Chinese Society of Comparative Pathology

中華民國比較病理學會

第 64 次比較病理學研討會

(頭頸部含神經系統**)**

主辦單位

CHINESE SOCIETY of COMPARATIVE PATHOLOGY

中華民國比較病理學會

協辦單位

TAIPEI ZOO

台北市立動物園

August 16 , 2015 (中華民國 104 年 8 月 16 日)

SCHEDULE
64th MEETING OF COMPARATIVE PATHOLOGY
中華民國比較病理學會 第 64 次比較病理學研討會

時間：104 年 8 月 16 日(星期日) 08:30~17:30　地點：台北市立動物園教育中心演講廳
地址：臺北市 11656 新光路二段 30 號　電話：(02) 29382300

Time(時間)	Schedule(議程)		Moderator(主持)
08:30~09:20	Registration (報到)		
09:20~09:25	Opening Ceremony (致詞) –Dr. J.W. Liao 廖俊旺 理事長		
09:25~09:30	Opening Ceremony (致詞) – 金仕謙 園長		
09:30~10:30	專題演講	Molecular Epidemiological and Pathological Studies of Rabies in Ferret Badgers in Taiwan Dr. Yang-Chang Tu (涂央昌 研究員) (行政院農業委員會家畜衛生試驗所 疫學研究組)	祝志平 理事
10:30-11:00	Coffee Break(拍團體照)		
11:00~11:25	肉眼診斷	Dr. Hao-Kai Chang (張皓凱 獸醫師) Graduate Institute of Veterinary Pathology, National Chung Hsing University (中興大學獸醫病理生物學研究所)	阮正雄 理事
11:25~11:50	Case 442	Dr. Chia-Wen Shih (施洽雯 醫師) Department of Pathology, Lotung Poh-Ai Hospital (羅東博愛醫院)	
11:50~12:10	Case 443	Dr. Yen-Chang Chen (陳彥璋醫師) Department of Pathology, Buddhist Tzu-Chi General Hospital and University (佛教慈濟綜合醫院暨慈濟大學病理科)	邱慧英 理事
12:10~13:25	Lunch, and Board Meeting (中華民國比較病理學會理監事會議)		
13:25~13:50	Case 444	Dr. Chih-Chin Hsu (許志勤 獸醫師) Graduated Institute of Molecular and Comparative Pathology School of Veterinary Medicine, NTU (台灣大學獸醫專業學院分子暨比較病理生物學研究所)	賴銘淙 理事
13:50~14:25	Case 445	Dr. Junn-Liang Chang (張俊梁 醫師) Department of Pathology & Laboratory Medicine, Armed Forces General Hospital (國軍桃園總醫院病理檢驗部)	
14:25~15:00	Coffee Break		
15:00~15:25	Case 446	Dr. Chia-Lin Ho (何佳霖 獸醫師) Graduate Institute of Veterinary Pathology, National Chung Hsing University (中興大學獸醫病理生物學研究所)	高郁茜 監事
15:25~15:50	Case 447	Dr. Shin Pai (白馨醫師) Department of Pathology, St. Martin De Porres Hospital (天主教聖馬爾定醫院口腔顎面外科)	
15:50~16:20	General Discussion (綜合討論)		

目　　錄

Special Lecture

(專題演講)

Molecular Epidemiological and Pathological Studies of Rabies in Ferret Badgers in Taiwan
（台灣鼬獾狂犬病流行病學及病理學研究）

Dr. Yang-Chang Tu （涂央昌 獸醫師）

Animal Health Research Institute, Council of Agriculture, Executive Yuan
（行政院農委會家畜衛生試驗所 助理研究員）

Taiwan had been considered as a rabies-free region for more than 50 years. In 2013, rabies in Taiwan ferret badger (TWFB) was discovered through the wildlife disease surveillance. Phylogeographic analyses demonstrated that the rabies virus (RABV) affecting TWFBs is a distinct lineage from Chinese rabies virus strains. The most recent common ancestor of the RABV originated 91-113 years ago, suggesting that the RABV could be cryptically circulating in Taiwan. Since the rabies outbreak, 493 of 1,224 submitted TWFBs (40.3%) were rabies-positive, tested by direct fluorescent antibody test. Histopathological findings of the TWFB rabies include mild-to-severe nonsuppurative meningoencephalomyelitis, characterized by lymphoplasmacytic meningitis and perivascular cuffs associated with neurodegeneration and presence of pathognomonic Negri bodies. Viral antigens most prominently presented in the brainstem. Phylogenetic analysis of nucleoprotein gene of the RABVs revealed that the viruses can be divided into two clusters: cluster 1 (TW-MS; middle and southern Taiwan) and cluster 2 (TW-E; eastern Taiwan). This geographical segregation may be produced by the Central Mountain Range and Lao-Nong River, where separates Taiwan Island longitudinally.

Gross show

Case Number: Gross show

Slide view: http://www.ivp.nchu.edu.tw/gallerylogin.php

Account no.: ivpnchu

Code no.: pathology

Hao-Kai Chang (張皓凱)DVM[1], Chia-Lin Ho (何佳霖) DVM[1], Cheng-Chung Lin (林正忠)DVM, PhD[1].

[1] Graduate Institute of Veterinary Pathobiology, National Chung Hsing University (國立中興大學獸醫病理生物學研究所)

CASE HISTORY:

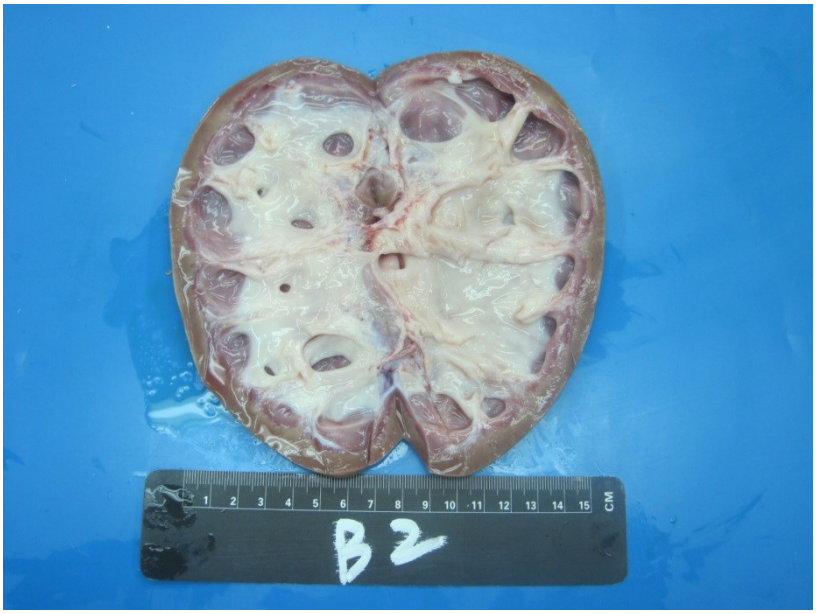
Signalment: Wet tissue samples of pigs' kidney were submitted from slaughterhouses.

Clinical History:

The kidney samples, which were found abnormal in a market hog by a slaughter inspection veterinarian, were submitted to GIVP NCHU for pathological diagnosis.

Gross Findings:

The samples were characteristic large cyst-like kidney. The kidneys were enlarged with hollow parenchyma. Much fluid was outflow the kidney with a distinctly smell of ammonia while crosscutting the kidneys. There was no obviously medulla with a very thinning cortex in the cross section of the kidneys.



Hao-Kai Chang (張皓凱)DVM[1], Chia-Lin Ho (何佳霖) DVM[1], Cheng-Chung Lin (林正忠)DVM, PhD[1].

