

50TH MEETING OF COMPARATIVE PATHOLOGY

(第 50 次比較病理學研討會)

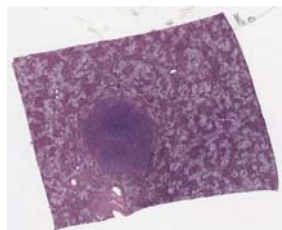


School of Veterinary Medicine, National Taiwan University

(國立臺灣大學獸醫專業學院)

Taipei, Taiwan (臺北市·臺灣)

November 20, 2010 (中華民國 99 年 11 月 20 日)



Chinese Society of Comparative Pathology

中華民國比較病理學會

SCHEDULE

50TH MEETING OF COMPARATIVE PATHOLOGY

(中華民國比較病理學會第 50 次比較病理學研討會議程表)

Date: November 20, 2010 (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：99 年 11 月 20 日(星期六) 08:30~17:00
 地點：國立臺灣大學獸醫學系 B01 演講廳
 地址：臺北市羅斯福路四段 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)		
09:10~09:40	Case 347	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)
09:40~10:10	Case 348	Dr. J.P. Jhu (祝志平 醫師) Lin Shin Hospital, Taiwan (林新醫院)	
10:10~10:30	Coffee Break		
10:30~11:00	Case 349	Dr. K.S. Liao (廖國生 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)
11:00~11:30	Case 350	Dr. J.Y. Sim (沈君毅 醫師) Tzu Chi University & Tzu Chi General Hospital, Taiwan (慈濟綜合醫院暨慈濟大學)	
11:30~12:00	Case 351	Dr. T. Yanai (柳井德磨 獸醫師) Gifu University, Japan (岐阜大學)	
12:00~13:30	Lunch & Board Meeting (午餐暨中華民國比較病理學會理監事會議)		
13:30~14:00	Case 352	Dr. E. Arifin Bogor Agricultural University, Indonesia	Dr. T. Yanai (柳井德磨 教授)
14:00~14:30	Case 353	Dr. T.Y. Ke (柯廷昀 獸醫師) National Chung-Hsing University, Taiwan (國立中興大學)	
14:30~14:50	Coffee Break		
14:50~15:20	Case 354	Dr. Y.W. Lo (羅雅文 獸醫師) National Taiwan University, Taiwan (國立臺灣大學)	Dr. C.H. Liu (劉振軒 院長)
15:20~15:50	Case 355	Dr. C.A. Wu (吳晉安 獸醫師) National Chung-Hsing University, Taiwan (國立中興大學)	
15:50~16:20	Case 356	Dr. Y.K. Lee (李育匡 獸醫師) National Taiwan University, Taiwan (國立臺灣大學)	
16:20~17:00	General Discussion (綜合討論)		

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CASE SIGNALMENT
50TH MEETING OF COMPARATIVE PATHOLOGY
 November 20th, 2010
 (中華民國比較病理學會第 50 次比較病理學研討會)

Case No.	Presenter	Institution	Slide No.	Signalment
Case 347	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 304061	18-year-old man
Case 348	Dr. J.P. Jhu (祝志平 醫師)	Department of Pathology, Lin Shin Hospital, Taiwan (林新醫院病理科)	SIU 3789 A2	79-year-old man
Case 349	Dr. K.S. Liao (廖國生 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-08-07141A3	29-year-old woman
Case 350	Dr. J.Y. Sim (沈君毅 醫師)	Tzu Chi University & Tzu Chi General Hosipital, Taiwan (慈濟綜合醫院暨慈濟大學)	A297-21	44-year-old man
Case 351	Dr. T. Yanai (柳井德磨 獸醫師)	Laboratory of Veterinary Pathology, Gifu University, Japan (岐阜大学獣医病理学教室)		2-year-old, male, Welsh Corgi dog
Case 352	Dr. E. Arifin	Primate Research Center, Bogor Agricultural University, Indonesia	BOGOR-PRC-01	2-year old, female, Javan gibbon
Case 353	Dr. T.Y. Ke (柯廷昀 獸醫師)	College of Vet. Med., National Chung-Hsing University, Taiwan (國立中興大學獸醫學院)	C010-925D	20kg pigs
Case 354	Dr. Y.W. Lo (羅雅文 獸醫師)	School of Veterinary Medicine, National Taiwan University, Taiwan (國立臺灣大學獸醫專業學院)	NTU2010-380A	13-year-old, male, maltese dog
Case 355	Dr. C.A. Wu (吳晉安 獸醫師)	College of Vet. Med., National Chung-Hsing University, Taiwan (國立中興大學獸醫學院)	C010-600 102C	8 week-old, female, New Zealand White rabbits.
Case 356	Dr. Y.K. Lee (李育匡 獸醫師)	School of Veterinary Medicine, National Taiwan University, Taiwan (國立臺灣大學獸醫專業學院)	NTU2010-654A	4-to-5-year-old, spayed female, Corgi dog

CASE DIAGNOSIS
50TH MEETING OF COMPARATIVE PATHOLOGY
November 20th, 2010

(中華民國比較病理學會第 50 次比較病理學研討會)

Case No.	Presenter	Institution	Slide No.	Diagnosis
Case 347	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 304061	Ewing's sarcoma (PNET/ES tumor)
Case 348	Dr. J.P. Jhu (祝志平 醫師)	Department of Pathology, Lin Shin Hospital, Taiwan (林新醫院病理科)	SIU 3789 A2	Malignant peripheral nerve sheath tumor, epithelioid type
Case 349	Dr. K.S. Liao (廖國生 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-08-07141A3	Low grade fibromyxoid sarcoma
Case 350	Dr. J.Y. Sim (沈君毅 醫師)	Tzu Chi University & Tzu Chi General Hospital, Taiwan (慈濟綜合醫院暨慈濟大學)	A297-21	Malakoplakia, liver
Case 351	Dr. T. Yanai (柳井德磨 獸醫師)	Laboratory of Veterinary Pathology, Gifu University, Japan (岐阜大学獣医病理学教室)		Orbital embryonal rhabdomyosarcoma
Case 352	Dr. E. Arifin	Primate Research Center, Bogor Agricultural University, Indonesia	BOGOR-PRC-01	<i>Chromobacterium violaceum</i> Septicemia
Case 353	Dr. T.Y. Ke (柯廷昀 獸醫師)	College of Vet. Med., National Chung-Hsing University, Taiwan (國立中興大學獸醫學院)	C010-925D	Swine Salmonellosis
Case 354	Dr. Y.W. Lo (羅雅文 獸醫師)	School of Veterinary Medicine, National Taiwan University, Taiwan (國立臺灣大學獸醫專業學院)	NTU2010-380A	Granular cell tumor
Case 355	Dr. C.A. Wu (吳晉安 獸醫師)	College of Vet. Med., National Chung-Hsing University, Taiwan (國立中興大學獸醫學院)	C010-600 102C	Encephalitozoonosis
Case 356	Dr. Y.K. Lee (李育匡 獸醫師)	School of Veterinary Medicine, National Taiwan University, Taiwan (國立臺灣大學獸醫專業學院)	NTU2010-654A	Malignant neoplasm of unknown origin, cerebrum

Chen, Yen-Lin (陳燕麟), MD; Chiang, Jung-Hwa (江蓉華), MD; Leu, Fur-Jiang (呂福江), MD, PhD.

Department of Pathology, Cardinal Tien Hospital, Taiwan (天主教耕莘醫院病理科)

CASE HISTORY:

Signalment: 18-year-old man

Clinical History: This 18-year-old male denied any underlying systemic disease. He suffered from sudden onset upper abdominal pain 5 days ago. Then the symptoms followed by persistent colicky pain. He also had anorexia and abdominal distension. The patient denied nausea, vomiting, fever or diarrhea. He came to our ER for management and found a huge hepatic tumor at least 8 cm by ultrasound. The CT and MRI scan showed a heterogeneous retroperitoneal tumor about 13x8x7 cm, attached with liver and gallbladder. Lab data of liver function, AFP and CBC were all within normal limit. Under the impression of retroperitoneal tumor, the patient accepts the surgical resection and the post-OP course was well.

Gross Findings: A tumor measures about 13 x 8 x 7 cm in size, adhesion to gallbladder. The cut surface showed gray and mild firm in consistency with hemorrhage and massive necrosis. The tumor show partial rupture of outer surface at small focus.

Laboratory Results:

CBC/DC: WNL

Biochemistry (sugar, Ca, BUN, Cr, Na, K, Cl): WNL

Liver function (AST/ALT, bilirubin, rGT) and AFP: WNL

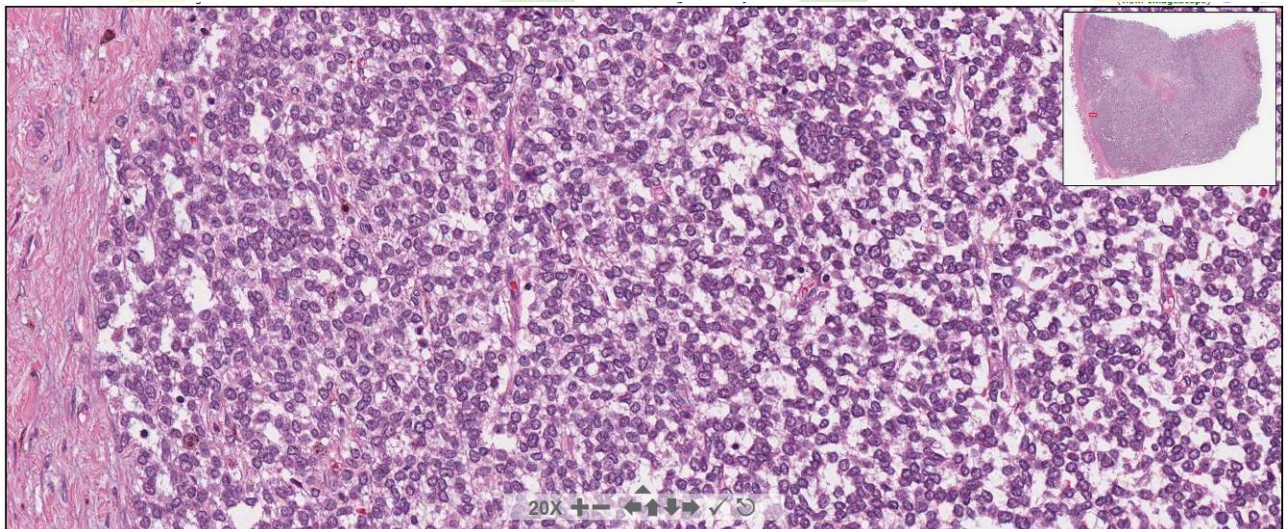
Chen, Yen-Lin (陳燕麟), MD; Chiang, Jung-Hwa (江蓉華), MD; Leu, Fur-Jiang (呂福江), MD, PhD.

Department of Pathology, Cardinal Tien Hospital, Taiwan (天主教耕莘醫院病理科)

CASE RESULT:

Histopathological Finding: Microscopically, the sections showed small round cells in lobular, trabecular or sheets pattern with extensive necrosis. The neoplastic cells showed scanty, pale cytoplasm and round to oval nuclei with fine chromatin pattern. Mitosis and nuclear atypia are easily seen in the sections. There are also neuroectodermal differentiation can be identified with rosettes of Homer wright type and pseudorosettes.

Virtual Slide :



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Immunohistochemical Stains: The immunohistochemical profile showed totally negative for CK, EMA, LCA, MyO-D1, Desmin, SMA, CD117, GFAP, S-100, CD56, Synaptophysin and Chromogranin, while positive for NSE, PAS stain and CD99 repeated in VGH-TPI.

Diagnosis: Soft tissue, retroperitoneal, tumor resection - Ewing's sarcoma (PNET/ES tumor)

Discussion: The Ewing's sarcoma family of tumours (ESFT) includes classic Ewing's sarcoma of bone, extraskeletal Ewing's sarcoma (EES), Askin tumours of the chest wall and primitive neuroectodermal tumours (PNET) of bone or soft tissues. The term extraskeletal Ewing's sarcoma (EES) was introduced in 1969 by Tefft *et. al.* Generally, EES is a rare disease that may develop in soft tissues at any location sharing 90% of translocation (11;22) (q24;q12).

The ESS/PNET usually occurs in any age but especially in child and young adult ranges 10 to 30 years old. There is equal sex incidence. The most common site is deep soft tissue (trunk), paravertebral region and the lower limb. It usually rapidly enlarging and painful may occur. The unusual location in the literature includes kidney, abdominal wall, neck, vulva, lung, thyroid and retroperitoneum. ESS/PNET is a large, destructive mass involving soft tissue or bone. Necrosis and hemorrhage may be seen. Microscopically, it shows vaguely lobular and uniform, malignant-appearing round blue cells with clear to lightly eosinophilic cytoplasm, fine chromatic and small nucleoli. "Light and dark cell" pattern may also be seen. Sometimes pseudorosettes and mild spindling can be observed, especially in PNET. The underlying table showed the distinction between classic Ewing's sarcoma and PNET.

