Cheilitis, subacute, diffuse, sever, with epidermal pustules, ballooning degeneration, proliferation, and eosinophilic intracytoplasmic inclusion bodies, Saanen goat. 2. Haired skin: Dermatitis, proliferative, lymphoplasmacytic, subacute, diffuse, sever, with marked epidermal pustules, ballooning degeneration, acanthosis, hyperkeratosis, and eosinophilic intracytoplasmic inclusion bodies.	Goat	台灣動物科技研究所
238	Hydranencephaly	Cattle	國立屏東科技大學獸醫學系
248	Porcine Cytomegalovirus (PCMV) infection	Swine	國立屏東科技大學獸醫學系
250	Porcine respiratory disease complex (PRDC) and polyserositis, caused by co-infection with pseudorabies (PR) virus, porcine circovirus type 2 (PCV 2), porcine reproductive and respiratory syndrome (PRRS) virus and *Salmonella typhimurium*.	Swine	屏東縣家畜疾病防所

	255	Vaccine-induced canine distemper	gray foxes	國立台灣大學獸醫學系
	265	Bronchointerstitial pneumonia (PCV II infection)	Swine	台灣大學獸醫學系
	295	Feline infectious peritonitis (FIP)	Cat	中興大學獸醫病理所
	362	Canine distemper virus infection combined pulmonary dirofilariasis	Dog	國家實驗研究院
黴菌	23.	Chromomycosis	Human	台北病理中心
	47.	Lung: metastatic carcinoma associated with cryptococcal infection. Liver: metastatic carcinoma. Adrenal gland, right: carcinoma (primary)	Human	三軍總醫院
	48.	Adiaspiromycosis	Wild rodents	台灣大學獸醫學系
	52.	Aspergillosis	Goslings	屏東縣家畜疾病防治所
	53.	Intracavitary aspergilloma and cavitary tuberculosis, lung.	Human	羅東聖母醫院
	54.	Fibrocalcified pulmonary TB, left Apex. Mixed actinomycosis and aspergillosis lung infection with abscess DM, NIDDM.	Human	林口長庚紀念醫院
	105.	Mucormycosis Diabetes mellitus	Human	花蓮佛教慈濟綜合醫院
	127.	Eumycotic mycetoma	Human	花蓮佛教慈濟綜合醫院
	138	1.Aspergillus spp. encephalitis and myocarditis 2.Demyelinating canine distemper encephalitis	Dog	台灣大學獸醫學系
	298	Systemic Candidiasis	Tortoise	中興大學獸醫學院
	318	Alfatoxicosis in dogs	Canine	國立臺灣大學獸醫專業學院
	322	Allergic fungal sinusitis	Human	羅東博愛醫院
	326	Meningoencephalitis, Aspergillus flavus	Cat	國立臺灣大學獸醫專業學院
	331	Histoplasmosis	Human	花蓮慈濟醫院病理科
	332	Pulmonary Blastomycosis	Rat	中興大學獸醫學院
	355	Encephalitozoonosis	Rabbit	國立中興大學獸醫學院
	356	Eosinophilic granuloma with fungal infection, Skin	Cat	國立臺灣大學獸醫專業學院
寄生蟲	14.	Dirofilariasis	Dog	台灣省家畜衛生試驗所