[1] Graduate Institute of Veterinary Pathobiology, National Chung Hsing University (國立中興大學獸醫病理生物學研究所)

CASE RESULT:

Histopathological Findings:

Thinning of the kidney parenchyma, especially medulla was the most characteristic lesion in the subgross. Some of the submitted kidneys had a very thin rim of medulla, even absent it. In the remaining cortex, diluted of the renal tubule and Bowman's capsule were noticed. Chronic interstitial nephritis or renal sclerosis could be observed in a part of the samples.

Differential Diagnosis

1. Hydronephrosis
2. Cystic kidney

Diagnosis: Hydronephrosis of the hog pig

Discussion

Hydronephrosis is a major reason that results in discard of the kidney in the slaughterhouse. Hydronephrosis is much more common in swine than in other domestic animals(2). Urolithiasis is the most common cause of hydronephrosis in most of the animals but not in hogs. Kukuljevic *et al* also reported that hydronephrosis is common in swine, and that it is due to the malposition of the ureter(3).

Whether the causes of pigs' hydronephrosis in Taiwan are similar to the reported cases or not couldn't be identified, due to the incomplete samples that submitted from slaughterhouses. All of the submitted samples were kidney only, without any others organs of urinary system. In our observation, however, inadequate medicine program and water deficiency have been considered as the most important factors of the disease in pigs currently. Many antibiotics with nephrotoxicity, like gentamicin, are usually been used as prophylaxis without enough water supplies. Accumulating of the micro-damage that caused by the nephrotoxicity drugs may lead to the degeneration to necrosis of the renal tubule which may thereby been obstructed.

Cystic kidney should be considered as the differential diagnosis to the hydronephrosis, based on similar gross lesions. Hydronephrosis refers to the dilation of the renal pelvis and calyces with progressive atrophy of the renal parenchyma and cystic enlargement of the kidneys, which result in considerable damage to the renal parenchyma. Primary cause for hydronephrosis is the obstruction anywhere in the ureter or its entrance into urinary bladder(1). Contrast to the dilation of renal pelvis and thinning of the kidney parenchyma, cystic kidney is in characteristic of multiple cysts that scatter

throughout renal medulla and cortex. Different to the hydronephrosis, cystic kidney is not an acquired disease, but rather a congenital disease.

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3. Kukuljevic, Josef v. 1906. Hydronephrose des Schweines. Berliner tierarzt.liche Wochenschrift, (30) 570-572, 1906.

64th MEETING OF COMPARATIVE PATHOLOGY

August 16, 2015

中華民國比較病理學會第 64 次比較病理學研討會

CASE DIAGNOSIS

Case No.	Presenter	Slide No.	Diagnosis
肉眼診斷	張皓凱	64th CP Gross show	Hydronephrosis in a hog pig http://www.ivp.nchu.edu.tw/gallerylogin.php Account no.: ivpnchu Code no.: pathology
Case 442	施洽雯	LP1204997	Large B cell lymphoma in a man http://www.ivp.nchu.edu.tw/slide_view.php?id=922
Case 443	陳彥璋	S2013-12259	Brain toxoplasmosis in a man http://www.ivp.nchu.edu.tw/slide_view.php?id=925
Case 444	許志勤	NT112013-2610	Olfactory neuroblastoma in a female cat http://www.ivp.nchu.edu.tw/slide_view.php?id=920
Case 445	張俊梁	134183	Oligodendroglioma in a man http://www.ivp.nchu.edu.tw/slide_view.php?id=921
Case 446	何佳霖	CO15-185	Actinomycosis (lumpy jaw) in a dairy cattle http://www.ivp.nchu.edu.tw/slide_view.php?id=918
Case 447	白　馨	S04-1867A5 S04-1867A6	Ameloblastoma of mandible in a man http://www.ivp.nchu.edu.tw/slide_view.php?id=923 http://www.ivp.nchu.edu.tw/slide_view.php?id=924

Case Number: 442
Slide No.: LP-1204997
Slide view: http://www.ivp.nchu.edu.tw/slide_view.php?id=922

Shih, C.W. (施洽雯), M.D., M.S[1], Wang, W. B. (王文斌), M.D.[2] , Yu, S. L (游勝嵐), M.D.[3]
1. Department of Pathology, Lotung Poh-Ai Hospital (羅東博愛醫院病理科)
2. Department of Neurosurgery, Lotung Poh-Ai Hospital (羅東博愛醫院神經外科)
3. Department of Radiology, Lotung Poh-Ai Hospital (羅東博愛醫院放射診斷科)

CASE HISTORY:

Signalment: A 77-year-old man.

Clinical History:

A 77 year-old man who had past history of gastric adenocarcinoma and received total gastrectomy 2 years age. He has suffered from headache and dizziness for one month. Weakness of right extremity was noted recently. He visited our ER (emergency room) for help. His conscious was clear. Coma scale was E4V5M6. CT (computed tomography) scan showed left brain focal hyperdensity and was suspected for metastatic lesion. Craniotomy with tumor excision was performed. The tissue fragments were sent for pathologic examination.

Grossly, the specimen submitted consisted of 2 small tissue fragments measuring up to 0.4 x 0.3 x 0.3 cm with grayish-brown color and soft consistency.

Clinical Pathology:

BUN: 15 mg/dL (6-20 mg/dL), Creatinine: 1.1 mg/dL (0.7-1.3 mg/dL), Glucose: 98 mg/dL (70-100 mg/dL), AST: 58 U/L (5-40 U/L), ALT: 67 U/L (5-40U/L), Na: 141 mmol/L (135-145 mmol/L), K: 4.0 mmol/L (3.5-5.1 mmol/L), Cl: 103.2 mmol/L (96.0-110-0 mmol/L), RBC: $3.54x10^6$/uL ($4.6-6.2x10^6$/uL), Hb: 9.8 gm/dL (14.0-18.0 gm/dL), Hct: 29.6 % (40-54%), Plt: 46.0 $x10^4$/dL (15-40 $x10^4$/dL), WBC: 5200/uL (4500-11000/uL), Lymphocyte: 34.0% (20.0-45.0%), Neutrophil: 48.0% (45.0-75.0%), Monocyte:17.0% (0.0-9.0%), Eosinophil: 0.0% (1.0-3.0%), Basophil: 0.0% (0.0-1.0%).

Case Number: 442

CASE RESULT:

Histopathologic Findings:

The tissue fragments contain proliferated neoplastic cells with irregular size and shape, scant cytoplasm, large and hyperchromatic nuclei, and distinct or inconspicuous nucleoli. Mitotic figures are noted with 4/10 HPF or focal up to 5/HPF. No specific differentiation is noted. The tumor cells show infiltrating pattern and also aggregate around some of the blood vessels. No significant tumor necrosis is noted. No lymphatic ducts or blood vessels invasion is noted.

Immunohistochemistry:

The tumor cells showed positive staining for LCA, CD 20 and CD79a, and negative staining for CK, GFAP, CD3. CD10, CD15 and CD30

Differential diagnosis:

1. Anaplastic astrocytoma.
2. Metastatic carcinoma.
3. Metastatic sarcoma
4. Mmalignant lymphoma

Diagnosis: Primary central nervous system, diffuse large B cell lymphoma.

Comments:

Primary central nervous system (CNS) lymphoma is a rare cancer that involves the central nervous system including brain, spinal cord, one or both eyes, and/or the coverings of the brain and optic nerve, also known as the meninges. Primary CNS lymphoma (PCNSL) was first described in the 1920s. In the past, it has been known by various names including "perithelial sarcoma", "reticulum cell sarcoma" and "microglioma". However, since the 1970s, this cancer has been recognized as a form of lymphoma.