<i>Feature</i>	<i>Ewing's sarcoma</i>	<i>PNET</i>
Light microscope		
Cell shape	Uniform, round	Irregular
Chromatin	Fine	Coarse
Nucleoli	Pinpoint	Prominent
Glycogen	Abundant	Scant
Rosettes	Absent	Present
Electronic microscope		
Organelles	Scarce	Abundant
Dense-core granules	Absent	Abundant
Neurotubes	Absent	Abundant
Neuritic process	Absent	Abundant

The immunohistochemical Findings of ESS/PNET show almost all positive for membranous CD99. FLI-1 is about 90% positive. However, low-molecular-weight cytokeratin can also be positive in about 25%. These groups of tumor usually negative for desmin, chromogranin, synaptophysin and D56. Gen rearrangement of ESFT is usually frequent. The most common association with EWS t(11:22) (q24;q12) translocation with FLI-1 in ESS/PNET is about 90%, and t(12:22) (q24;q12) is about 5%. There are many other gene translocation can be found in ESFT with different translocation.

The prognosis of ESS/PNET is not very well. The 10-year survival rate is 60% with modern treatment regimens. However, younger patients (age < 16 years) have better survival rate than older patients. The treatment of all ESFT group tumors is the same. Surgical resection should

be considered for all patients. Chemotherapy is sensitive and uses the drugs such as vincristine, oxorubicin, cyclophosphamide, ifosfamide and etoposide. Combination of the radiotherapy can also be help.

Reference:

1. Folpe AL, Goldblum JR, Rubin BP, et al. Morphologic and immunophenotypic diversity in Ewing family tumors: a study of 66 genetically confirmed cases. *Am J Surg Pathol* 2005;29: 1025-33.
2. Mobley BC, Roulston D, Shah GV, Bijwaard KE, McKeever PE. Peripheral primitive neuroectodermal tumor/Ewing sarcoma of the craniospinal vault: case reports and review. *Hum Pathol* 2006; 37:845-53.
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4. Rick A, Brian R. Mayol, et al.: Extraskelatal ewing sarcoma. *Cancer* 1999; 85:725-31.
5. Davidedonati, Junqiang Yin, et al.: Local and Distant Control in non-Metastatic Pelvic Ewing Sarcoma Patients. *Journal of Surgical Oncology* 2007;96:19 - 25
6. Carvajal R, Meyers P. Ewing's sarcoma and primitive neuroectodermal family of tumors. *Hematol Oncol Clin North Am* 2005; 19:501
7. Fergany AF, Dhar N, Budd GT, Skacel M, Garcia JA. Primary Extraosseous Ewing Sarcoma of the Kidney With Level III Inferior Vena Cava Thrombus. *Clin Genitourin Cancer*. 2009 Oct; 7(3):E95-7.
8. Askri A, Farhat LB, Ghariani B, Rabeh A, Dali N, Said W, Hendaoui L. Extraskelatal Ewing sarcoma of the abdominal wall. *Cancer Imaging*. 2008 Sep 10; 8:156-8.
9. Weinreb I, Goldstein D, Perez-Ordoñez B. Primary extraskelatal Ewing family tumor with complex epithelial differentiation: a unique case arising in the lateral neck presenting with Horner syndrome. *Am J Surg Pathol*. 2008 Nov; 32(11):1742-8.
10. Fong YE, Lopez-Terrada D, Zhai QJ. Primary Ewing sarcoma/peripheral primitive neuroectodermal tumor of the vulva. *Hum Pathol*. 2008 Oct; 39(10):1535-9. Epub 2008 Jul 7.

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CASE HISTORY:

Signalment: 79-year-old man

Clinical History: A 79 year old male had a past history of malignant melanoma on left 4th DIP and received amputation in the early 2008. But residual tumor at diastal inomate finger persisted, so he received another operation on Jul 27, 2008. The disease keep silent until Jan 2009, a progressively enlarged stony hard nodule at left elbow, about 4.7 x 3.0 x 1.5 cm, 6 months later, he received echography and an ill-defined lesion, 2.7 cm in diameter is found and proved pathologically to be melanoma with nerve invasion,* after resected at GS section on July 27, 2009. Meanwhile, CT scan of chest revealed large left axillary lymph node with bilateral pleural effusion and subcarina enlarged lymph nodes. Ulnar nerve repairment was also done during the surgical procedure of lymphadenectomy (up to 2.2 x 1.4 cm, melanoma). Then he was transferred to hema-oncologic section for further evaluation. Bone scan showed no metastasis. On August 22, 2010, he complained a firm mass at left inner aspect of elbow and ask for biopsy. The operation finding was a 4 cm tumor of elbow with nerve invasion. The specimen was submitted to pathology department.

Gross Findings: Grossly, it is a multinodular nodule and covered by a skin. On cut, there is a well-defined and solid tumor.

¹Jhu, Jhih-Ping (祝志平), MD, MS; ²Hsu, Yung-Hsiang (許永祥), MD, MS.

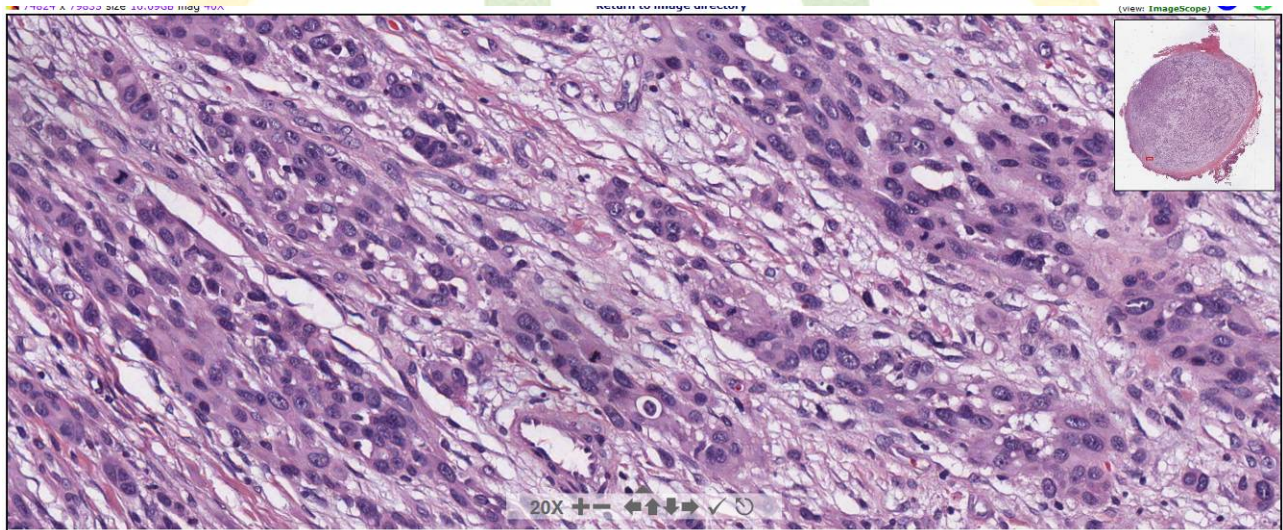
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CASE RESULT:

Histopathology: Ill-defined lesion in the subcutis and is composed of compactly-arrayed tumor cell nests in the peripheral areas and contains marked central necrosis. Mitosis is found.

Virtual Slide :



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Immunohistochemistry Surveys:

1. S-100 (+)
2. HMB-45, Hepa-1: (-)
3. CD20, EGFR: (-)

Differential Diagnosis:

1. Clear cell sarcoma (melanoma of soft parts):
 - A. Uniform cells with central round to oval nuclei, prominent basophilic nucleoli, and clear to eosinophilic cytoplasm with glycogen.
 - B. Intracellular melanin (frequent inconspicuous).
 - C. Groups of cells separated by delicate fibrous septa; collagen IV stain surrounds groups rather than individual tumor cells (MPNST).
 - D. Immunoreactivity for S-100 protein, HMB-45, and melan-A.

2. Synovial sarcoma (monophasic):

- A. Fascicles and whorls of spindle-shaped cells with a high nuclear-to-cytoplasmic ratio.
- B. Immunoreactivity for cytokeratin, EMA, CD99 and bcl-2.

3. Cellular Schwannoma:

- A. Hypercellular tumor composed of almost entirely of Antoni A areas.
- B. Typically well circumscribed rather than infiltrative.
- C. Tumor cells are more uniform with less nuclear pleomorphism.
- D. Infrequent mitotic activity and necrosis.
- E. Strongly positivity for S-100.

Diagnosis: Malignant peripheral nerve sheath tumor (MPNST), epithelioid type.

Diagnostic Criteria:

Gross:

- 1. Arises as a fusiform, deep-seated mass, often within a major nerve.
- 2. Tumors are typically poorly defined and frequently infiltrate along adjacent nerve or into adjacent soft tissue.
- 3. Tan-white, fleshy cut surface with focal areas of hemorrhage and necrosis.

Micro:

- 1. Cellular spindle cells with fascicular growth pattern.
- 2. Alternating hypercellular and hypocellular zones often with areas of myxoid stroma.
- 3. Nuclear palisading and whorled nodules of spindle cells may be seen.
- 4. Perivascular tumor cell condensation and growth along nerve twigs is common.
- 5. Spindle cells show hyperchromatic wavy or buckled nuclei and show minimal to marked pleomorphism.
- 6. High mitotic activity and necrosis are common.
- 7. Benign or malignant heterogenous elements such as bone, cartilage and skeletal muscle may be seen.

Immunophenotype:

- 1. S-100: focally and weakly positive in most cases.
- 2. CD56 and CD 47 variably positive.
- 3. Collagen IV positive around individual tumor cells.

Discussion: Malignant peripheral nerve sheath tumors (MPNSTs) are rare sarcomas and have a high likelihood of local recurrence and distant metastasis. Metastases usually involve the lungs, liver and bone; Lymph node involvement is rare. These tumors have a propensity to spread for considerable distances along the nerve sheath. Younger age, high grade and stage, and increased T size significantly related to aggressive disease. Wide excision forms the optimal treatment with options of adjuvant CT/RT in individual cases.

References:

1. Ridde ND, Gorden L, Rojiani MV. CD44 and p53 immunoexpression patterns in NF1 neoplasms-indicators of malignancy and infiltration. *Int J Clini Exp Pathol*. 2010; 3(5):515-21.
2. Zou C, Smith KD, Liu J. Clinical, pathological and molecular variables predictive of malignant peripheral nerve sheath tumor outcome. *Ann Surg* 2009; 249: 1014-22.
3. Brekke HR, Kolberg M, Skotheim RI. Identification of p53 as a strong predictor of survival for patients with malignant peripheral nerve sheath tumor. *Neuro Oncol* 2009; 11: 514-28.



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CASE HISTORY:

Signalment: 29-year-old woman

Clinical History: A 29-year-old female has a history of subarachnoid hemorrhage with brain edema and right femoral fracture due to traffic accident in July 1989. This time, the patient was suffered from left lower leg mass associated with mild pain for 2 months. She visited our orthopaedic OPD. Physical examination showed a tumor at the posterior area of the left lower leg. The tumor measures about 5.3cm in greatest diameter. It is firm, mild tender, and immovable. Magnetic resonance imaging showed a well-circumscribed, intramuscular mass in the soleus muscle. Under the impression of intramuscular tumor, surgical treatment was arranged. The tumor was completely removed.

Clinical Pathology:

WBC: $7.8 \times 1000/\mu\text{L}$, RBC: $4.00 \times 10^6/\mu\text{L}$, HGB: 12.6 g/dL, HCT: 36.3 %, MCV 90.7 fl, CL: 106 mmol/L, CREA: 0.7 mg/dL, K: 3.9 mmol/L, NA: 140 mmol/L, AST: 16 IU/L, ALT: 11 IU/L

Gross Findings: A well-circumscribe, gray-white, solid mass measured 5.3 x 4.2 x 3.8 cm in size. It was surrounded by a thin fibrous capsule and has firm, fibrous consistency with homogenous cut surface.

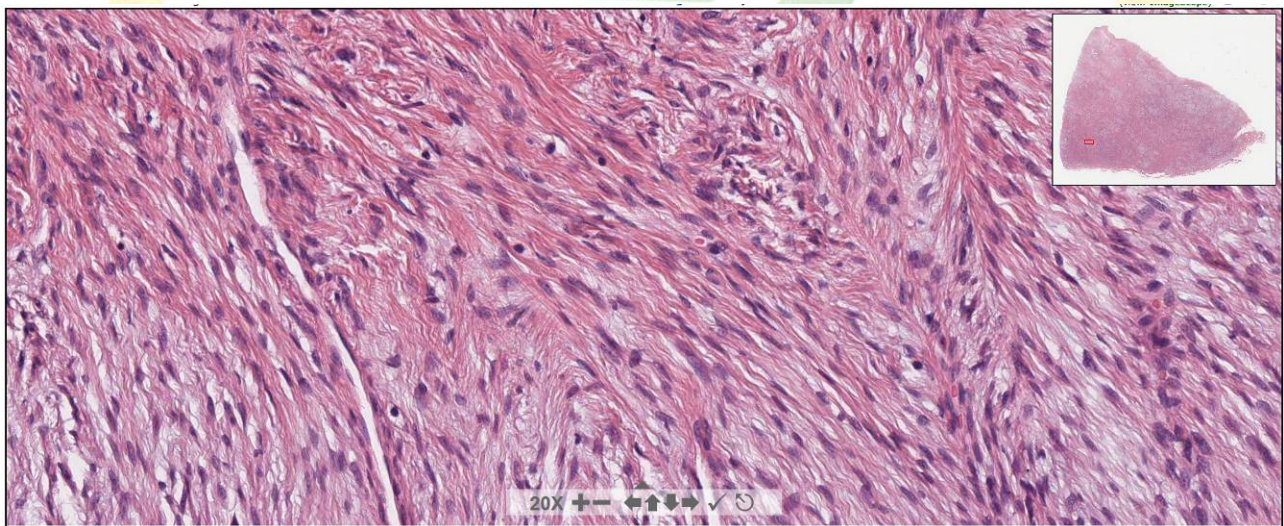
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Department of Pathology, Kaohsiung Medical University Chung-Ho Memorial Hospital, Taiwan (高雄醫學大學附設中和紀念醫院病理科).