	15.	Pulmonary dirofilariasis	Human	台北榮民總醫院
	20.	Sparganosis	Human	台北榮民總醫院
	46.	Feline dirofilariasis	Cat	美國紐約動物醫學中心
	49.	Echinococcosis	Human	台北榮民總醫院
	60.	Intestinal capillariasis	Human	台北馬偕醫院
	64.	1.Adenocarcinoma of sigmoid colon 2.Old schistosomiasis of rectum	Human	省立新竹醫院
	66.	Echinococcosis	Chapman's zebra	台灣大學獸醫學系
	67.	Hepatic ascariasis and cholelithiasis	Human	彰化基督教醫院
	106.	Parasitic meningoencephalitis, caused by Toxocara canis larvae migration	Dog	臺灣養豬科學研究所
	139	Disseminated strongyloidiasis	Human	花蓮佛教慈濟綜合醫院
	141	Eosinophilic meningitis caused by Angiostrongylus cantonensis	Human	台北榮民總醫院病理檢驗部
	156	Parastrongylus cantonensis infection	Formosan gem-faced civet	中興大學獸醫學院
	157	Capillaria hepatica, Angiostongylus cantonensis	Norway Rat	行政院農業委員會農業藥物毒物試驗所
	202	Colnorchiasis	Human	高雄醫學院附設醫院
	203	Trichuriasis	Human	彰化基督教醫院
	204	Psoroptes cuniculi infection (Ear mite)	Rabbit	農業藥物毒物試驗所
	205	Pulmonary dirofilariasis	Human	和信治癌中心醫院
	206	Capillaries philippinesis	Human	和信治癌中心醫院
	207	Adenocarcinoma with schistosomiasis	Human	花蓮佛教慈濟綜合醫院
	286	Etiology- consistent with *Spironucleus* (*Hexamita*) *muris*	Rat	國家實驗動物繁殖及研究中心
	327	Dermatitis, mange infestation	Serow	中興大學獸醫學院
	328	Trichosomoides crassicauda, urinary bladder	Rat	國家實驗動物中心
	362	Canine distemper virus infection combined pulmonary dirofilariasis	Dog	國家實驗研究院
	370	Suppurative bronchopneumonia (*Bordetellae trematum)* with *Trichosomoides crassicauda* infestation	Rat	國立中興大學獸醫學院
原蟲	4.	Cryptosporidiosis	Goat	台灣養豬科學研究所
	15.	Amoebiasis	Lemur fulvus	台灣養豬科學研究所
	16.	Toxoplasmosis	Squirrel	台灣養豬科學研究所
	17.	Toxoplasmosis	Pig	屏東技術學院獸醫學

				系
	51.	Pneumocystis carinii pneumonia	Human	台北病理中心
	57.	Cecal coccidiosis	Chicken	中興大學獸醫學系
	65.	Cryptosporidiosis	Carprine	台灣養豬科學研究所
	211	Avian malaria, African black-footed penguin	Avian	臺灣動物科技研究所
	242	Neosporosis	Cow	國立屏東科技大學獸醫學系
	263	Intestinal amebiasis	Human	彰化基督教醫院病理科
	320	Cutaneous leishmaniasis	Human	佛教慈濟綜合醫院
	325	Myocarditis/encephalitis, Toxoplasma gondii	Wallaby	國立臺灣大學獸醫專業學院
立克次體	229	Necrotizing inflammation due to scrub typhus	Human	佛教慈濟醫院病理科
	251	Scrub typhus with diffuse alveolar damage in bilateral lungs.	Human	佛教慈濟醫院病理科
皮膚	216	Cytophagic histiocytic panniculitis with terminal hemophagocytic syndrome	Human	佛教慈濟綜合醫院病理科
	359	Eosinophilic granuloma with fungal infection, Skin	Cat	國立臺灣大學獸醫專業學院
	360	Septa panniculitis with lymphocytic vasculitis	Human	慈濟綜合醫院暨慈濟大學
其它	9.	Perinephric pseudocyst	Cat	台灣大學獸醫學系
	10.	Choledochocyst	Human	長庚紀念醫院
	11.	Bile duct ligation	Rat	中興大學獸醫學系
	37.	Myositis ossificans	Human	台北醫學院
	75.	Acute yellow phosphorus intoxication	Rabbits	中興大學獸醫學系
	76.	Polycystic kidney bilateral and renal failure	Cat	美國紐約動物醫學中心
	151	Osteodystrophia fibrosa	Goat	台灣養豬科學研究所&台東縣家畜疾病防治所
	80.	1.Glomerular sclerosis and hyalinosis, segmental, focal, chronic, moderate 2.Benign hypertension	SHR rat	國防醫學院 & 國家實驗動物繁殖及研究中心
	83.	Phagolysosome-overload nephropathy	SD rats	實驗動物繁殖中心
	85.	Renal amyloidosis	Dog	台灣養豬科學研究所
	89.	1.Severe visceral gout due to kidney damaged 2.Infectious serositis	Goose	中興大學獸醫學系
	91.	Hypervitaminosis D	Orange-rumped agoutis	台灣大學獸醫學系
	118.	Cystic endometrical hyperplasia	Dog	臺灣養豬科學研究所