PCNSLs are uncommon tumors, accounting for only 1% of malignant CNS tumors and approximately 1% of all extranodal lymphoma. By definition there is no co-existing systemic disease at the time of diagnosis, distinguishing it from CNS involvement from systemic lymphoma (secondary CNS lymphoma)

The cause of PCNSL is unknown. In particular, it is not understood why a lymphoma would involve the CNS first, a site that does not contain lymphocytes under normal circumstances. Researchers have suggested two theories for this puzzling situation. Perhaps the lymphoma develops within a focus of inflammation in the CNS, as may occur in other organ systems such as

the gastrointestinal tract. Another possible explanation is that the cancerous lymphocytes develop elsewhere in the body, but acquire a receptor on their surface that draws them to a signal expressed only inside the CNS.

As there is a strong association with HIV/AIDS and other immunocompromised states. Predisposing factors of PCNSL include: Collagen vascular disease such as systemic lupus erythematosus, Sjogren's syndrome, rheumatoid arthritis, immunosuppression such as chronic immunosuppression in transplant patients, severe congenital immunodeficiency syndrome, Epstein-Barr virus, IgA deficiency, and Wiskott-Aldrich syndrome. It has been reported that PCNSL occurs in 19 percent of AIDS patients.

Typically, patients diagnosed with PCNSL are over the age of 50 with short duration (usually 3 months) of symptoms, but the median age of diagnosis is approximately 34 in immunocompromised patients. There is a male predominance of approximately 2:1. PCNSL is an aggressive high-grade malignant lymphoma, and patients usually present with neurological symptoms developing over a few weeks. A large survey of 248 patients presenting with PCNSL showed that 70% had focal neurological defects, 33% raised intracranial pressure, 14% seizures, and 4% ocular symptoms. Headache is a rare complaint, whereas behavioral changes are common. Up to 20% of patients with PCNSL present with ocular involvement. Patients with PCNSL present similarly to patients with other central nervous system masses. Non-focal, non-specific symptoms occur in more than 50 percent of patients; mental status changes in one third; symptoms of increased intracranial pressure (headache, nausea/vomiting) and/or generalized seizures in 9 percent. Focal symptoms in 30 percent to 42 percent of cases, including weakness or numbness, partial seizures and cranial nerve palsies (visual changes, double vision, facial numbness, facial weakness, hearing loss and/or swallowing difficulties).

PCNSLs are primarily diagnosed with computed tomography (CT) or magnetic resonance imaging (MRI) brain scans. On imaging, 50 percent to 60 percent of PCNSLs present as multiple (especially in patients with HIV/AIDS), infiltrating mass lesions that can arise in cortex, white matter or deep grey matter (more common in low grade lesions). They may demonstrate areas of necrosis especially in immunodeficient patients. Disseminated meningeal/intraventricular disease is uncommon, it is seen between 1 and 7% if cases at presentation and usually in high grade cases. Most lesions are hyperattenuating (70%) and shows enhancement in CT scan. Hemorrhage is distinctly uncommon.

Diagnosis of PCNSL requires morphological, immunohistochemical and, possibly, molecular genetic studies. Tissue is preferentially acquired through stereotactic brain biopsy rather than surgical resection. In about 90% of cases, PCNSL can be sub-typed as a diffuse large B-cell lymphoma (DLBCL), according to the WHO Lymphoma Classification. The remainders are a mixture of Burkitt’s lymphoma, T-cell rich B-cell lymphoma, peripheral T-cell lymphoma and rarely

‘low-grade’ B-cell lymphoma). Malignant cells tend to accumulate around blood vessels. Low-grade tumors are more frequently T-cell in origin. CSF examination demonstrates elevated protein and decreased glucose. Positive cytology is uncommon (less than 25%). Leucocyte common antigen (CD45) is useful in distinguishing PCNSL from high-grade glioma and metastatic carcinoma. The immunophenotype of PCNSL of DLBCL sub-type is the following: CD79a+, CD20+, PAX-5+, BCL-2+, BCL-6+/- and CD10-/+, with the tumor cells having a high growth fraction (Ki-67, circa 90%). BCL-6 expression was associated with improved survival in patients with PCNSL in one series.

Since PCNSL is very rare, any patient with CNS lymphoma should have a work-up for systemic lymphoma: 1) careful physical examination of all lymph nodes 2) Chest x-ray and CT scan of chest and abdomen 3) Routine blood and urine testing 4) bone marrow biopsy 5) testicular ultrasound in males 6) eyes exam.

Treatment is predominantly with steroids (which can dramatically shrink the tumor) and chemotherapy (high dose methotrexate (HD-MTX)) with or without whole brain irradiation. Chemotherapy for PCNSL poses different challenges. The brain and eye are protected from toxins circulating in the blood by a barrier of tightly joined cells. These "blood-brain" and "blood-eye" barriers also reduce the amount of chemotherapy drug that can enter the CNS or eye when the drug is given in the usual manner, by injection into a blood vessel or by mouth. Because of this, doses of chemotherapy must be very high, increasing the risk of drug side effects. CHOP is a first-generation, combination-chemotherapy regimen consisting of cyclophosphamide, doxorubicin, vincristine, and prednisone that has cured approximately 30 percent of patients with advanced stages of intermediate-grade or high-grade non-Hodgkin's lymphoma in national cooperative-group trials. However, CHOP chemotherapy is ineffective for PCNSL probably because it cannot cross the intact blood-brain barrier. Initially, lymphoma may disrupt the blood-brain barrier, allowing penetration of chemotherapeutic agents. However, effective treatment of the tumor may restore the blood-brain barrier, leading to incomplete resolution of disease.

If the tumor is low grade then local treatment with surgical resection and radiotherapy may be effective and long term survival is possible. The tumors are often high grade and despite treatment have a poor prognosis. Surgical resection has no role to play in the treatment of PCNSL. If only surgical resection is performed then death occurs within a few months. With high dose chemotherapy the tumor can be significantly reduced in size, however recurrence is common, with median survival of around 30 months . Those who are immunocompromised (e.g. HIV positive) do worse. Those treated with radiotherapy alone have a median survival of about 12 months while the most successful chemotherapy regimens achieve a median survival of up to 60 months. There is no generally accepted prognostic index for PCNSL. However there is one that was proposed in 2003 which lists 5 risk factors. 1) Age > 60 2) Performance status > 1 3) Elevated lactate dehydrogenase 4) High CSF protein concentration 5) Involvement of deep regions of the brain. The 2 year overall

survival for each risk group is 1) 0-1 risk factors - 80% 2) 2-3 risk factors - 48% 3) 4-5 risk factors - 15%.

In conclusion, PCNSL is a distinct and rare type of NHL that may involve multiple compartments within the CNS. When PCNSL is suspected, stereotactic biopsy is the preferred surgical procedure. Diagnosis of PCNSL should always be confirmed pathologically. Biopsy samples for PCNSL should be carefully examined morphologically and immunohistochemically. Evaluation requires proper assessment of the brain, eyes, cerebrospinal fluid, and body to confirm that the tumor is confined to the CNS. There is no consensus regarding the optimal management strategy for patients with PCNSL. Methotrexate is the most effective drug against PCNSL, but it is unclear which drugs should be added to MTX to improve survival and whether low-dose radiation with chemotherapy can avoid delayed neurotoxic effects.

References:

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Case Number: 443
Slide no.: S2013-12259A
Slide view: http://www.ivp.nchu.edu.tw/slide_view.php?id=925

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(佛教慈濟綜合醫院暨慈濟大學病理科)

CASE HISTORY

Signalment: A 72 year-old male

Clinical History:

A 72-year-old male presented with ataxia (unsteady gait), urinary incontinence, and amnesia for about 3 weeks.

He had a past history of (1) hypertension (2) gout (3) hollow organ perforation status post operation (4) end-stage renal disease (ESRD) receiving renal trans- plantation 16 years ago (1997/08/14) with stable renal function after transplantation (serum creatinine 2.0~2.5 mg/dl) and under regular follow-up at 高榮 with current immunesuppressant use including Prednisolone 5 mg QD + Tacrolimus 5 mg QD + Mycophenolate 500 mg QD (5) COPD.