CASE RESULT:

Histopathological Findings: The tumor showed an admixture of heavily collagenized, hypocellular zones and more cellular myxoid nodules. Bland spindled cells with a whorling growth pattern and both arcades of small vessels and arteriole-sized vessels with perivascular sclerosis are seen. There are only scattered hyperchromatic cells and a few lymphocytes infiltrate. No necrosis or mitoses is found

Virtual Slide :



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Immunohistochemical Findings: The tumors cells were positive for vimentin, bcl-2 and CD99. They are negative for CK, EMA, S-100 protein, SMA, CD34, CD68, desmin, and β -catenin.

Molecular Findings: Reverse transcriptase-polymerase chain reaction (RT-PCR) analysis disclosed a FUS/CREB3L2 fusion transcript.

Differential Diagnosis:

1. Leiomyoma of deep soft tissue
2. Perineurioma
3. Low-grade myxofibrosarcoma

4. Low-grade fibromyxoid sarcoma
5. Desmoid-type fibromatosis

Diagnosis: Low grade fibromyxoid sarcoma

Discussion:

Low grade fibromyxoid sarcoma (LGFMS) was first recognized as a distinctive entity by Evans in 1980. LGFMS are indolent but potentially metastasizing soft tissue tumors with a deceptively benign histologic appearance. LGFMS is a rare neoplasm that typically occurs in the proximal extremities, especially from the thigh but sporadically occurs in other deep soft tissues. Their ages range from 6 to 51 years, but most are young adults (mean age: 35years).

Grossly, LGFMS is an oval to round mass that ranges from 1.5 to 13 cm in greatest diameter. Typically, the tumor is well circumscribed and surrounded by a thin, fibrous pseudocapsule. The cut surface shows whorled, white-gray, firm and fibrous consistency with homogenous appearance.

Microscopically, LGFMS shows an admixture of heavily collagenized and myxoid zones. Short fascicular, whorling growth patterns, arcades of small vessels, and arteriole-sized vessels with perivascular sclerosis are seen. The cells of LGFMS are bland. Nucleoli are absent to indistinct. Mitotic figures tend to be absent to sparse. However, approximately 10% of cases have areas with increased cellularity and nuclear atypia, similar to that seen in usual-type fibrosarcomas of intermediate grade.

Immunohistochemically, LGFMSs typically are only positive for vimentin. They are negative for keratin, desmin, muscle specific actin, S100 protein, CD34, or epithelial membrane antigen. However, Goodlad et al reported occasional cases are positive for actin, desmin, and cytokeratin, which they attribute to focal myofibroblastic differentiation. Electron microscopically, the neoplastic cells are generally characterized as fibroblasts, with underdeveloped rough endoplasmic reticulum cisternae, scant cytoplasm with a paucity of organelles, long thin cell processes, and pinocytotic vesicles.

In 1997 Lane et al reported a variant of LGFMS, which closely related but morphologically distinct tumor, the so-called hyalinizing spindle cell tumor with giant rosettes. Cytogenetic analyses have identified a recurrent balanced t(7;16) (q34;p11) translocation in LGFMS and hyalinizing spindle cell tumor with giant rosettes, supporting the view that these 2 different morphologies represent the same neoplastic process.

Molecular genetic analyses showed that translocation resulted in the formation of a chimeric fusion gene, which involves the CREB3L2 gene on chromosome band 7q32-34 and the FUS gene on chromosome band 16p11, and hat this translocation was specific for LGFMS. Thus, the

cytogenetic and/or molecular analyses could be used as a diagnostic marker of LGFMS.

Wide excision of tumor with a definite margin has been currently the mainstay of primary treatment of LGFMS. A recent large series of prospectively diagnosed low grade fibromyxoid sarcomas showed recurrences, metastases, and death from disease in only 9%, 6% and 2% of patients, respectively.

Diagnostic Criteria:

1. An admixture of heavily collagenized and myxoid zones, deceptively bland spindled cells with a whorling growth pattern and arcades of curvilinear blood vessels are present.
2. Immunohistochemical staining showed positive staining with vimentin, but negative staining with keratin, desmin, SMA, S-100 protein, CD34, or EMA.
3. A characteristic chromosomal abnormality is t(7;16) (q32-34;p11) or t(11;16) (p11;p11) translocation, resulting in FUS-CREB3L2 or FUS-CREB3L1 fusion

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CASE HISTORY:

Signalment: 44-year-old man

Clinical History: The 44-year-old homosexual male was a sexual worker at a local karaoke joint. He had unprotected sexual intercourse with more than 3 male partners. He was presented to Tzu Chi General Hospital on 12/25/1999 with fever, dysuria, and facial rash. HIV status was positive on both ELISA and Western Blot, and patient was started on antiviral treatment. From 2000 to 2002-09 he was poorly compliant to antiviral treatment and experienced general malaise, dizziness, anorexia, intermittent nausea and diarrhea. HIV RNA titer was >750000 copies/mL. He was subsequently admitted on 2004-03 and 2004-06 for chronic watery diarrhea. Genital herpes and warts were noticed. Stool AFS was positive for cryptosporidium with STS/RPR(+), TPHA(+), and low ($6/\mu\text{L}$) CD4 count. Antibiotics and prophylactic antifungals were given. Patient was discharged after symptoms subsided. Patient was again presented to the hospital on 2007-06 for chronic watery diarrhea and general malaise persisting for several months. CD4 count was $24/\mu\text{L}$. Left gum mass was noticed and biopsied in 2007/09. Diffuse large B cell lymphoma was diagnosed and patient received palliative radiotherapy. His conditions deteriorated soon with poor appetite, nausea and vomiting, weight loss (4kg in 4 months), painful perianal and penile ulcerations, generalized erythematous papules, and persistent watery non-bloody diarrhea. Due to poor prognosis, he agreed to hospice care and DNR. Patient expired on 01/08/2008. Autopsy was performed with prior patient and family consent.

Gross Findings: At autopsy, the liver weights 1500gm and appeared smooth and firm in consistency. One $1\text{ cm} \times 0.5\text{ cm} \times 0.5\text{ cm}$ whitish firm nodule was noted on subcapsular area of liver. No other significant gross findings of other organs were noted.

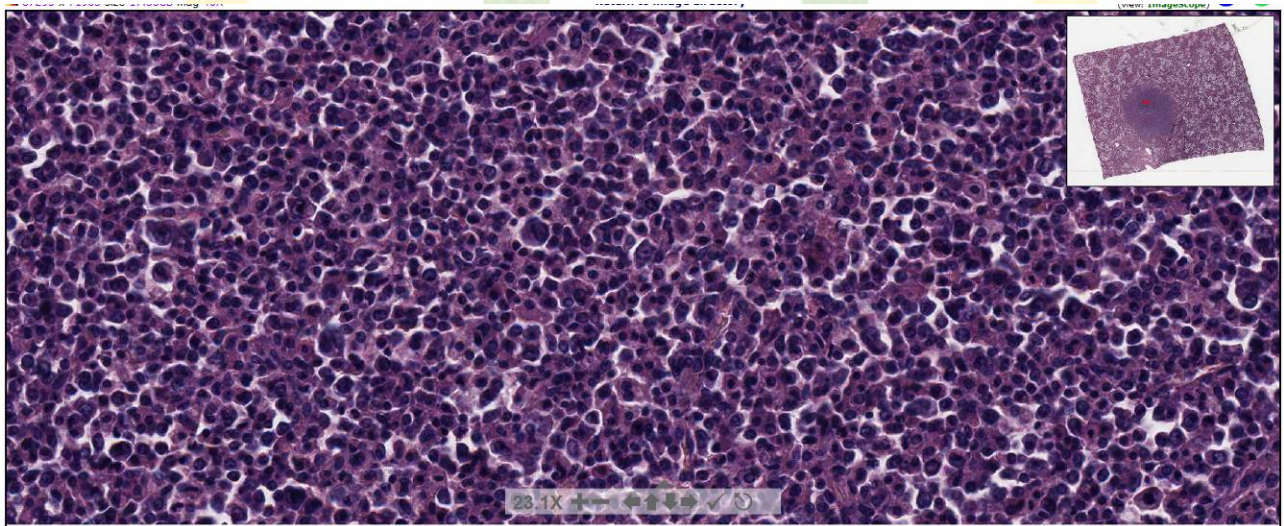
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CASE RESULT:

Histopathological Findings: The main mass is a well-circumscribed composed of lymphocyte, plasma cells and large eosinophilic macrophages containing clear laminated intracytoplasmic inclusion bodies. Gram stain shows G(+) bacilli in histiocytes. Non-tumor part shows fatty infiltration.

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Immunohistochemistry: CD68(+) in histiocytes

Diagnosis: Malakoplakia, liver.

Differential Diagnosis: Histology reveals the characteristic macrophages with voluminous cytoplasm (von Hanseman cells) containing the classic Michaelis-Gutmann bodies (intracytoplasmic concentric laminated inclusion bodies). The histiocytes (von Hanseman cells) must be distinguished from those found in fungal disease, leprosy, Whipple's disease, reticulum cell sarcoma, and macrophages harboring Mycobacterium avium complex.

Discussion: Malakoplakia, a Greek term meaning soft (malako) plaque (plakia) is originally described in the early 1900s. It is a chronic granulomatous disease most commonly seen in the urinary bladder.

The pathogenesis of malakoplakia is unclear, but approximately half the cases are associated with immunodeficiency, autoimmune disorders, tuberculosis, chronic active hepatitis, neoplasm and malnutrition. Malakoplakia is usually associated with *Klebsiella* and *Escherichia coli*; however, other organisms including *Proteus*, *Mycobacterium*, *Staphylococcus*, and fungi have been identified. Evidence also points to defects in macrophage killing. Macrophages in these patients show decreased cyclic guanosine monophosphate, resulting in impaired bactericidal activity.

Patients usually present with nonspecific symptoms such as abdominal pain, diarrhea, and fever. These symptoms are masked in our patient due to severe immunosuppression and other systemic symptoms. Malakoplakia of the liver in this patient is an accidental finding on autopsy. Though clinical symptoms are largely nonspecific, histopathological findings correlate highly with the proposed etiology for malakoplakia – indicating it may not be limited to the urinary system or colon, two of the most common sites for malakoplakia.

In summary, this case occurred in a 44-year-old HIV/AIDS man who is poorly compliant to HAART and subsequently developed multiple systemic infections. Malakoplakia of the liver is an accidental finding on autopsy and correlates with his immunodeficient status. This is the first case of malakoplakia of liver described in a HIV/AIDS patient.

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CASE HISTORY:

Signalment: 2-year-old, male, Welsh Corgi dog

Clinical History: A 2-year-old male Welsh Corgi was referred to a veterinary clinic because of upper eyelid enlargement with lacrimal apparatus protrusion in the left eye on July 20, 2010. As no improvement was seen in the condition in response to anti-inflammation medications, a surgical biopsy of the enlarged lacrimal apparatus was performed. The histopathological diagnosis, made on August 9, was sarcoma of unknown origin. The orbital mass was subsequently removed together with the left eyeball and embryonal rhabdomyosarcoma was diagnosed on August 24. Subsequently, the dog was referred to the clinic once again because of a cervical subcutaneous mass, which was diagnosed as probable sarcoma by means of FNA on September 15. The cervical mass was surgically removed and diagnosed as rhabdomyosarcoma on September 22, leaving multiple subcutaneous small masses in the cervical region. The dog died on October 12, but in keeping with the owner's instructions, no necropsy was done.



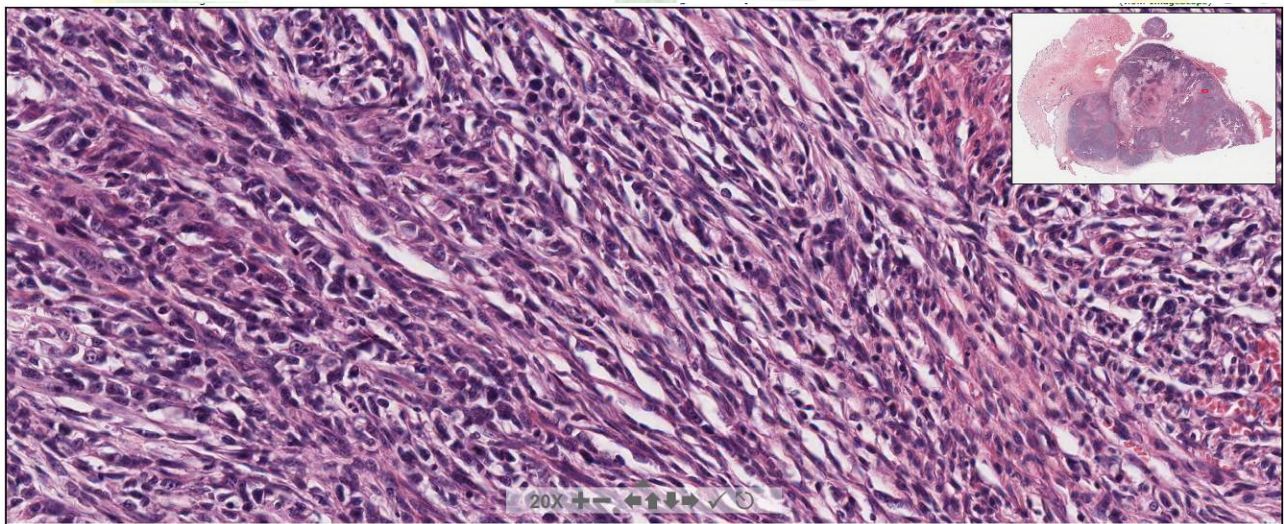
Gross Findings: Grossly, there was a 3.5 X 2 cm tumor mass in the left orbital sinus of the upper eyelid. The tumor was grayish-white and fleshy and appeared multi-lobulated in the upper eyelid around the left eyeball. The tumor was compressing the eye but no invasion into the eyeball was observed.