121.	Cystic subsurface epithelial structure (SES)	Dog	國科會實驗動物中心
124.	Superficial necrolytic dermatitis	Dog	美國紐約動物醫學中心
125.	Solitary congenital self-healing histiocytosis	Human	羅東博愛醫院
126.	Alopecia areata	Mouse	實驗動物繁殖及研究中心
142	Avian encephalomalacia (Vitamin E deficiency)	Chicken	國立屏東科技大學獸醫學系
159	Hypertrophic cardiomyopathy	Pig	台灣大學獸醫學系
165	Chinese herb nephropathy	Human	三軍總醫院病理部及腎臟科
167	Acute pancreatitis with rhabdomyolysis	Human	慈濟醫院病理科
171 183	Malakoplakia Darier's disease	Human Human	彰化基督教醫院 高雄醫學大學病理科
191	1. Polyarteritis nodosa 2. Hypertrophic Cardiomyopathy	Feline	台灣大學獸醫學系
193	Norepinephrin cardiotoxicity	Cat	台中榮總
196	Cardiomyopathy (Experimental)	Mice	綠色四季
212	Kikuchi disease (histiocytic necrotizing lymphandenitis)	Lymphandenitis	耕莘醫院病理科
225	Calcinosis circumscripta, soft tissue of the right thigh, dog	Dog	台灣大學獸醫所
230	Hemochromatosis, liver, bird	Bird	台灣大學獸醫學系
234	Congenital hyperplastic goiter	Holstein calves	屏東縣家畜疾病防治所
236	Hepatic lipidosis (fatty liver)	Rats	中興大學獸醫學病理學研究所
237	Arteriovenous malformation (AVM) of cerebrum	Human	耕莘醫院病理科
244	Organophosphate induced delayed neurotoxicity in hens	Hens	中興大學獸醫學病理學研究所
257	Severe lung fibrosis after chemotherapy in a child with Ataxia-Telangiectasia	Human	慈濟醫院病理科
294	Arteriovenous malformation of the left hindlimb	Dog	台灣大學獸醫學系
299	Polioencephalomalacia	Goat kid	屏東家畜疾病防治所
310	Hyperplastic goiter	Piglet	屏東家畜疾病防治所
311	Melamine and cyanuric acid contaminated pet food induced nephrotoxicity	Rat	中興大學獸醫學病理學研究所
318	Alfatoxicosis	Canine	國立臺灣大學獸醫專業學院
333	Lordosis, C6 to C11	Penguin	國立臺灣大學獸醫專

			業學院
341	Pulmonary placental transmogrification	Human	羅東博愛醫院
345	Acute carbofuran intoxication	Jacana	國立中興大學獸醫學院
350	Malakoplakia, liver	Human	慈濟綜合醫院暨慈濟大學
351	Eosionphilic granuloma, Right suboccipital epidural mass	Human	羅東博愛醫院病理科
359	Eosinophilic granuloma with fungal infection, Skin	Cat	國立臺灣大學獸醫專業學院
360	Septa panniculitis with lymphocytic vasculitis	Human	慈濟綜合醫院暨慈濟大學
361	Hepatotoxicity of SMA-AgNPs	Mouse	國立中興大學獸醫病理生物學研究所
363	Hypertrophy osteopathy	Cat	國立臺灣大學獸醫專業學院
372	Snake bite suspected, skin and spleen	Monkey (red guenon)	國立臺灣大學獸醫專業學院