This time, ataxia, urinary incontinence, and amnesia for about 3 weeks were noted by his family. He was first sent to the 805 hospital for help, where CT scan was arranged and cerebrovascular accident (CVA) was impressed. Therefore, he was then transferred to our hospital for further management. MRI study was scheduled and showed at least four lobulated nodular lesions over bilateral frontal and right temporal lobes with marked perifocal edema and rim-enhancement, favor of metastatic lesions. Brain tumor, CNS lymphoma, brain abscess, or opportunistic infection could not be ruled out; therefore, he was admitted for further examination and treatment.

On admission, the review of systems was nothing remarkable except neurological symptoms mentioned above. The significantly positive physical examination findings included respiratory rate 30/min, E4V4M6, and mild decreased muscle power of lower limbs (4 points). Significant lab findings informed leukocytosis (WBC 23760/ul) with elevated segmental form neutrophil (83%) with CRP within normal range (0.15 mg/dl), normocytic anemia (Hb 9.2 g/dl), hyperglycemia (glucose 158 mg/dl), elevated BUN/CRE (84/2.5 mg/dl), elevated uric acid level (9.4 mg/dl), decreased albumin level (2.6 g/dl), and proteinuria on urinalysis (2+).

Stereotactic brain biopsy of right frontal lobe was arranged on 9/9 for defining the etiology. The pathology report of biopsy showed necrosis of brain tissue with a few neutrophils, macrophages, and nuclear debris. Culture for biopsy tissue showed negative for bacterial, TB, and fungus growth and acid-fast stain showed not found. Therefore, we consulted infectious doctor and considered *Toxoplasma*, *Nocardia*, or other fungal infection because the patient had received long-term immune- suppressants. Sevatrim (Sulfamethoxazole 400mg/Trimethoprim 80mg, 5ml/amp) 10 ml

Q8H was prescribed for suspect toxoplasmosis since 9/16. Toxoplasma IgM and IgG were also measured and both the results showed negative.

Brain MRI was arranged again on 9/15 and revealed mild enlargement of the right frontal lesion. Whole body PET was also performed for etiology survey which showed a large focal area of decreased FDG uptake at right frontal area of cerebrum and several focal areas of increased FDG uptake at right frontal and right temporal areas of cerebrum, malignant brain metastases with marked perifocal edema was considered first. A tiny nodule in posterior segment of right upper lung was also noted, but the nature to be ascertained. Sevatrim was kept for covering suspect toxoplasmosis.

On 9/24, the patient developed sepsis and acute on chronic renal failure (Cre 2.3 → 3.7 mg/dl) complicated with hyperkalemia (K^+ 6.0 meq/L). He was transferred to SICU for further care. Blood culture was done and Kalimate, 50% dextrose water with regular insulin use, and calcium gluconate were given with hemodialysis for treatment of acute on chronic renal failure and hyperkalemia. Antibiotic was shifted to Clindamycin 600 mg Q6H.

Craniotomy with removal of the tumor was performed on 9/25. Post-operative recovery from anesthesia procedure was well with extubation. However, on next day, conscious disturbance (E4V2M5) with left side weakness developed. Brain CT was arranged and which showed encephalomalasia at right frontal lobe with air-fluid level at the ventricle indicating right pneumocephalus. Besides, blood culture reported growth of Gram-negative bacillus for two sets. Therefore, Cefepime 2 g Q12H and Pyrimethamin (Daraprim) ST 8# + QD 3# were added.

However, profound septic shock developed on 9/27 and blood culture reported Extended-spectrum beta-lactamase producing *Escherichia coli* (ESBL). Hydration with vasopressors (Norepinephrine and Dopamine) was given and Cefepime was shifted to Meropenem 1 g Q12H. However, the condition progressed fast; DDT was arranged at night on 09/28.

Laboratory result (Clinical Pathology)

CBC-DC	Range	9/7
WBC	3.9~10.6	23.76
Hb	13.5~17.5	9.2
PLT	150~400	216
RBC	4.50~5.90	3.07
Ht	41.0~53.0	27.3
MCV	80~100	88.9
MCH	26~34	30
MCHC	31~37	33.7
RDW-CV	11.5~14.5	14.5
PDW	9.8~16.2	9.4
MPV	9.4~12.6	9.3
N.band	0~3	1
N.seg.	40~75	83
Lym.	20~45	6
Mono.	2~10	10
Eosin.	1~6	0
Baso.	0~1	0

Coagulat.	Range	9/7
PT	9.9-11.6	10.4
Control		10.3
INR		1.01
APTT	23.9-34.9	22.4
Control		28

BCS	Range	9/7
Na	136~145	137
K	3.5~5.1	4.4
Cl	98~107	110
Ca	2.12~2.52	2
GLU	74~106	158
BUN	7~18	84
CRE	0.8~1.3	2.5
eGFR	~	27.12
U A	3.5~7.2	9.4
AST (GOT	15~37	11
ALT (GPT	3~41	10
T P	6.4~8.2	5.2
ALB-BCP	3.4~5.0	2.6
GLO	2.3~3.5	2.6
CRP	<0.05~0.3	0.15

Urinalysis	Range	9/7
Color	~	Light Yello
Clarity	~	Clear
GLU	<30~50	<30 (-)
KET-AA	<2.5~7.5	<2.5 (-)
OB	<0.03~0.0	0.03 (+/-)
PRO	<10~20	200 (2+)
NIT	~-	-
BIL	<0.5~0.4	<0.5 (-)
Sp. Gr.	1.003~1.0	1.008
pH	5.0~8.0	6
URO	<1.5~1.5	<1.5 (Nor
WBCester	<25~25	<25 (-)
RBC	0~3	0~2
WBC	0~5	2~5
Ep. Cell	~	0~2
Cast	~	-
Crystals	~	-
Bact.	~	-
Fungi	~	-
Parasites	~	-
Mucus	~	-

Gross Finding:

1. Stereotactic biopsy on 9/9

Nothing remarkable (several small tissue fragments, < 1 cm; grossly, they are grayish and soft.)

2. Craniotomy with removal of the tumor on 9/25

Nothing remarkable (several small tissue fragments, < 0.5 cm; grossly, they are pale and soft.)

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CASE RESULT

Histopathologic Finding:

1. Stereotactic biopsy on 9/9: necrosis (Frozen section: necrosis)

(1) Necrosis of brain tissue with a few neutrophils, macrophages and nuclear debris.

(2) Focal perivascular inflammatory cells infiltration

(3) Fibrinoid change of blood vessels

There is no evident diffuse infiltration of atypical large lymphocytes. The histological picture may be compatible with toxoplasmosis and differential diagnosis may include other etiologies causing brain abscess in immune-compromised patient.

2. Craniotomy with removal of the tumor on 9/25

(1) Mostly necrotic tissue.

(2) A few purulent exudate and inflammatory cells cuffing vessels in peripheral areas.

(3) No evident viral cytopathic nuclear change.

(4) Foamy macrophages are not numerous.

Please note that if toxoplasmosis is suspected, it is usually present in peripheral area rather than necrotic center. Immunohistochemical stain shows *Toxoplasma* Ab (+).

Diagnosis:

1. Brain toxoplasmosis
2. Septic shock with infection by ESBL

Discussion:

Immunosuppression due to therapy after transplantation or associated with HIV infection increases the susceptibility to various central nervous system (CNS) infections. It maybe also modify the presentation, diagnosis, and treatment. Immunosuppressive therapy reduces cell-mediated immunity to prevent transplant rejection and graft-versus-host disease (GVHD), but it concomitantly increases the risk of infection due to fungi, viruses (especially herpes viruses), bacteria, and parasites. CNS infection occurs in 5%–10% of transplant recipients and most often manifests as brain abscess, encephalitis, or meningitis [2, 3]. The risk of CNS infection varies with the type of organ transplanted. *Aspergillus fumigatus, Listeria monocytogenes, and Cryptococcus neoformans* are the most common causes of post-transplantation CNS infections. But immunosuppression also increases the risk of acquiring parasitic CNS infections and can increase the severity of these infections (table 1).