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CASE RESULT:

Histopathological Findings: Infiltrative growth of tumor cells ranging from round to spindle in shape was observed in the orbital sinus. These tumor cells possessed round to oval nuclei with scanty cytoplasm, and showed frequent mitotic figures. The tumor contained frequent polygonal and multinucleated rhabdomyoblastic cells with an increased amount of eosinophilic and granular cytoplasm. The tumor cells formed cell nests separated by small amounts of connective tissue, and showed frequent central necrosis. Varying amounts of extra-cellular collagen fibers were present. The cervical mass had features similar to those of embryonal rhabdomyosarcoma consisting of round or spindle tumor cells.

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Immunocytochemical Results: The tumor cells were positive for Vimentin, Desmin, Myoglobin, Myogenin and MyoD1, and negative for Cytokeratin AE1/AE3. Polygonal rhabdomyoblastic tumor cells were positive for Desmin and Myoglobin, while round tumor cells were positive for Myogenin and MyoD1.

Diagnosis: Orbital embryonal rhabdomyosarcoma with metastasis

Discussion: Based on the age of occurrence and the histological and immunohistochemical features, the present case was diagnosed as embryonal rhabdomyosarcoma in the orbit.

rhabdomyosarcoma is a soft tissue neoplasm which originates from skeletal muscle. Rhabdomyosarcomas have been classified into embryonal, botryoid, alveolar and pleomorphic. Embryonal rhabdomyosarcoma is a common neoplasm that has been reported in humans, dogs and cats under two years of age. These tumors are usually highly malignant and metastasize via either lymphatic or venous routes. These tumors occur from undifferentiated multi-function stem cells where there is no skeletal muscle. Rhabdomyosarcoma occurs mostly in the oral cavity, larynx, gingiva, tongue, myocardium and urinary bladder. Laryngeal rhabdomyosarcoma is fairly common, while orbital rhabdomyosarcoma may be quite rare in dogs. To our knowledge, there have been no reported cases of orbital rhabdomyosarcoma in dogs and cats. In childhood rhabdomyosarcoma, common sites include the area around the eye known as the orbit, around the head and neck, and in the genitourinary system. It is not known why few cases of orbital rhabdomyosarcoma have been reported in dogs, although orbital cases are quite common in human children.

Myogenin and MyoD1, myogenic transcriptional regulatory proteins expressed early in skeletal muscle differentiation, are considered sensitive and specific markers for rhabdomyosarcoma in human rhabdomyosarcoma. Myogenin and MyoD1 had been reported to valid markers in definitive diagnosis of rhabdomyosarcoma in dogs, even in cases of poorly differentiated ones.

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CASE HISTORY:

Signalment: 2-year old, female, Javan gibbon (*Hylobates moloch*)

Clinical History: The javan gibbon was found dead after two days of illness. The animal presented its first sign of illness with a decrease activity, although it still responded well to treats. The clinical condition deteriorated on the next day; the animal appeared lethargic and had pale mucous membranes. The animal did not respond well to supportive treatment, and it was found dead on the following day. This animal was tested positive for hepatitis B infection and had varying degree of positive reactions in the last tuberculin tests.

Clinical Pathology:

Hematology and blood chemistry on the first day of illness:

Hct: 22.4% (35-43%), Hb: 9.7 g/dl (11-13 g/dl), RBC: 3.30×10^6 /ul ($5.75 - 6.61 \times 10^6$ /ul)

WBC: 2.6×10^3 /ul; WBC differentials: 65% lymphocytes, 25% neutrophils, 10% monocytes

Platelet: 96×10^3 /ul

AST: 503 U/L (22 – 59 U/L), ALT: 329 U/L (25 – 55 U/L)

BUN: 47.2 mg/dl (14-31 mg/dl), kreatinin: 1.7 mg/dl (0.5 – 1.2 mg/dl)

Protein total: 5.7 g/dl (5.72 – 9.08 g/dl), Albumin: 3.4 g/dl (4.77 – 6.29 g/dl), A/G ratio: 1.47

Gross Findings: The javan gibbon was in adequate body condition with early post mortem changes. Two oval, 0.5-1 cm diameter dry wounds were found each on the left eye corner and left ear. About 25 ml of serosanguineous fluid was present in the abdominal cavity. At least 80% parenchyma in all lobes was mottled pink to dark red, firm, wet, and heavy, with multifocal hemorrhages. Foamy pink material oozed out from the cut surface. Similar foamy material filled the lumen of the trachea. The heart was about 30% larger than normal, had a thickened left ventricular wall and a rounded apex with the pericardium surface was firmly attached to the adjacent diaphragm. Multifocally present throughout the liver parenchyma were large numbers of 0.2-1 cm diameter yellow tan foci, which sometimes contain yellow tan, thick fluid. Impression smears of lung and liver were submitted for cytologic evaluation. Sample for bacterial culture was collected from the lung.

Cytologic Evaluation: Impression smears of the lung demonstrated a large number of macrophages admixed with a smaller number of neutrophils, with dense erythrocytes on the

background. Small numbers of coccobacilli were present in the cytoplasm of some phagocytic cells and between the inflammatory cells. Impression smears of the liver demonstrated a large amount of cellular debris, admixed with degenerate and necrotic hepatocytes.



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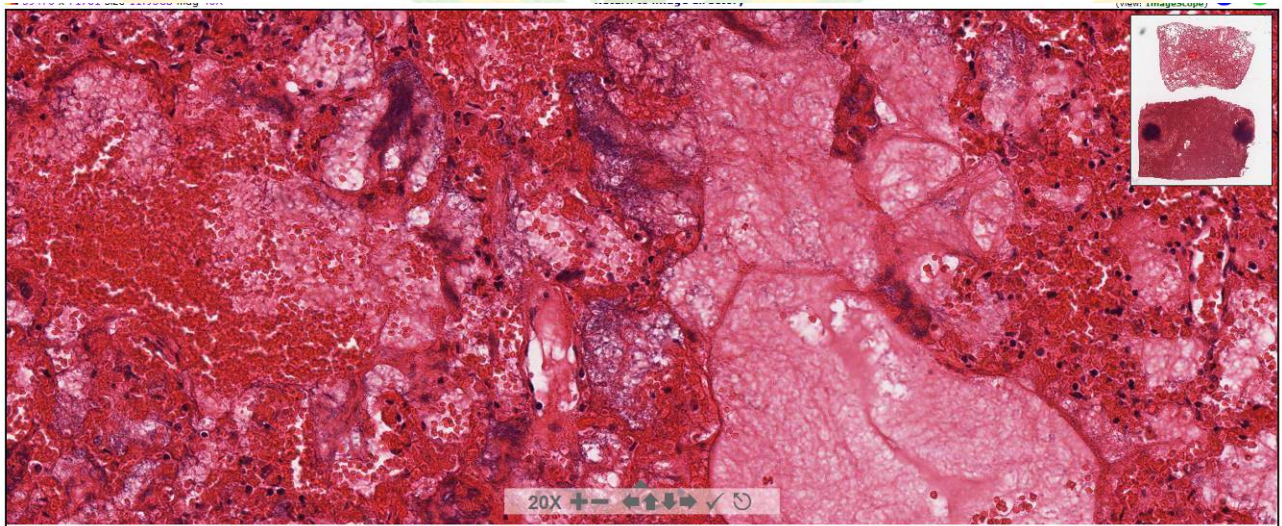
CASE RESULT:

Histopathologic Evaluation:

Lung: About 80% of the alveolar spaces were filled and effaced by fibrin, amorphous eosinophilic material (edema) and erythrocytes; multifocally there are bacterial colonies and hemorrhages, disrupting and effacing the alveolar walls. Small numbers of macrophages were scattered in the inflammation, only few contained bacteria. Most vessels in the affected areas were blood filled, often accompanied by perivascular edema; thrombus partially occluded the lumen of some vessels. The remaining alveolar walls were accentuated by congested capillaries.

Liver: Randomly distributed throughout the parenchyma are large numbers of 0.1- > 1cm diameter necrotic foci, with an abrupt change with the viable parenchyma. Each necrotic focus contained a central accumulation of deeply basophilic particulate material (nuclear debris) and eosinophilic blebs (cytoplasmic debris), covered by a coagulation necrosis of surrounding hepatocytes, with dense bacterial colonies in between the lytic and coagulation necrosis. Small numbers of lymphoplasmacytic infiltrates were present in few portal triads.

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Morphological Diagnoses:

Lung: Pneumonia, fibrinohemorrhagic, Multifocal to Coalescing, Acute, Severe, with

Intralesional Bacteria

Liver: Necrosis, Multifocal (Random), Acute, Severe, with Intralesional Bacteria

Bacterial Culture: Growth of *Chromobacterium violaceum* and *Klebsiella oxytoca* were isolated from the lung swab

Final Diagnoses: Severe pneumonia and hepatocellular necrosis due to *Chromobacterium violaceum*; with an indication of septicaemia.

Comments: *Chromobacterium violaceum* is a gram negative, facultative anaerobic, non-spore-forming bacterium commonly isolated from soil and water in tropical and subtropical environments, including in the Southeast Asian countries. *C. violaceum* have been associated with rare, opportunistic infections in mammals, including humans. Infections generally occur through abrasions or by ingestion of contaminated water or soil; the disease may develop into septicaemia, septic shock, and multiple organ failure which commonly result in death of infected individuals. In humans, infections caused by *C. violaceum* are rare, but when they occur, are usually fatal.

Publications of *C. violaceum* infection in animals are limited; gibbons (*Hylobates spp.*), Assam macaques, Guenon monkeys (*Cercopithecus cephus*), water buffaloes, domestic cattle, Barbary sheep, Malayan sun bear, wild boar, and pigs are the species that have been reported to get natural infection of *C. violaceum*. Virulent strains of *C. violaceum* produce a potent endotoxin and are able to survive within phagocytic cells by increasing superoxide dismutase and catalase.

In this case, the changes in the lung and liver were similar to those reported in human cases and in the previous reported case in gibbons. In this case, lymphoid depletion was evident in some lymphoid organs; this condition may predispose the animal to infection. *Klebsiella oxytoca* has a low pathogenicity in non-human primates; the prevalence of this bacterial infection in non-human primates is poorly understood.

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CASE HISTORY:

Signalment: 20kg pigs

Clinical History: Twelve thousand pigs were raised in a pig farm in central Taiwan. Approximately 5-7% of growing pigs showed signs of paleness, coarse hair, depression, pain and fever as well as yellowish mud-like diarrhea. The mortality was about 30-50% and three pigs with the weight of 20kg were sent to ADDC of NCHU for diagnosis.

Gross Findings: All of the 3 pigs showed clinical signs of paleness, coarse hair, and purulent discharge from snout. Inguinal and iliac lymph nodes were enlarged dramatically. Lungs displayed remarkable antero-ventral bronchopneumonia (2/3) and diffuse meaty marbling texture. Diffuse, severe, and adhesive pleuritis was observed in one of the three pigs (1/3). Multiple grayish white and shallow ulcers scattered over the colon mucosa was also found in one of the pigs (1/3). The increased amount of synovial joint fluid was obvious in one of the pigs. In addition, one of the pigs also showed edematous wall in gall bladder and few yellowish ascitis.

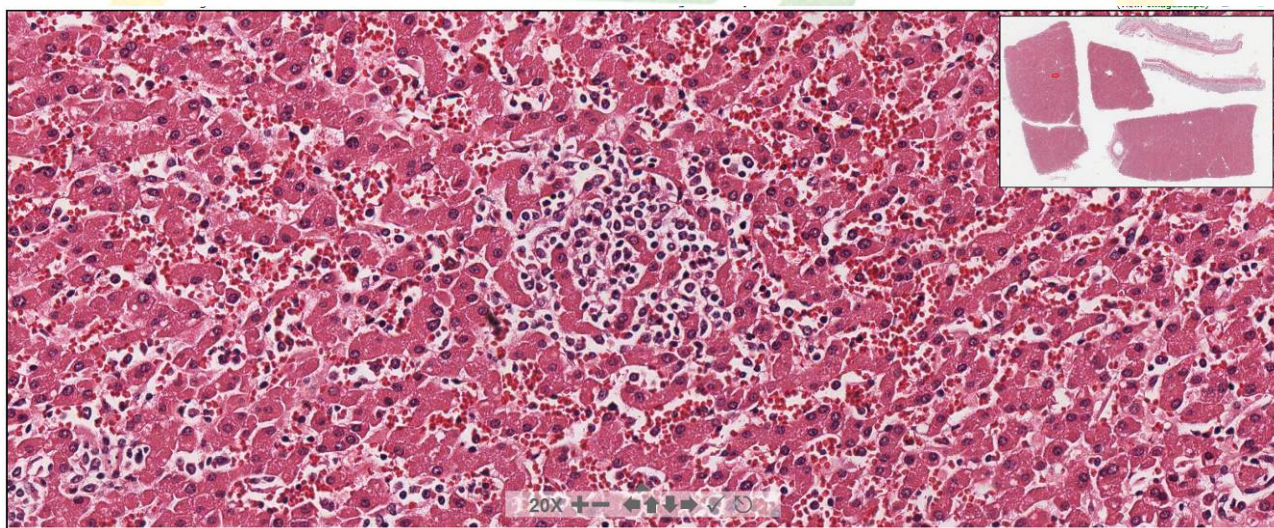
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CASE RESULT:

Histopathological Findings: All of the three pigs showed common histopathological lesions including moderate diffuse interstitial pneumonia in lungs, severe fibrinous broncho-pleuropneumonia in antero-ventral lobes, lymphoid depletion and lymphadenitis in lymph nodes, typical paratyphoid nodules in the parenchyma of liver, remarkable multifocal cytolytic coagulative necrosis, the infiltration of macrophages (RE cells) in the necrotic foci, and finally, the scattered chronic ulcerative mucosal foci in the mucosal layer of the colon.