會 員 資 料 更 新 服 務

各位會員：

您好！如果您的會員資料有更新或誤刊情形，麻煩您填妥表格後寄回學會秘書處或電話連絡：

中華民國比較病理學會秘書處
10617 臺北市大安區羅斯福路四段 1 號
國立臺灣大學獸醫系三館 106 室 鄭謙仁秘書長 收
Tel: (02) 33663858
Fax: (02) 23682423
e-mail address: crjeng@ntu.edu.tw

----------中華民國比較病理學會----------

會員資料更改卡

姓　　名：_____　　會員類別：☐一般會員
☐學生會員
☐贊助會員

最高學歷：_____

服務單位：_____職　　稱：_____

永久地址：_____

通訊地址：_____

電　　話：_____傳　　真：_____

E-Mail Address：_____

中 華 民 國 比 較 病 理 學 會

誠摯邀請您加入

入　會　辦　法

一、 本會會員申請資格為：

（一）一般會員：贊同本會宗旨，年滿二十歲，具有國內外大專院校（或同等學歷）生命科學及其它相關科系畢業資格或高職畢業從事生命科學相關工作滿兩年者。

（二）學生會員：贊同本會宗旨，在國內、外大專院校生命科學或其他相關科系肄業者（請檢附學生身份證明）。

（三）贊助會員：贊助本會工作之團體或個人。

（四）榮譽會員：凡對比較病理學術或會務之推廣有特殊貢獻，經理事會提名並經會員大會通過者。

二、 會員：

（一）入 會 費：一般會員新台幣一仟元，學生會員一佰元，贊助會員伍仟元，於入會時繳納。

（二）常年會費：一般會員新台幣伍佰元，學生會員一佰元。

【註：學生會員身份變更為一般會員時，只需繳交一般會員之常年會費】

三、入會費及常年會費繳交方式：以銀行轉帳或匯款（**006 合作金庫銀行、帳號：0190-717-052017、戶名：中華民國比較病理學會**）；並請填妥**入會申請表**連同**銀行轉帳交易明細表**或**匯款單**以郵寄或傳真方式寄回中華民國比較病理學會秘書處收。地址：116 臺北市羅斯福路四段一號 國立臺灣大學獸醫專業學院三館 106、電話：02-33663858、傳真 02-23682423。

中華民國比較病理學會入會申請及會員卡

會籍電腦編號 _____

<table>
<tr><td rowspan="2">姓名</td><td>中文</td><td></td><td rowspan="2">性別</td><td>男 □</td><td>出生</td><td colspan="2">民國 年 月 日</td><td rowspan="2">出生地</td><td rowspan="2">省

縣/市</td></tr>
<tr><td>英文</td><td></td><td>女 □</td><td>身分證字號</td><td colspan="2"></td></tr>
<tr><td colspan="5">會員身份: □一般 □學生 □贊助</td><td colspan="4"></td></tr>
<tr><td rowspan="4">學歷</td><td colspan="4">(1)</td><td colspan="5">稱謂(請圈選) 先生 小姐 醫師 獸醫師
研究員 博士 教授 主任 其他: _____</td></tr>
<tr><td colspan="4">(2)</td><td rowspan="3">研究興趣</td><td colspan="4">(1)</td></tr>
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永久 電話： 傳真：
電子郵遞(E-mail)地址：</td></tr>
<tr><td colspan="8">茲 贊 同
貴會宗旨擬加入爲會員嗣後並願遵守一切規章共圖發展
此 致
中華民國比較病理學會
申請人 簽章
介紹人 簽章
介紹人 簽章
中華民國 年 月 日</td><td colspan="2">審核結果</td></tr>
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