Table 1. Transplantation types and the parasites associated with post-transplantation infection.

Type of transplantation	Associated parasite(s)	Comment
Heart	*Strongyloides stercoralis*	Heart transplant recipients are at a higher risk of perioperative cerebrovascular events
	Toxoplasma gondii	
	Trypanosoma cruzi	
Lung	*T. gondii*	
Liver	*Schistosoma* species	
	T. cruzi	
	T. gondii	
Kidney	*Schistosoma* species	Renal transplant recipients with schistosomiasis require higher doses of cyclosporine
	S. stercoralis	
	Taenia solium	
	T. cruzi	
Bone marrow	*Schistosoma* species	
	S. stercoralis	
	T. gondii	

NOTE. Compiled from [4–12].

The susceptibility to CNS infection after transplantation changes over time [4, 5]. During the initial month after transplantation, CNS infection is most often due to common bacterial pathogens or opportunistic pathogens present in the environment or host (ex: *Aspergillus* species and *Mycobacterium tuberculosis*). Immunosuppres- sion is most pronounced from month 1 to month 6 CNS infection during this period is most often due to herpesviruses, especially cytomegalovirus and Epstein-Barr virus (EBV); fungi; or atypical bacteria. Parasitic CNS infection most often occurs during this period, with *Toxoplasma gondii* being the most common infecting organism [6]. Six months after transplantation, immunosuppression therapy is reduced, and CNS infection becomes less common.

Acute and chronic manifestations of parasitic CNS infection are various and depend mainly on which CNS site is affected. Neurologic symptoms during chronic infection are frequently due to mechanical obstruction, invasion of vasculature, or enlarging-mass effect. The common symptoms caused by toxoplasmosis include headache, cognitive changes, seizure, and focal neurologic deficits (such as hemiparesis, ataxia, and facial weakness). Infection by parasites may immediately cause symptoms or may remain undetected for years. Local tissue damage produced by migrating or growing parasites can induce marked inflammatory responses, but, in patients with chronic infection or suppressed immune systems, the inflammatory response may be blunted and the clinical manifestations may be minimal [7, 8].

The evaluation of neurologic symptoms in an immunosuppressed host should be guided by (1) the type of transplantation or CD4+ cell count (2) the time since transplantation and the receipt of

immunosuppressive therapy (3) the serologic status with respect to *T. gondii*, *C. neoformans*, and parasites (with evaluation directed by the travel and exposure history) (4) concomitant systemic symptoms (especially pulmonary and gastrointestinal symptoms) (5) neuroimaging findings (table 2. The neuroimaging findings of CNS infection caused by toxoplasmosis include solitary or multiple round ring-enhancing or homogeneously enhancing lesions, usually located at the hemispheric gray-white junction, in the deep white matter, or in the basal ganglia. MRI is more sensitive and may detect multiple lesions not seen on CT scan. Edema is usually present.) Eosinophilia in CSF or blood may be absent during parasitic CNS infection, especially during chronic infection [9]. Pulmonary infection usually precedes or accompanies CNS infection with *A. Fumigatus*, *C. neoformans*, *Nocardia asteroides*, *M. tuberculosis*, and endemic mycoses [5, 10].

Felines are the definitive hosts of *T. gondii* and excrete infectious oocysts in feces [11]. Humans acquire *T. gondii* infection most often by (1) ingestion of oocysts in contaminated soil or food (2) ingestion of bradyzoites in undercooked meat (3) via mother-to-fetus transmission (4) blood transfusion (5) organ transplantation [11, 12]. After ingestion of an oocyst, the parasitic organism invades the intestinal epithelium, disseminates throughout the body, encysts, and remains dormant in any nucleated cell. In the United States, 10%–40% of people have latent infection with *T. gondii*, which is determined by the presence of serum anti-toxoplasma IgG antibodies [13, 14]. In transplant recipients, toxoplasmosis occurs by reactivation of latent infection or is a primary infection if a donor organ containing encysted *T. gondii* was transplanted into a seronegative recipient [40]. Patients who are seronegative for *T. gondii* and receive allografts, especially cardiac allografts, from seropositive donors are at the highest risk of developing toxoplasmosis after transplantation [15, 16].

Clinical manifestations of CNS toxoplasmosis are similar for both transplant recipients and HIV-infected patients and typically include headache, altered mental status, seizures, focal neurologic deficits, hemiparesis, ataxia, and facial weakness [3, 5]. Although uncommon, toxoplasmosis of the spinal cord has been reported in transplant recipients and HIV-infected patients [17, 18]. Unlike HIV-infected patients, who reveal a marked ring-enhancement pattern noted on neuroimages, transplant recipients often show a variable enhancement pattern on neuroimages, with the lesion enhancement inversely correlated with the severity of immunosuppression [19, 20].

Definitive diagnosis requires the identification of tachyzoites in biopsy samples, but identification of anti–T. gondii antibodies by ELISA is a sensitive and specific method. Although PCR assay of CSF is highly specific and sensitive in some laboratories, its sensitivity varies by laboratory and technique, and PCR assay should not be used to exclude the diagnosis of toxoplasmosis. The presence of multiple ring-enhancing lesions in the basal ganglia or cerebrum on neuroimages, especially in the presence of anti-toxoplasma IgG antibodies, is suggestive of CNS toxoplasmosis and is sufficient to start presumptive treatment for CNS toxoplasmosis.

Regardless of the host immune status, drug treatment for CNS toxoplasmosis should include pyrimethamine 25–100 mg/day for 3–4 weeks, and sulfadiazine 1.5 g QID for 3–4 weeks.

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Case Number: 444
Slide No.: NT112013-2610
Slide view: http://www.ivp.nchu.edu.tw/slide_view.php?id=920

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CASE HISTORY:

Signalment: An 8-year-old, spayed female, domestic short hair cat

Clinical history:

An 8-year-old, domestic short hair cat, presented with unilateral left nasal discharge and loud respiratory sound in September, 2013. Bloody discharge was noted once in October. A 1.5 x 1.5 x 0.5 cm, firm mass above the nose was noticed by the owner on 2013/11/3, then attended to local veterinary hospital, X-ray and FNA were performed, the result were bonelysis and blood respectively. Antibiotics and anti-inflammatory drugs were prescribed. The patient attended National Taiwan university veterinary hospital on 2013/11/7 and scheduled for CT, culture and tru-cut biopsy on 2013/11/11. The swollen Lt. submandibular LN was noted on 11/11.

Gross Findings:

The tru-cut biopsies were placed into 2 ependorfs which contained several tiny tissue sections with irregular, uneven shaped, and various colors.

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CASE RESULT:

Histopathological findings:

The neoplasm arranged in sheets and nests, some in cords which separated by dense fibrous stroma. The neoplastic cells were round to polygonal with rounded, centrally nuclei and stipple to coarse chromatin, some prominent nucleoli were noted, and scan of eosinophilic cytoplasm was discovered with rare mitosis.

Differential diagnosis:

1. Olfactory neuroblastoma
2. Neuroendocrine carcinoma
3. Sinonasal undifferentiated carcinoma
4. Lymphoma

Immunohistochemistry stain:

NSE, Neurofilament revealed positive, especially strong positive in NSE; CD3 and CD79a revealed negative.

Diagnosis: Olfactory neuroblastoma

Discussion:

Olfactory neuroblastoma (ONB), also known as esthesioneuroblastoma, is a rare malignant neuroectodermal tumor. This tumor is thought to be derived from the olfactory neuroepithelium and arises within the upper nasal cavity at the level of the cribriform plate. The tumor has been reported previously in dogs, cats, horses and a cow. The incidence is rare, and epidemiological and clinical features of the affected animals could only be compared with the human literature as similar studies do not existing veterinary medicine.