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Laboratory Results:

1. Molecular biological examination: Negative results were obtained from the detection of type 2 porcine circovirus (PCV2) and porcine reproductive and respiratory syndrome (PRRS) by PCR.
2. Bacterial isolation: *Salmonella Choleraesuis* was isolated from liver and *Pasteurella multocida*, *E coli*, *Streptococcus spp* was isolated from lung lobes in different pigs

Diagnosis: Swine Salmonellosis

Treatment:

1. Antibiotic therapy should be employed based on the results of susceptibility.

2. Environmental management and hygiene should be improved.
3. Stress factors should be reduced.

Discussion: The major pathogens of porcine salmonellosis are *S. enterica* serovar *Choleraesuis* and *S. enterica* serovar *Typhimurium*, which are associated with septicaemia form and enterocolitis form, respectively. The clinical signs of septicaemia form are inappetence, lethargy, fever and respiratory signs. Gross lesions include colitis, swollen mesenteric lymph nodes and lung congestion. Random pale foci of necrosis in liver are often observed. The microscopic lesion in liver is acute coagulative necrosis with clusters of histiocytes. This morbidity of the disease is high and mortality is variable.

In contrast, the clinical signs of enterocolitis form are diarrhea, dehydration, and death due to a necrotizing fibrinous enterocolitis. Gross lesions include necrotic colitis (bottom ulcers) with black or sand-like gritty material on the surface. In most outbreaks, low mortality but high morbidity within a few days of infection are observed.

In this case, the gross lesions including swollen lymph nodes, foci of necrosis in the colon, and pneumonia and paratyphoid nodules were observed. Some specific viral diseases combined with salmonellosis were suspected in the beginning of diagnosis; however, the negative results of virus detection excluded the possibility of viral infection. Positive results from the isolation of salmonella spp. from liver and *Pasteurella* spp., *E. coli* and streptococcus from lung confirmed the final diagnosis of salmonellosis combined with secondary bacterial infection.

The contaminated food, chronic carriers, visitors and rodents could be the resource of the pathogens introduced into the herd responsible for the infection. Salmonellosis has become one of the most important zoonoses because it can be transmitted within human population by contaminated meat in developed countries, causing serious diarrhea and systemic disease. In addition to the impact of salmonellosis on human health, it is also a major disease resulting in economic losses for the swine industry.

The antibiotic can be used to reduce, but not to eliminate the epidemic situation. In addition, this disease could be introduced into pig industry if the abuse of the antibiotic is not well-controlled. This uncontrolled situation could be associated with multidrug resistant strains and has become a serious problem. Many researchers have observed that the same multidrug resistant strains from human could be derived from pigs. Therefore, where these multidrug resistant strains come from has become an issue for discussion.

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CASE HISTORY:

Signalment: 13-year-old, male, maltese

Clinical History: The patient presented with normal appetite, spirit, urination and defecation. He has an asymptomatic mass on the dorsal surface of tongue for about six years. The mass enlarged recently. Physical examination showed a mass with a stalk on the dorsal surface of tongue measuring about 1.5 cm in greatest diameter. The mass was elastic and firm in consistency. Radiography of right side teeth was unremarkable. The tumor was completely removed with 0.1 cm margin.

Gross Findings: The submitted specimen was a mass measured 1.5 x 1.5 x 0.5 cm in size. The mass appeared with irregular surface and was elastic to firm in consistency. On cut surface, the mass was non-encapsulated and poorly demarcated and grayish-white in color. Postoperative follow-up revealed no evidence of metastasis.

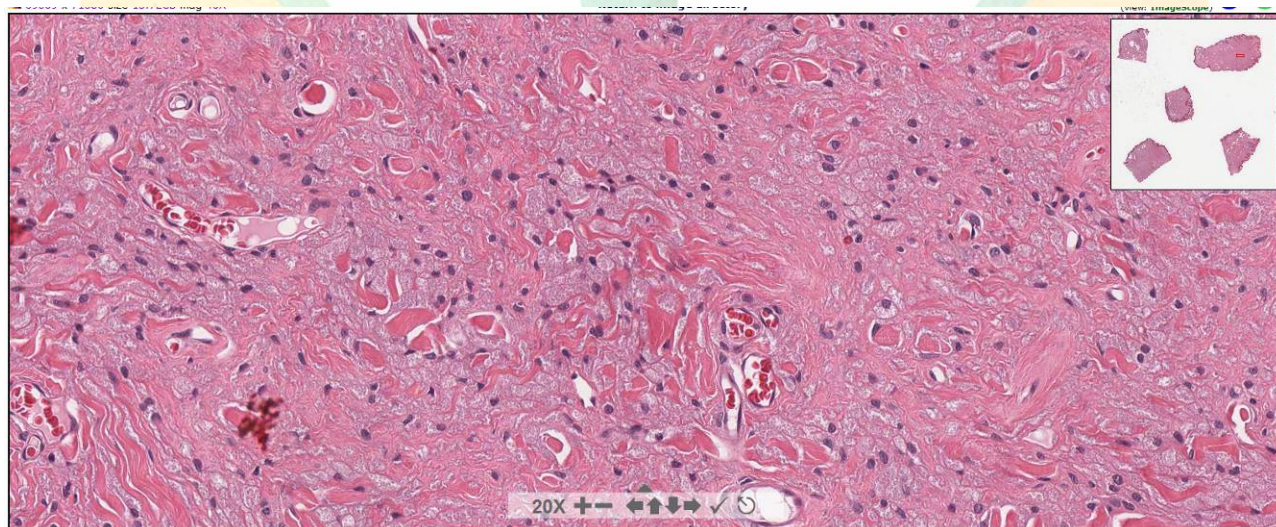
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CASE RESULT:

Histopathologic Findings: Microscopic examination of the submitted specimens reveals that the mass is non-encapsulated and poorly demarcated with extension through the dermis to deep surgical margin. Marked pseudoepitheliomatous hyperplasia of the overlying epithelia is noted. Sclerotic variants with small nests of neoplastic cells embedded in a desmoplastic collagenous stroma. The cells are arranged in sheets with abundant fibrous stroma. The neoplastic cells are about 2-2.5 times bigger than the erythrocytes, appear round to polygonal with distinct cellular borders. And they have abundant granular eosinophilic cytoplasm and centrally or eccentrically located nuclei with hyperchromatic pattern. Mitotic figures are rare.

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Histochemistry: The tumor cells are histochemically positive to periodic acid-Schiff stain, and negative to Fontana- Masson stain.

Diagnosis: Granular cell tumor

Differential Diagnosis:

1. Well-differentiated histiocytic sarcoma
2. Balloon cell melanocytoma

Discussion: Granular cell tumors (GCTs) are mostly develop in the oral cavity, in particular on the tongue and palate, and considered rare in the skin and subcutis of dogs. No breed or sex predilections have been documented. The mean age of occurrence is 8 to 9 years in dogs. Canine GCTs are relatively common benign neoplasms which exhibit slow expansive growth, and surgical excision usually is curative.

GCTs are characterized by variably circumscribed, nonencapsulated masses composed of sheets, cords, or nests of large, round to polygonal cells divided by collagen that may be delicate and fibrillar, or thick and hyalinized. The overlying epithelium is often markedly hyperplastic. The tumor cells have well-defined cell borders with moderate amount of pale, eosinophilic cytoplasm containing delicate, eosinophilic and periodic acid – Schiff (PAS) positive, diastase resistant (nonglycogen) granules. The round nuclei are usually small, centrally or eccentrically located, and may contain one or two distinct nucleoli. Mitotic figures are rare.

GCTs are distinctive and differential diagnosis is not problematic. Well-differentiated histiocytic sarcoma and balloon cell melanocytoma need to be considered. The characteristic shapes of cells and nuclei, cytoplasm contents, histochemical stain, and immunohistochemically positive to either neuron-specific enolase (NSE) or S-100 or both are helpful to confirm GCTs. Negative results of leukocyte markers CD18 and CD45, and melanoma-associated antigen (Melan-A), tyrosinase, tyrosine-related protein-2 (TRP-2) or Fontana-Masson stain differentiated GCTs from histocytic sarcoma and melanocyticorigin tumors.

In this case, according to the dog's age, histologic features, and PAS positive, GCTs is diagnosed. The patient should be closely monitored for recurrence due to surgical margin is unclear.

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CASE HISTORY:

Signalment: 8 week-old, female, New Zealand White rabbits.

Clinical History: Six 8-week-old, female, experimented New Zealand White rabbits were divided two groups, Day 3 and 21 intervals, three rabbits each for eye irritation and pathogenicity of microbial pest control agents (MPCAs) study. Test method was conducted according to the test guideline of EPA-HQ-OPPT- 2009-0159-0018 (EPA, 1998). This study was approved by the Institutional Animal Care and Use Committee of National Chung-Hsing University (IACUC: 99-30). After ocular instillation of 0.1 mL MPCAs, all of the rabbits had asymptomatic signs, only slight eye irritation was noted after 24 hours and completely recovered at 72 hour and no eye irritation presented after 21 days treatment.

Gross Findings: No significant gross lesion was noted in these six experimental rabbits except kidney in one of six rabbits showed multiple whitish plaques on the surface.

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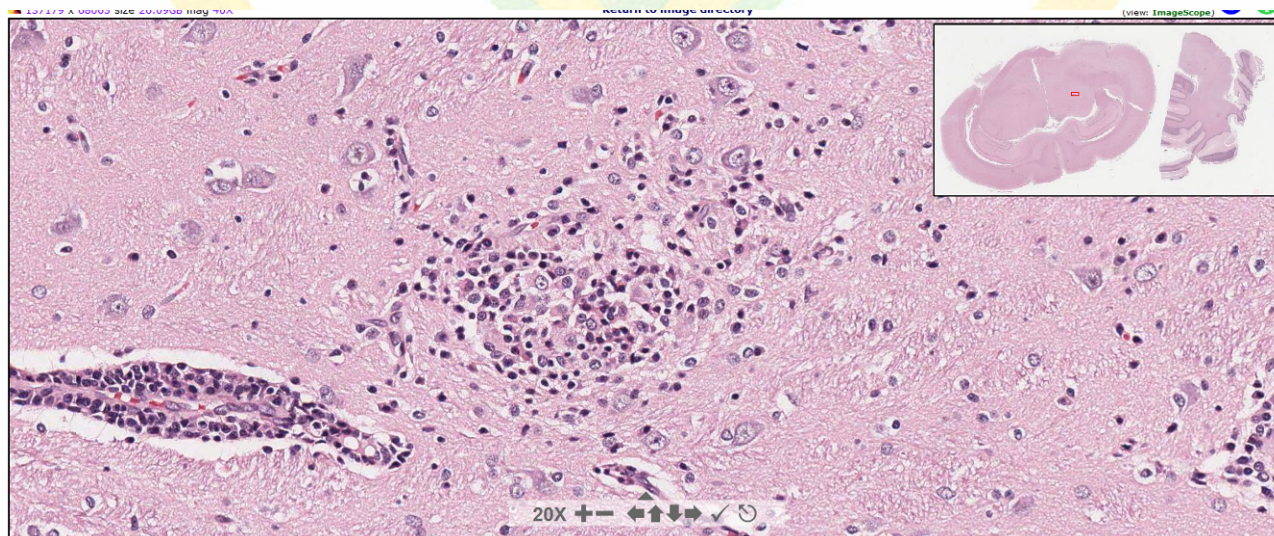
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CASE RESULT:

Histopathological Findings: Microscopically, one rabbit at Day 3 group showed moderate, multiple, nonsuppurative meningoencephalitis with lymphocytic perivascular cuffing, focal gliosis and microscopic granulomas surrounding small blood vessels in cerebral tissues. Granulomas contained the cellularity of lymphocytes, glial cells and plasma cells and were often necrotic in the centre. The parasitic pseudocysts with no significant host responses were also noted in the parenchyma of cerebrum and cerebellum. Moderate nonsuppurative interstitial nephritis with multifocal necrotic granulation and mononuclear cells infiltration were noted in two of three rabbits in the same group. In addition, nonsuppurative lymphocyte infiltration in the porta areas which were likely associated with organisms stimulation also observed in both of the affected rabbits. However, no significant lesion was noted in the Day 21 group.

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Histochemistry: The affected rabbits that had parasitic spores in pseudocysts were positively stained with Periodic acid-Schiff staining and presented as round- or rod-shaped with blunt tips, light-purple color in the cortex of the cerebrum. Furthermore, the spore organisms were strongly stained in Gram's stain method with prominent color of deep purple, which indicated the positive results. Round- or rod-shaped spores disseminated within the necrotic granulomas and inside the pseudocysts of cortex in cerebrum and cerebellum.

Molecular Biology: The primers which were used for differentiation of organism species present in various clinical samples were specific for *Encephalitozoon cuniculi* and amplifying a 549 bp fragment of the 16S small subunit ribosomal RNA gene. However, all of the samples extracted from fixed tissues of brain, kidney, and liver revealed negative results.

Serology: An indirect Immunofluorescence assay was applied to detect immunoglobulin G against *Encephalitozoon cuniculi* in serum. In Day 3 group, two of three rabbits were serologically positive to antibodies against *E. cuniculi*. In the group of Day 21 which only one of three rabbits presented positive.

Diagnosis: Encephalitozoonosis

Discussion: *Encephalitozoon cuniculi* is an obligate intracellular parasite in the phylum Microspora, which is defined by its resistant spore stage [9]. A wide range of mammals is susceptible to microsporidia, including rodents, rabbits, horses and carnivores [11]. Microsporidia are also of importance considering the parasitosis in humans, while some of the species would cause severe disease and death in immunocompromised individuals like AIDS patients [9].

The main host of the *E. cuniculi* is the rabbit, and seroprevalence is usually high at the rates of about 37% to 91.3% in the population of pet and experimental animals [5, 6, 10, 15]. Nevertheless, the parasite is less prevalent in wild rabbit populations, probably due to the lower animal density [15]. *E. cuniculi* infects rabbits by the route of either ingestion or inhalation of spores or through in utero transmission. In the acute phase of infection, the organism replicates in the lung, liver, and kidney. As the infection progresses, replication continues in the kidney, central nervous system (CNS) and is also found in the lens [8].

In this case, the lesions of the nervous and kidney were characteristic in one out of all the six rabbits and demonstrated wild spread nonsuppurative meningoencephalomyelitis with multifocal granulomas surrounding small vessels, spore inside the parasitic pseudocysts with no significant host responses and nonsuppurative interstitial nephritis. Several staining techniques are available for identifying Microsporidia spores such as Periodic acid-Schiff, Gram's and Ziehl-Neelsen staining and is the most sensitive method in post mortem diagnosis

[1, 3, 4, 14]; however, these staining methods are, at best, able to identify Microsporidia but not to distinguish between *Encephalitozoon* spp. These methods are also hindered by the fact that Microsporidia are often mistaken for bacteria or yeasts [9].

Nested PCR should be preferred to conventional PCR for tissue samples. The best results in detection of *E. cuniculi* DNA could be obtained from the brain. However, we could not identify in this case (data not shown). Negative results obtained by nested PCR may probably be due to a low concentration and/or irregular distribution of spores in the examined tissue. It is also possible that the rabbits were within the initial stage of infection because no histological changes in the brain were detectable and some rabbits were seronegative though spores were detectable with special staining. However, usually infections at that stage have no clinical relevance, as animals with clinical manifestation are usually chronically infected [4].

The indirect immunofluorescence antibody test is the gold standard for serologic diagnosis of Microsporidia infection and considered to be the most sensitive diagnostic method during the early stage of infection [4, 9, 11]. Seroconversion can be demonstrated at least 2 weeks prior to the detection of intracellular organisms and 4 weeks before histopathological lesions in the kidney or organisms in the urine can be found. Nevertheless, seroconversion simply indicates the chronic *E. cuniculi* infection but does not confirm the organism to be responsible for the clinical symptoms, because of the high rate of sub-clinically infected animals. However, a negative serological result should be able to rule out *E. cuniculi* as a cause of the manifestation of the disease [4, 11].

In this case, we could demonstrate that even cases with prominent histopathological lesions of the brain and kidney do not necessarily cause clinical symptoms. As to the case of other rabbits, they showed the positive results of IFA with no significant histopathological lesions which implied the early stage of infection. Consequently, *E. cuniculi* cannot be determined as the cause of disease by the grade of histopathological lesions. In clinically healthy animals, histological alterations can be considered as coincidental findings. Special staining seems to be a sensitive and accurate method to detection of Microsporidia. In diseased animals, even with the presence of spores, other differential diagnoses must be made [3, 14].

In the brain, necrotizing granuloma as well as perivascular inflammation is wild spread. In toxicological evaluation, these lesions are failure or difficult to recognize what inflammatory changes due to the parasite or test article? The significance of the infection in test article evaluation studies have been happened, such as implanted biomaterial in the rabbits [1]. These data suggest that rabbits should not be selected for the testing of systemic toxicity study unless they are found to be free of infection by *Encephalitozoon cuniculi* through serologic examination.

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CASE HISTORY:

Signalment: 4-to-5-year-old, spayed female, Corgi dog

Clinical History: The dog displayed weakness, depression, and purulent nasal discharge when visited a private veterinary hospital on 8/13, 2010. The clinical signs were improved after receiving medications of Dexamethasone, Cimitidine, Cephalexin, Cyproheptadine, and Vit B complex. Canine distemper, Lyme disease, Ehrilichia canis, Ehrilichia platys, and heartworm examination all revealed negative results. On 8/22, the dog appeared 5~6% dehydration and showed some neurologic signs, including tetraparesis, vertical nystagmus, ptyalism, and seizure that were more serious on the right side. Left side tongue deviation and hyperthermia (40°C) were also noted. Neurological examination revealed reduced right side menace response, right side pupillary light reflex, right side facial sensation and gag reflex, and mydriasis of the right eye. Possible contacting with organic phosphate was speculated by the owner. The clinical signs were not improved after giving oxygen and IV injection of atropine, pralidoxime, and dexamethasone. Panting and tachycardia were noted on 19:30, and the dog went into shock and died on 21:10 on the same day. The corpse was sent for necropsy at 15:00 on 8/23.

Gross Findings: Grossly, no trauma-related wounds were noted on the body surface. The skull had no lesion, but there was regional reddening in the anterior portion of the dura mater with the left side more predominant. The cerebrum was more flatten than normal and the lateral ventricles were slightly dilated. The gyri of the cranial 1/3 of the left cerebral hemisphere and the cranial 1/6 of the right cerebral hemisphere were obviously shallow and the leptomeninges of the affected regions were opaque. The longitudinal fissure between both hemispheres of the affected region was adhered locally extensively. By doing serial transections, it is revealed that the longitudinal fissure was moderately deviated to the right side from the frontal lobe to the pretectal region, especially in the frontal lobe. Indistinct pale gray discolored area was distributed locally from the dorsal and lateral aspects of the anterior portion of the left frontal lobe through the medial-up intermediate portion of the frontal lobe to the medial lower portion of the left frontal lobe. In addition, multiple dark gray spots could also be seen in the parenchyma of frontal lobe.

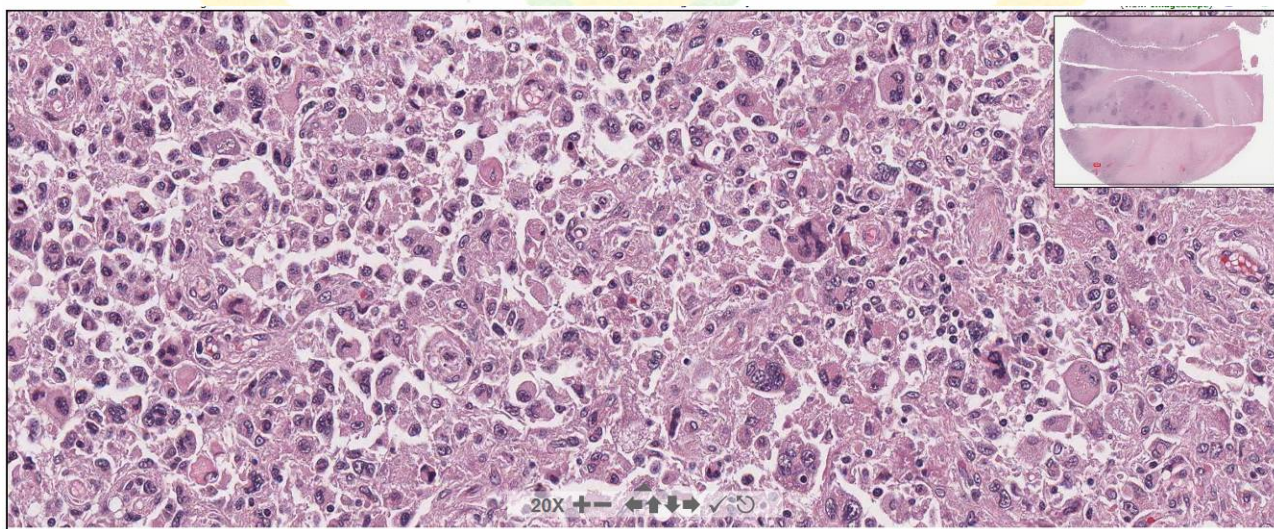
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CASE RESULT:

Histopathology Description: In the grossly involved regions of the cerebral frontal lobe, the gray mater has been extensively effaced by poorly demarcated sheets of densely packed to loosely arranged histiocyte-like neoplastic cells that display prominent anisocytosis and anisokaryosis. The neoplastic cells are round to polygonal and variable in sizes, ranging from 15 to 100 μ m; most of them have 1-2 eccentrically located, round, oval to polygonal, pleomorphic nuclei surrounded by a moderate to large amount of finely stippled to vesicular, pale eosinophilic, distinctly bordered cytoplasm. The nucleus contains 1 nucleolus and coarse, hyperchromatic chromatin clumps. Bi-nucleated, tri-nucleated to multinucleated giant and bizarre neoplastic cells are randomly distributed. Mitotic figures are variable but easily found, ranging from 0 to 2/HPF. Atypical mitosis is also present. Phagocytosis of RBCs, astrocytes, lymphocytes or even neoplastic cells by neoplastic cells is frequently observed. The overlying leptomeninges and the Virchow-Robin spaces of the adjacent white mater are also infiltrated by similar neoplastic cells. Within the affected regions, there are also multifocal, randomly scattered, large aggregates of lymphocytes and plasma cells along with areas of apparent necrosis, hemorrhage, and neutrophil infiltration. In the region of the lateral ventricle above the optic chiasm, similar neoplastic cells can be found in the cavity of the ventricle, Virchow-Robin spaces in white mater, and longitudinal fissure close to the corpus callosum. No fungal elements are revealed by PAS staining. In the dura mater, areas of mild hemorrhage admixed with a small number of neutrophils are noted. No neoplastic cell is noted in other organs.

Virtual Slide :



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Morphological Diagnosis:

1. Malignant neoplasm of unknown origin, bilateral, extensive, with mild hydrocephalus of lateral ventricles, cranial 1/3 of the left hemisphere and cranial 1/6 of the right hemisphere, cerebrum.
2. Hemorrhage, bilateral, locally extensive, dura mater, cerebrum.

Differential Diagnosis:

1. Neoplastic reticulosis
2. Anaplastic astrocytoma
3. Malignant histiocytosis
4. Glioblastoma multiforme
5. Granulomatous meningoencephalomyelitis

Comments: Based on the history and pathological findings, it is considered that the animal should have died from malignant tumor originated from the frontal lobe of cerebrum, which is highly suspected to be reticulosis, astrocytoma or malignant histiocytosis. The neoplasm not only infiltrates and causes damage to the brain tissue resulting in disturbance of normal neurological function but also causes compression to the circulation tract of CSF and blood leading to hydrocephalus and hemorrhages in the dura mater. Although the immunohistochemical staining of glial fibrillary acidic protein (GFAP) is negative, anaplastic subtypes of astrocytoma still can't be ruled out. Even the characteristics of the perivascular distribution of the neoplastic cells lead to put reticulosis as the top differentiation, direct evidence of the exact tumor cell origin is still lacking.