Feline nasal neoplasm can be differentiated in various kinds. In this case, according to the characteristics of the morphology, the origin of the tumor cells can be differentiated into lymphoma, neuroendocrine carcinoma or olfactory neuroblastoma. The highly compact small round cells are one of the features and is more likely to be lymphoma. In the present case, a small nest formation with thin vascular stroma with dull nuclear and rare mitosis, these features are associates with the possible neuroendocrine origin.

Feline nasal lymphoma is rare, although lymphoma is common in cats. In recent retrospective study, 30 of 77 cats with chronic nasal disease were found to have nasal neoplasia, and 21of these 30 cats had nasal lymphoma. Some papers also mention the correlation of FeLV and nasal

lymphoma. In contrast of neuroendocrine carcinoma, rarely reported in domestic animals which almost no appearance in cats, but a recently reports have discussed tracheobronchial neuroendocrine carcinoma in a 10-year-old cat in 2007.

Finally, the immunohistochemistry performed confirmed the possibilities of the tumor

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Case Number: 445
Slide No.: 134183
Slide view: http://www.ivp.nchu.edu.tw/slide_view.php?id=921

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CASE HISTORY：

Signalment: A 44-year-old male

Clinical History:

A 44-year-old male visited at our OPD of Division of Neurosurgery, he was transferred from 宜蘭羅東聖母 Hospital due to headache and weakness of left upper limb for months.

Clinical history:

Patient had presented progressive headache and weakness over the left upper limb for more than two months. Unfortunately, he felt more and more serious headache and upper limb weakness in recent days. So he visited at 宜蘭羅東聖母 Hospital. On here, he received the CT scan and MRI examinations and then the images showed a brain tumor over the right fronto-parietal region was told. He was referred to our NS OPD and was admitted for further investigation and treatment.

He had history of right eye cataract and had received operation since 25 years ago. He had no systemic disease or malignancy. No history of drug allergy, smoke habit or foreign travelling history, except social drinking. His father has HCVD and pancreatic cancer. His mother has HCVD and heart disease.

In surgical OPD, physical examination, vital sign：36.0°C, PR：58/min, RR：20/min, BP：135/71mmHg, body weight: 77Kg, body height: 181cm.General appearance showed well-developed and well-nourished standing with acute ill-looking. Skin and HENNT and lung conditions showed non-remarkable. Others were non-contributions. No axillary lymphadenopathy was found. The peripheral pulsations showed radial (++/++), branchial, (++/++), post tibial (++/++), dorsal pedial (++/++). Neurologic examination showed speech: fluent with relative slow speed, GCS=E4V5M6. Pupil size showed R/L post op/ 5mm, LR:R/L post op/+, cranial nerve=intact, MP=5/4-5, DTR=++/++, no paresthesia or paresis of limbs, and Babinski's sign was absent on bilateral. Left side limbs showed weakness (+) found. Others were non-contributions. The brain computerized tomography (CT) and MRI images previously study showed a cortical based heterogeneously enhancing, well-circumscribed lesion.mass with patchy enhancement and marked calcifications was also found. The differential diagnosis included high grade astrocytoma, oligodendroglioma, and metastasis. Subsequently right frontotempoparietal (F-T-P) craniotomy with removal of brain tumor with intra-operative frozen section was performed (Paraffin embedded section stained with permanent H&E glass slide submitted).

Laboratory results (Clinical Pathology)：

The laboratory data included the CBC, stool, urine analysis, & biochemistry results showed normal within limitation. The serum tumor biomarkers displayed normal range without abnormal finding.

Gross Findings：

The specimen submitted consisted of six tiny piece of brain tissue fragments with brown to purple in color and soft in consistency, measured 0.4 x 0.3 x 0.1 cm in the largest one piece, submitted for frozen section and the formalin-fixed and paraffin embedded section with permanent H&E stain was also performed. The frozen section diagnosis was reported. Subsequently tumor excision was also performed. The specimen submitted consisted of 12 small pieces of biopsied brain tumor tissue fragments with brown in color, measured 4 x 3 x 0.3 cm in the largest one piece and weighed 12 gm totally, respectively.

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CASE RESULT：

Histopathologic Findings：

Microscopically, frozen sections showed suggestive of primary malignant tumor and the high grade malignant glial tumor was highly suspected. The permanent paraffin sections with H&E stain revealed pictures of oligodendroglial tumor. Subsequently excised tumor mass was composed of uniform cellular architecture with increased numbers of small branching delicate blood vessels (chicken-wired-like) and dense cellularity, nuclear lobulation with coarse chromatin, ill-defined cell borders, mild nuclear pleomorphism or anaplasia, and marked scattered calcospherity (calcification) also found. In addition, there also presented focally uniform, round nuclei, paranuclear expanses of eosinophilic, hyaline or whorling fibrillar cytoplasm and clear perinuclear halos (artifacts of delayed fixation) typify well-differentiated oligodendrogliomas. Pathological examination showed oligodendriglioma, WHO-grade II was diagnosed.

Immunohistochemistry：

Immunohistochemical study, these tumor cells displayed diffusely strongly immunoreactivity for GFAP (glial fibrillary acidic protein), S-100 protein, vimentin. In addition, histochemical stains demonstrated positive for Masson's trichrome stain in the fibrous connective stroma background, and equivocal stain for mucincarmine. These tumor cells demonstrated negative immunostaining for pan-CK, EMA, CD45, and desmin stains.

Differential Diagnoses:

1. Brain metastasis
2. Meningioma
3. Clear cell ependymoma
4. Low-grade astrocytoma: Pilocytic astrocytoma
5. Glioblastoma multiforme (GBM) / Small cell glioblastoma
6. Primary CNS lymphoma
7. Extraventricular neurocytoma

Diagnosis:

Brain, temporal, Rt., Oligodendroglioma, WHO grade II (anaplastic type).

Follow-up and workup:

Two years after surgery the patient underwent reevaluation, including CT scan, in which revealed no pathological findings. The physical examination did not reveal any abnormalities. The

CT of the thorax and abdomen was normal. He was continued of recurrence after 2-years of follow-up.

Discussion:

Oligodendrogliomas (ODs) are a type of gliomas that are believed to originate from the oligodendrocytes of the brain or from a glial precursor cell. The incidence of oligodendrogliomas ranges about 4% of primary brain tumors are ODs, representing about 10-15% of the gliomas. Only 6% of these tumors are found in infants and children. ODs may be diagnosed at any age but occur most commonly in young and middle-aged adults, with a median age at diagnosis of 40-50 years.

Pathophysiology

ODs arise in the cerebral hemispheres and are distributed among the frontal, parietal, temporal, and occipital lobes, and arise rarely in the cerebellum, brain stem, and spinal cord. ODs usually occur in the cerebral white matter and are hypercellularity with uniform nuclei.

Etiology:

The etiology of oligodendroglioma is unknown. Previous serial studies suggested that have identified chromosomal abnormalities which may play a role in the development of these tumors. Some reports have linked oligodendroglioma with a viral cause. Previous documents also illustrated a 69% correlation between NJDS gene mutation.

Symptoms:

Patients with oligodendroglioma showed from 50% to 80% of cases, the first symptom is the onset of seizure activity or headache and occurs mainly in the frontal lobe. Depending on the location of the tumor, any neurological deficit can be induced, from visual loss, motor weakness and cognitive decline. Diagnostic imaging studies, a Computed Tomography (CT) or Magnetic Resonsance Imaging (MRI with and without gadolinium) scan is necessary to characterize the anatomy of this tumor (size, location, hetero/homogeneity). These tumors also tend toward calcification. CT scans reveal a hypodense, reasonably well-demarcated mass with moderate surrounding edema. Intratumoral calcification is common, and hemorrhage is noted occasionally. As with contrast MRI, the tumor does not enhance unless it is behaving unusually aggressively or has an anaplastic astrocytic component. However, definite diagnosis in confirmed by stereotactic or open biopsy of the lesion relies on histopathologic examination.