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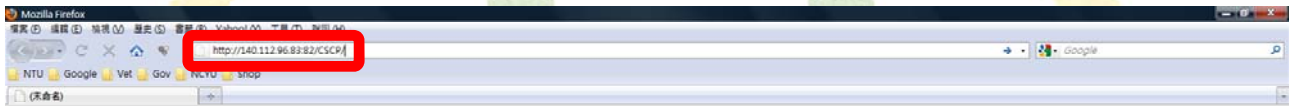
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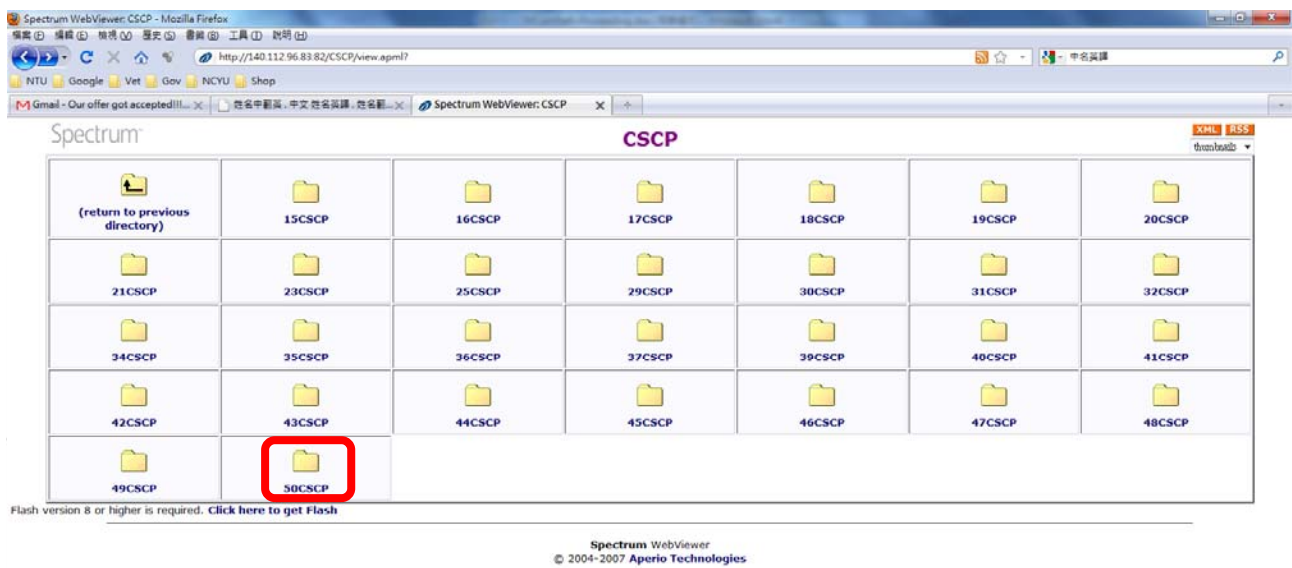
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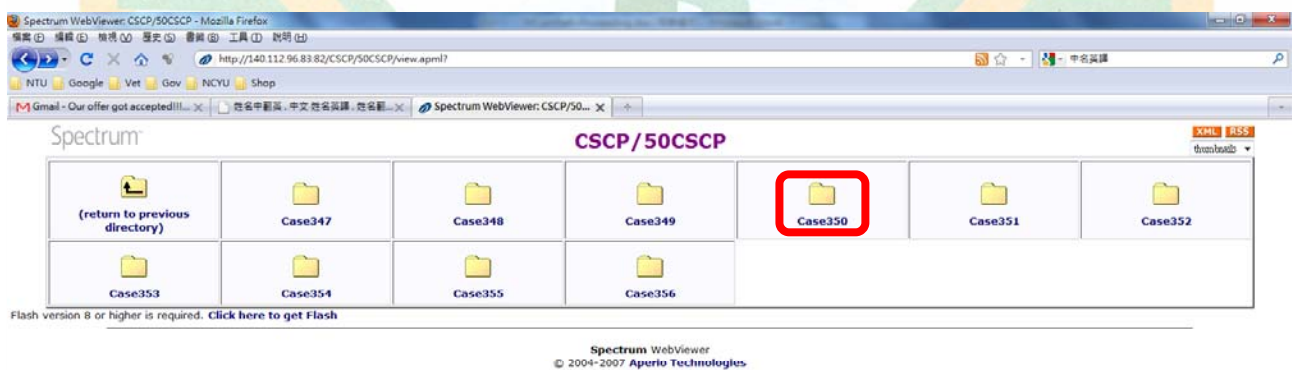
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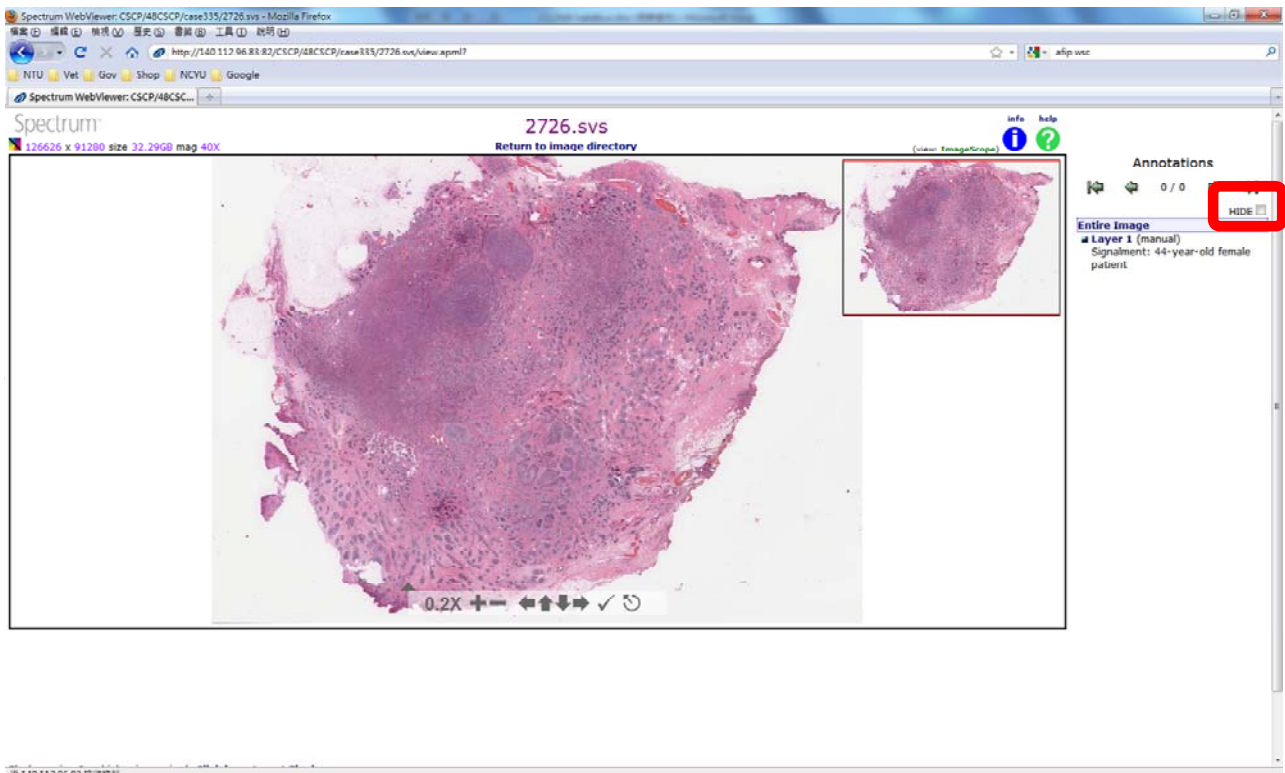
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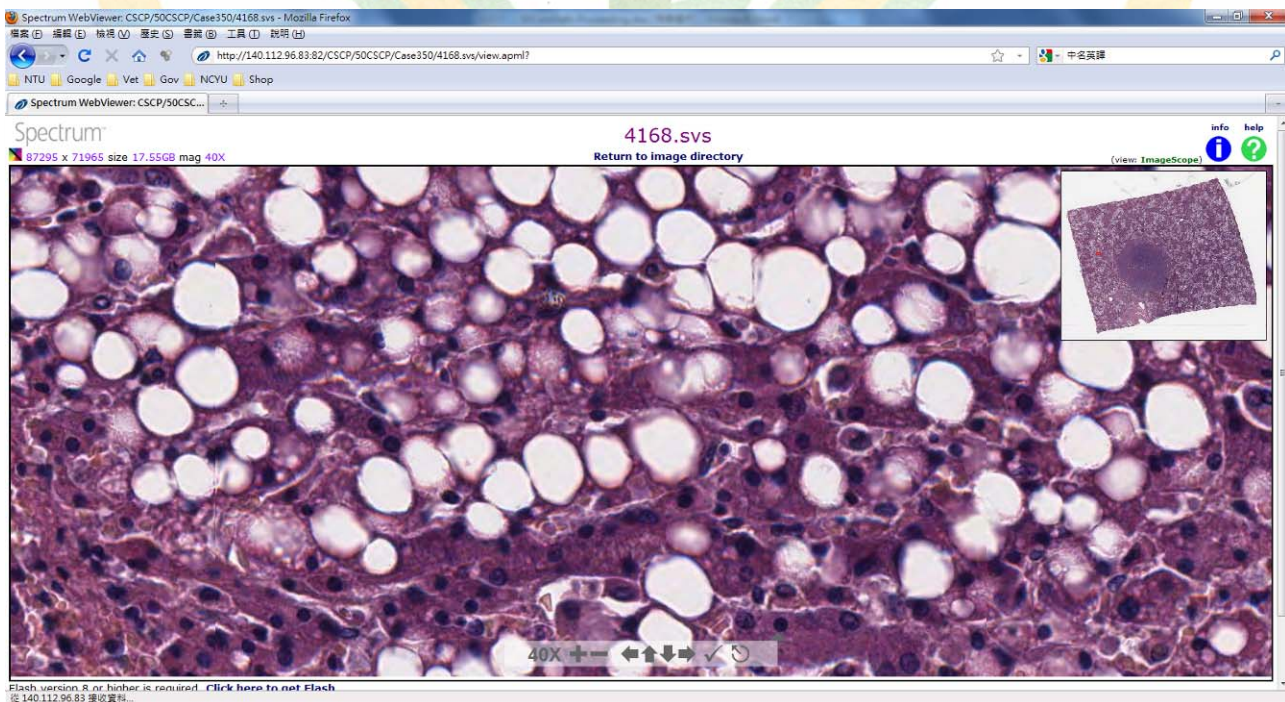
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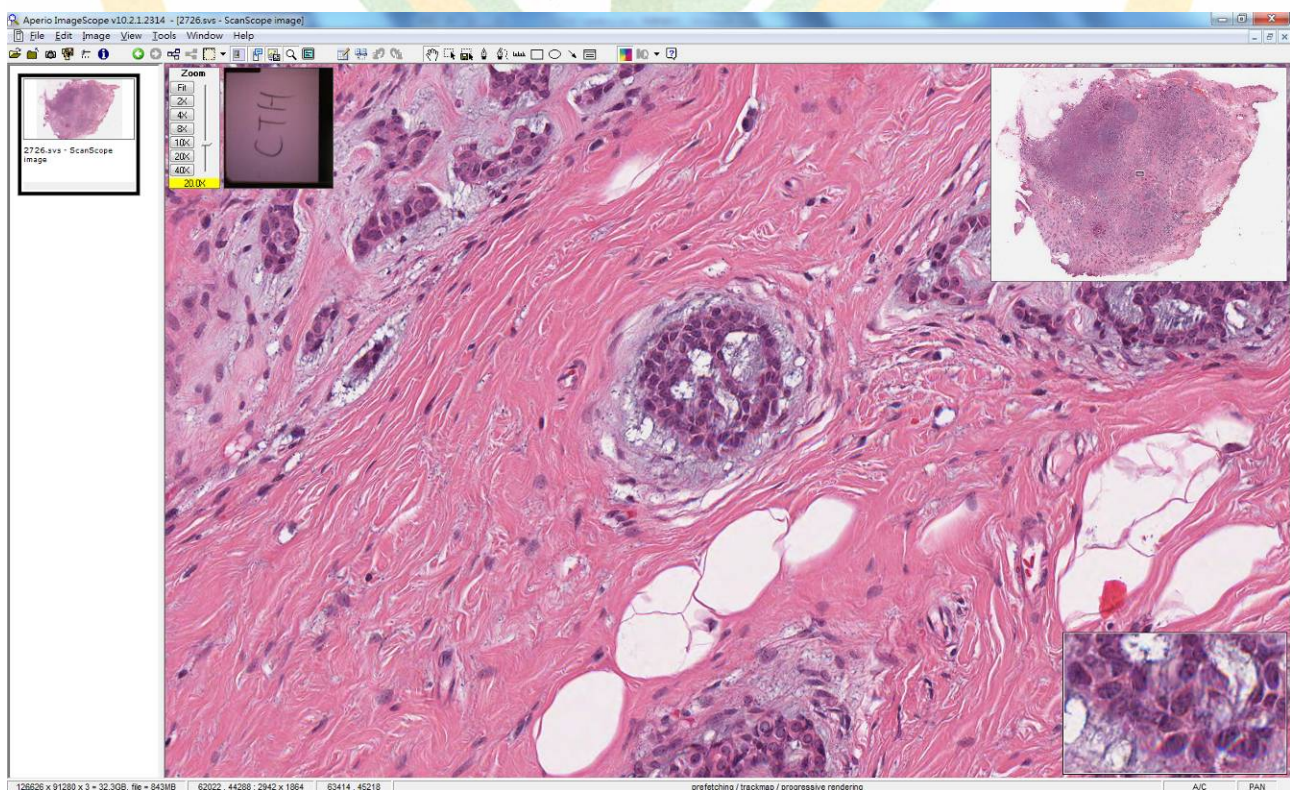


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11. Some of us find that our viewing experience on the slides is better with the "ImageScope" software than with a web browser.



List of Comparative Pathology Cases from the 1st to 50th Meetings

(第一次至第五十次比較病理學研討會病例分類一覽表)

Type	Case No.	Diagnosis	Signalment	Institution
Neoplasm	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	國立臺灣大學獸醫專業學院
	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

Type	Case No.	Diagnosis	Signalment	Institution
Neoplasia	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	天主教耕莘醫院
	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	羅東博愛醫院病理科
	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	天主教耕莘醫院
	90.	Clear cell sarcoma of kidney	Human	台北醫學院
	93.	Mammary gland adenocarcinoma, complex type, with chondromucinous differentiation	Dog	國立臺灣大學獸醫專科
	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, papillary carcinoma, metastatic	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

Type	Case No.	Diagnosis	Signalment	Institution
Neoplasm	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究中心
	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	佛教慈濟綜合醫院
	119.	Polypoid adenomyoma	Human	大甲李綜合醫院
	120.	Gonadal stromal tumor	Human	天主教耕莘醫院
	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	國立臺灣大學獸醫專業學院
	137.	Canine Glioblastoma Multiforme in Cerebellopontine Angle	Dog	中興大學獸醫病理研究所

Type	Case No.	Diagnosis	Signalment	Institution
Neoplasms	143	Osteosarcoma associated with metallic implants	Dog	紐約動物醫學中心
	144	Radiation-induced osteogenic sarcoma	Human	佛教慈濟綜合醫院
	145	Osteosarcoma, osteogenic	Dog	國立臺灣大學獸醫專業學院
	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-Meritt syndrome	Human	佛教慈濟綜合醫院
	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	天主教耕莘醫院
	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

Type	Case No.	Diagnosis	Signalment	Institution
Neoplasia	214	CD30 (Ki-1)-positive anaplastic large cell lymphoma (ALCL)	Human	新光醫院病理科
	215	Lymphoma, mixed type	Koala	國立臺灣大學獸醫專業學院
	217	Mucosal associated lymphoid tissue (MALT) lymphoma, small intestine	Cat	國立臺灣大學獸醫專業學院
	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	佛教慈濟綜合醫院
	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	天主教耕莘醫院
	232	Vaccine-associated rhabdomyosarcoma	Cat	國立臺灣大學獸醫專業學院
	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	佛教慈濟綜合醫院
	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	佛教慈濟綜合醫院
	245	Microcystic Meningioma.	Human	天主教耕莘醫院

Type	Case No.	Diagnosis	Signalment	Institution
Neoplasia	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	國立臺灣大學獸醫專業學院
	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	天主教耕莘醫院
	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	國立臺灣大學獸醫專業學院
	264	Merkel cell carcinoma	Human	羅東博愛醫院
	266	Cholangiocarcinoma	Human	天主教耕莘醫院
	268	Sarcomatoid carcinoma of renal pelvis	Human	佛教慈濟綜合醫院
	269	Mammary Carcinoma	Canine	中興大學獸醫學系
	270	Metastatic prostatic adenocarcinoma	Human	天主教耕莘醫院
	271	Malignant canine peripheral nerve sheath tumors	Canine	國立臺灣大學獸醫專業學院
	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	國立臺灣大學獸醫專業學院
	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	羅東博愛醫院病理科
	278	Hepatocellular carcinoma	Human	國軍桃園總醫院
	279	Feline diffuse iris melanoma	Feline	中興大學獸醫學系
	280	Metastatic malignant melanoma in the brain and inguinal lymph node	Human	佛教慈濟綜合醫院
	281	Tonsil Angiosarcoma	Human	羅東博愛醫院病理科
	282	Malignant mixed mullerian tumor	Human	天主教耕莘醫院
	283	Renal cell tumor	Rat	中興大學獸醫學系

Type	Case No.	Diagnosis	Signalment	Institution
Neoplasm	284	Multiple Myeloma	Human	佛教慈濟綜合醫院
	285	Myopericytoma	Human	新光吳火獅紀念醫院
	287	Extramedullary plasmacytoma with amyloidosis	Canine	國立臺灣大學獸醫專業學院
	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	佛教慈濟綜合醫院
	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	國立臺灣大學獸醫專業學院
	301	Cholangiocarcinoma	Felis Lynx	國立臺灣大學獸醫專業學院
	302	Lymphoma	Canine	國立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	國立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
	307	Carcinoma with thymus-like element	Human	彰濱秀傳紀念醫院
	308	Medullary carcinoma of right lobe of thyroid	Human	彰化基督教醫院
	309	Thyroid carcinosarcoma with cartilage and osteoid formation	Canine	國立臺灣大學獸醫專業學院
	312	Systemic T- lymphocytic leukemia/lymphoma	Koala	國立臺灣大學獸醫專業學院
	313	Neuroendocrine carcinoma of liver	Human	佛教慈濟綜合醫院
	314	Parachordoma	Human	羅東博愛醫院病理科
	315	Carcinoma ex pleomorphic adenoma, submandibular gland	Human	天主教耕莘醫院
	316	Melanoma, tongue	Canine	國立臺灣大學獸醫專業學院

Type	Case No.	Diagnosis	Signalment	Institution
Neoplasm	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

Type	Case No.	Diagnosis	Signalment	Institution
Bacterial	6.	Tuberculosis	Monkey	國立臺灣大學獸醫專業學院
	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 (<i>Lawsonia intracellularis</i> infection)	Porcine	屏東縣家畜疾病防治所
	68.	Liver abscess (<i>Klebsillae pneumoniae</i>)	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

Type	Case No.	Diagnosis	Signalment	Institution
Bacterial	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	佛教慈濟綜合醫院
	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	天主教耕莘醫院
	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	佛教慈濟綜合醫院
	267	Mycobacteriosis	Soft turtles	屏東科技大學獸醫系
	290	<i>Staphylococcus</i> spp. infection	Formosa Macaque	中興大學獸醫病理學研究所
	291	Leptospirosis	Dog	國立臺灣大學獸醫專業學院
	296	Leptospirosis	Human	佛教慈濟綜合醫院
	305	Cryptococcus and Tuberculosis	Human	彰濱秀傳紀念醫院
	319	Placentitis, <i>Coxiella burnetii</i>	Goat	台灣動物科技研究所
	321	Pneumonia, <i>Buirkholderia pseudomallei</i>	Goat	屏東縣家畜疾病防治所
	339	Mycoplasmosis	Rat	國家實驗動物中心
	352	<i>Chromobacterium violaceum</i> Septicemia	Gibbon	Bogor Agricultural University, Indonesia
	353	Salmonellosis	Pig	國立中興大學獸醫學院

Type	Case No.	Diagnosis	Signalment	Institution
Viral	21.	Newcastle disease	Chickens	國立臺灣大學獸醫專業學院
	22.	Herpesvirus infection	Goldfish	國立臺灣大學獸醫專業學院
	30.	Demyelinating canine distemper encephalitis	Dog	台灣養豬科學研究所
	31.	Adenovirus infection	Malayan sun bears	國立臺灣大學獸醫專業學院
	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.	Pseudorabies	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G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	佛教慈濟綜合醫院
	136	Viral encephalitis, poliovirus infection	Lory	美國紐約動物醫學中心
	138	1.Aspergillus spp. encephalitis and myocarditis 2.Demyelinating canine distemper encephalitis	Dog	國立臺灣大學獸醫專業學院
	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	國立臺灣大學獸醫專業學院

Type	Case No.	Diagnosis	Signalment	Institution
Viral	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	國立臺灣大學獸醫專業學院
	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 II co-infection	Canine	國家實驗動物繁殖及研究中心
	223	1. Skin, mucocutaneous junction (lip): Cheilitis with epidermal pustules, ballooning degeneration, proliferation, and eosinophilic intracytoplasmic inclusion bodies, Saanen goat. 2. Haired skin: Dermatitis, proliferative, lymphoplasmacytic 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

Type	Case No.	Diagnosis	Signalment	Institution
Viral	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 <i>Salmonella typhimurium</i> .	Swine	屏東縣家畜疾病防所
	255	Vaccine-induced canine distemper	gray foxes	國立臺灣大學獸醫專業學院
	265	Bronchointerstitial pneumonia (PCV II infection)	Swine	國立臺灣大學獸醫專業學院
	295	Feline infectious peritonitis (FIP)	Cat	中興大學獸醫病理所

Type	Case No.	Diagnosis	Signalment	Institution
Fungal	23.	Chromomycosis	Human	台北病理中心
	47.	Lung: metastatic carcinoma associated with cryptococcal infection. Liver: metastatic carcinoma. Adrenal gland: carcinoma (primary)	Human	三軍總醫院
	48.	Adiaspiromycosis	Wild rodents	國立臺灣大學獸醫專業學院
	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	佛教慈濟綜合醫院
	127.	Eumycotic mycetoma	Human	佛教慈濟綜合醫院
	138	1. Aspergillus spp. encephalitis and myocarditis 2. Demyelinating canine distemper encephalitis	Dog	國立臺灣大學獸醫專業學院
	298	Systemic Candidiasis	Tortoise	中興大學獸醫學院
	322	Allergic fungal sinusitis	Human	羅東博愛醫院
	326	Meningoencephalitis, <i>Aspergillus flavus</i>	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	Rabbits.	國立中興大學獸醫學院

Type	Case No.	Diagnosis	Signalment	Institution
Parasitic	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	國立臺灣大學獸醫專業學院
	67.	Hepatic ascariasis and cholelithiasis	Human	彰化基督教醫院
	106.	Parasitic meningoencephalitis, caused by <i>Toxocara canis</i> larvae migration	Dog	臺灣養豬科學研究所
	139	Disseminated strongyloidiasis	Human	佛教慈濟綜合醫院
	141	Eosinophilic meningitis caused by <i>Angiostrongylus cantonensis</i>	Human	台北榮民總醫院病理檢驗部
	156	<i>Parastrongylus cantonensis</i> infection	Formosan gem-faced civet	中興大學獸醫學院
	157	<i>Capillaria hepatica</i> , <i>Angiostrongylus cantonensis</i>	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	<i>Psoroptes cuniculi</i> 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	佛教慈濟綜合醫院
	286	Etiology- consistent with <i>Spironucleus (Hexamita) muris</i>	Rat	國家實驗動物中心
	327	Dermatitis, mange infestation	Serow	中興大學獸醫學院
	328	<i>Trichosomoides crassicauda</i> , urinary bladder	Rat	國家實驗動物中心

Type	Case No.	Diagnosis	Signalment	Institution
Protozoan	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, <i>Toxoplasma gondii</i>	Wallaby	國立臺灣大學獸醫專業學院

Type	Case No.	Diagnosis	Signalment	Institution
Ehrichial	229	Necrotizing inflammation due to scrub typhus	Human	佛教慈濟綜合醫院
	251	Scrub typhus with diffuse alveolar damage in bilateral lungs.	Human	佛教慈濟綜合醫院

Type	Case No.	Diagnosis	Signalment	Institution
Skin	216	Cytophagic histiocytic panniculitis with terminal hemophagocytic syndrome	Human	佛教慈濟綜合醫院

Type	Case No.	Diagnosis	Signalment	Institution
Miscellaneous	9.	Perinephric pseudocyst	Cat	國立臺灣大學獸醫專業學院
	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 G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 G 國家實驗動物繁殖及研究中心
	83.	Phagolysosome-overload nephropathy	SD rats	實驗動物繁殖及研究中心
	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	國立臺灣大學獸醫專業學院
	118.	Cystic endometrial 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	羅東博愛醫院病理科
	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	國立臺灣大學獸醫專業學院

Type	Case No.	Diagnosis	Signalment	Institution
Miscellaneous	165	Chinese herb nephropathy	Human	三軍總醫院病理部及腎臟科
	167	Acute pancreatitis with rhabdomyolysis	Human	佛教慈濟綜合醫院
	171	Malakoplakia	Human	彰化基督教醫院
	183	Darier' s disease	Human	高雄醫學大學病理科
	191	1. Polyarteritis nodosa 2. Hypertrophic Cardiomyopathy	Feline	國立臺灣大學獸醫專業學院
	193	Norepinephrin cardiotoxicity	Cat	台中榮總
	196	Cardiomyopathy (Experimental)	Mice	綠色四季
	212	Kikuchi disease (histiocytic necrotizing lymphadenitis)	Lymphadenitis	天主教耕莘醫院
	225	Calcinosis circumscripta, soft tissue of the right thigh, dog	Dog	國立臺灣大學獸醫專業學院
	230	Hemochromatosis, liver, bird	Bird	國立臺灣大學獸醫專業學院
	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	天主教耕莘醫院
	244	Organophosphate induced delayed neurotoxicity	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	佛教慈濟綜合醫院
	294	Arteriovenous malformation of the left hindlimb	Dog	國立臺灣大學獸醫專業學院
	299	Polioencephalomalacia	Caprine	屏東家畜疾病防治所
	310	Thyroid Follicular Hyperplasia (hyperplastic goiter)	Porcine	屏東縣家畜疾病防治所
	311	Melamine and cyanuric acid contaminated pet food induced nephrotoxicity	Rat	國立中興大學獸醫學院
	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

Type	Case No.	Diagnosis	Signalment	Institution
Miscellaneous	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



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、 其他有關比較病理學術發展之事項。
- 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。應於七日以前以書面通知，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：一般會員新台幣五百元，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。

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 蕭世烜秘書長 收

Tel: (02) 33663858

Fax: (02) 23682423

e-mail address: shsiao1@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，學生會員一百元，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，學生會員一百元。
- 【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、請填妥入會申請表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：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
蕭世烜秘書長 收
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：

姓名	中文		性別	<input type="checkbox"/> 男	出生日期	民國 年 月 日	出生地	省 縣/市
	英文			<input type="checkbox"/> 女	身份字號			
		會員身份： <input type="checkbox"/> 一般； <input type="checkbox"/> 學生； <input type="checkbox"/> 贊助						
學歷	1.				稱謂： <input type="checkbox"/> 醫師； <input type="checkbox"/> 獸醫師； <input type="checkbox"/> 先生； <input type="checkbox"/> 小姐； <input type="checkbox"/> 教授； <input type="checkbox"/> 主任； <input type="checkbox"/> 研究員； <input type="checkbox"/>			
	2.				研究興趣	1.		
	3.					2.		
	4.					3.		
主要經歷	機關名稱				職稱		起	止
							年 月	年 月
							年 月	年 月
							年 月	年 月
現職							年 月	年 月
地址	通訊：							
	戶籍：							
	Email：				電話：			
茲贊同 貴會宗旨妳加入為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								審核結果
申請人： 介紹人： 介紹人：								簽章 簽章 簽章
中華民國 年 月 日								

國立臺灣大學 校總區地圖



Entrance
(校園出入口)

Vet Med (獸醫系)