Laboratory Studies:

Routine laboratory workup is not helpful. If seizures are noted, include EEG, serum electrolyte studies, and if necessary a lumbar puncture in the metabolic workup for seizure, after excluding intracranial pathology with an imaging study. These routine tests help exclude other causes of

seizure (eg, electrolyte imbalance, metabolic abnormalities).

Histopathological Finding:

Macroscopic:

A relatively rare and relatively slow-growing glioma derived from oligodendrocyte that occurs most frequently in the cerebrum of adult humans. The neoplasm is grossly homogeneous, fairly well circumscribed, moderately firm, and somewhat gritty in consistency with frequently interstitial calcification sufficiently dense so as to be detected by x-ray imaging of the skull. Sometimes, areas of intratumoral hemorrhage necrosis and cystic degeneration is also noticed.

Microscopic:

ODs must be differentiated from the more common astrocytoma. ODs are distinctive, consisting of homogeneous, compact. Microscopically, an oligodendroglioma is characterized by numerous small, round or ovoid, oligodendroglial cells with small, deeply stained nuclei (rarely observed in mitosis), giving them a "fried egg" appearance and palely stained, indistinct cytoplasm; the neoplastic cells are rather uniformly distributed in a sparse, fibrillary stroma with scattered calcific bodies and an often prominent arcuate vasculature. ODs are “mixed glioma” tumors, containing both abnormal oligodendroglioma and astrocytoma cells. Many ODs have some component of astrocytoma within them; however, distinguishing neoplastic astrocytes from reactive astrocytes may be very difficult. Most ODs are slow-growing indolent tumors; however, they occasionally behave in a more malignant manner when initially diagnosed, or an indolent tumor may evolve into an aggressive one. Malignant tumors demonstrate increased cellularity, mitotic activity, marked nuclear anaplasia or pleomorphism, endothelial proliferation, and necrosis. Different grading systems are available for malignant tumors, but most pathologists use a simple two-tier grading system, diagnosing tumors without anaplastic features as low-grade oligodendroglioma tumors and as anaplastic oligodendroglioma if several of the malignant features are present. ODs cannot currently be differentiated from other brain lesions solely by their clinical or radiographic features.

Histopathological grading:

The histopathologic grading of ODs is controversial. Currently the most commonly used grading schema is based on year 2007 World Health Organization (WHO) guidelines. ODs are generally dichotomized into grade II (low grade, well-differentiated) and grade III (high grade, or anaplastic, poorly-differentiated) tumors. The designation of grade III oligodendroglioma (high grade) generally subsumes the previous diagnoses of anaplastic or malignant oligodendroglioma. Their good prognosis relative to other parenchymal tumors probably stems from inherently less aggressive biological behavior and a favorable response to chemotherapy, a recently discovered finding based on genetic characteristics. Unfortunately, the WHO guidelines include subjective criteria in differentiating grade II and grade III tumors including the appreciation of “significant” hypercellularity and pleomorphism in the higher grade lesion. In addition, the presence of low

mitotic activity, vascular proliferation and necrosis, including pseudopallisading necrosis are insufficient by themselves to elevate the grade of these tumors.

Molecular genetics:

By far, the most common structural deformity found is co-deletion of chromosomal arms 1p and 19q. The high frequency of co-deletion is a striking feature of this glial tumour and is considered as a "genetic signature" of oligodendroglioma. Allelic losses on 1p and 19q, either separately or combined, are more common in classic ODs than in either astrocytomas or ODs. In one study, classic ODs showed 1p loss in 35 of 42 (83%) cases, 19q loss in 28 of 39 (72%), and these were combined in 27 of 39 (69%) cases; there was no significant difference in 1p/19q loss of heterozygosity status between low-grade and anaplastic ODs. 1p/19q co-deletion has been correlated with both chemosensitivity and improved prognosis in ODs. In long-surviving patients with 1p/19q co-deletion, indolent leptomeningeal disease may be a complication of oligodendroglioma, which may have implications for the treatment.

Treatment and Prognosis:

Individualize treatment of an oligodendroglioma depending on the presence or absence of symptoms, location and biological aggressiveness of the tumor, extent of possible surgical resection, and histopathology and degree of anaplasia. The standard treatment for oligodendroglioma is surgical removal of as much of the tumor tissue as possible. Biopsy is typically performed on tumors that are not accessible to confirm the diagnosis and determine the grade of tumor. Recurrent low-grade ODs can be treated with surgery, radiation therapy (if not given initially), and chemotherapy. Grade II ODs, close follow-up with regular MRI scans is recommended following the successful removal of low-grade ODs. If some of the tumor remains (also called “residual” tumor), radiation treatment is recommended following surgery. The best timing for radiation therapy (ie, immediately or when the tumor appears to be growing again), is currently being studied in clinical trials. In patients who undergo total gross resection, no further treatment may be necessary, but the patient must be followed up for clinical or radiologic recurrence. Grade III ODs or anaplastic OD is typically treated with a combination of radiation therapy and chemotherapy. Recurrent anaplastic oligodendroglioma may be treated with surgery and/or chemotherapy. In one series, median survival times for ODs were 11.6 years for grade II and 3.5 years for grade III. Chemoresponsiveness for ODs is associated with loss of heterozygosity on chromosome 1p and 19q. A recent study analyzed survival based on chromosomal deletions and the effects of radiation or chemotherapy as treatment.

The prognosis should be estimated into account your age, the location of the tumor, grade of the tumor cells, whether your tumor has deletions of 1p and 19q, and the amount of tumor removed during surgery. Low-grade ODs tend to be slow growing tumors. Anaplastic ODs are more aggressive tumors more growth quickly. Recurrent tumors are generally treated with more aggressive chemotherapy and radiation therapy. Recently, stereotactic surgery has proven successful in treating small tumors that have been diagnosed early. After initial appropriate management, closely monitor the patient with the family for tumor recurrence or chemotherapy-induced adverse

effects. Recommend monitor with regular follow-up care and MRI scans every 3 months initially and then every 6 months to 1 year.

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Case Number: 446
Slide No.: CO15-185
Slide view: http://www.ivp.nchu.edu.tw/slide_view.php?id=918

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CASE HISTORY

Signalment: A hard jaw mass sample from dairy cattle was submitted from a slaughterhouse.

Clinical History:

Dairy cattle, Holstein, 4-year-old, culled. There was a large firm to hard mass which was considered to be an old abscess on the right side of its mandible. A meat inspection veterinarian condemned the jaw and the mass then submitted the samples to GIVP of NCHU for pathological diagnosis.

Gross Findings:

There was a firm to hard mass on the inner surface of the right mandibular bone, and it expanded over the ventral edge of the bone. Part of it had been cut away, and the rest was 15×15×5 cm. The oral mucosa was ulcerated and exposed the mass under it, while pus-like exudates drained out from the lower side of the jaw. The mass was composed of capsulated pyogranulomatous tissue containing sulfur-like granules and pus-like exudate. The mass lysed part of the mandibular bone and occupied part of the medullary cavity.

Case Number: 446

CASE RESULT

Radiology:

There were multicentric radiolucent areas surrounded by periosteal new bone and fibrous tissue on the mandible. Besides, there was a radiolucent zone around roots of the teeth.

Histopathological Findings:

The mass was composed of pyogranulomatous tissue capsulated by fibrous connective tissue. There were some remained bone tissues in the fibrous capsule. Besides, there were many irregular shape messy color materials in the center of the granuloma. There was Splendore-Hoeppli phenomenon around these abnormal materials, and they were surrounded by numerous macrophages, eosinophils and neutrophils.

Special staining:

Under Brown and Brenn stain, the abnormal materials surrounded by Splendore-Hoeppli phenomenon were the mixture of gram-positive and gram-negative bacteria. The bacteria overlapped with one another, so the shape of a bacterium could not be observed.

Pathogenic bacterial identification:

Tissue smear and then Gram staining was done on the cut surface of the pyogranuloma. On the smear, there were many different forms of bacteria. Among all, gram-positive chain-like cocci and gram-positive filamentous branching rods predominated. After anaerobic bacterial cultivation and 16s rRNA sequencing, 4 species of bacteria were identified, including *Actinomyces bovis, Klebsiella oxytoca, Lactococcus raffinolactis* and *Porphyromonas levii*.

Differential diagnosis:

1. Lumpy jaw
2. Wooden tongue
3. Grass seed abscesses
4. Coccidioidomycosis
5. *Trueperella pyogenes* infection

Diagnosis:

Actinomycosis (lumpy jaw), sever, chronic-progressive, focal, mandible

Discussion:

Lumpy jaw is caused by a bacterium named *Actinomyces bovis*; however, other organisms may invade the lesion as the other three bacteria identified in this case. *A. bovis* is part of the normal

flora of the oral and nasopharyngeal membranes. It is thought that a sharp object, like a stick, a wire or a coarse hay, punctures the oral or nasopharyngeal mucosa, allowing bacteria to invade the deeper tissues. *A. bovis* and other anaerobic organisms grow in the deeper tissue which is an anaerobic condition. When *A. bovis* reaches the mandible, the maxillae, or other bone tissues in the head, it causes bone lysis and remodeling, and leads to alteration and swelling of the bone. This pathogenesis results in clinical signs including facial distortion, loose teeth and dyspnea. Based on clinical signs, radiology and pathogenic bacterial identification, the diagnosis of lumpy jaw could be made.

The histopathologic features of lumpy jaw is chronic granulomatous abscess and bone lysis of mandible. Furthermore, Splendore-Hoeppli phenomenon around bacterial colonies in the center of granulomatous tissue is also a characteristic lesions. Splendore-Hoeppli phenomenon describes the presence of radiating, star-like asteroid or club-shaped eosinophilic material around infectious or non-infectious agents. This reaction is considered to be associated with immune complex which could be induced by many pathogens including fungi, bacteria, parasites and insert materials. According to recent studies, the nature of the eosinophilic material associated with Splendore-Hoeppli phenomenon is not always the same. Read *et al*. used immunohistochemistry to study the eosinophilic materials in different diseases and separated them into two categories: one was predominantly immunoglobulins deposition, the other was primarily eosinophilic major basic protein. Bhagavan *et al*. examined lesions in the female genital tract and acquired a different result which turn out to be neutral glycoproteins, immunoglobulins, complement or fibrin, lipid and calcium with no demonstrable microorganisms. The results of these researches come to a conclusion that the composition of Splendore-Hoeppli reaction is variable. It may depend on the type of the causative agent, the timing of biopsy and the prior treatment.

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Case Number: 447
Slide No.: S04-1867A5, S04-1867A6
Slide view: http://www.ivp.nchu.edu.tw/slide_view.php?id=923
http://www.ivp.nchu.edu.tw/slide_view.php?id=924

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Department of Oral & Maxillofacial Surgery, St. Martin De Porres Hospital (嘉義聖馬爾定醫院)

CASE HISTORY

Signalment: A 32-year-old male with a swelling mas of mandible parasymphysis region

Clinical History:

This 32-year-old male came to dental visit due to a huge enlarging mass over the lower gum since 2-3 months ago. He received bone biopsy in a local hospital and report was amelolastoma of mandible. The patient denied any personal habits of alcohol drinking betel nuts chewing, or smoking. Surgical intervention was strongly suggested due to progressive mandibular swelling close to the mandible border. He received tumor wide excision of mandible tumor, free fibular flap reconstruction. The pathologic diagnosis was showed below. Postoperative course was uneventful and he was discharged after 21 days.

Clinical pathology:

WBC: 10520 /uL Hgb: 14.6 g/dL PLT: 202000/uL AST: 18 U/L ALT: 20 U/L BUN: 16 mg/dL CREA: 0.69 mg/dL Na: 141 mmol/L K: 3.7 mmol/L Glu 144 mg/dL

Gross Findings:

Oral and neck

The specimen of mandible includes gingiva 4.5 x 2.0 x 1.5 cm and bone with 7 teeth 5.5 x 3.5 x 1.2 cm as a whole. The tumor size was 3.0 x 2.0 x 1.7 cm with multicystic characteristics with thin wall and focal fibrous stroma and gray-brown-yellow gelatinous material, 5 mm to the closet bone margin.

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CASE RESULT

Microscopic description:

Sections of the tumor show multiple small cystic lesions composed of columnar basal cells in palisading arrangement with vacuolated cytoplasm, hyperchromatic nuclei polarized away from the basement membrane. The suprabasal cells are loosely textured and non-cohesive. The tumor cells penetrate the cortical bone with focal areas of abscess formation. According to the morphologic pictures and image study results, it is an ameloblastoma, multicystic, plexiform type. All the resection margins are free of tumor invasion.

Diagnosis: Ameloblastoma of mandible in a man

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。

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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 Chinese Society of Comparative Pathology web site at http://www.ivp.nchu.edu.tw/cscp/

3.Choose the slide images (e.g. 63rd CSCP)

4. Pick any case you'd like to read (e.g. case 435-440)

比較病理研討會病例分類一覽表

中華民國比較病理學會
第一次至第六十二次比較病理學研討會病例分類一覽表

分類	病例編號	會議場次	診斷	動物別	提供單位
腫瘤	1.	1	Myxoma	Dog	美國紐約動物醫學中心
	2.	1	Chordoma	Ferret	美國紐約動物醫學中心
	3.	1	Ependymoblastoma	Human	長庚紀念醫院
	8.	2	Synovial sarcoma	Pigeon	美國紐約動物醫學中心
	18.	3	Malignant lymphoma	Human	長庚紀念醫院
	19.	3	Malignant lymphoma	Wistar rat	國家實驗動物繁殖及研究中心
	24.	3	Metastatic thyroid carcinoma	Human	省立新竹醫院
	25.	3	Chordoma	Human	新光吳火獅紀念醫院
	34.	4	Interstitial cell tumor	Dog	中興大學獸醫學系
	35.	4	Carcinoid tumor	Human	長庚紀念醫院
	36.	4	Hepatic carcinoid	Siamese cat	美國紐約動物醫學中心
	38.	6	Pheochromocytoma	Ferret	美國紐約動物醫學中心
	39.	6	Extra adrenal pheochromocytoma	Human	新光吳火獅紀念醫院
	40.	6	Mammary gland fibroadenoma	Rat	國家實驗動物繁殖及研究中心
	41.	6	Fibroadenoma	Human	省立豐原醫院
	42.	6	Canine benign mixed type mammary gland tumor	Pointer bitch	中興大學獸醫學系
	43.	6	Phyllodes tumor	Human	台中榮民總醫院
	44.	6	Canine oral papilloma	Dog	台灣大學獸醫學系
	45.	6	Squamous cell papilloma	Human	中國醫藥學院
	47.	7	1. Lung: metastatic carcinoma associated with cryptococcal infection. 2. Liver: metastatic carcinoma. 3. Adrenal gland, right: carcinoma (primary)	Human	三軍總醫院
	56.	8	Gastrointestinal stromal tumor	Human	台中榮民總醫院
	59.	8	Colonic adenocarcinoma	Dog	美國紐約動物醫學中心
	62.	8	Submucosal leiomyoma of stomach	Human	頭份為恭紀念醫院
	64.	8	1. Adenocarcinoma of sigmoid colon 2. Old schistosomiasis of rectum	Human	省立新竹醫院

腫瘤	71.	9	Myelolipoma	Human	台北耕莘醫院
	72.	9	Reticulum cell sarcoma	Mouse	國家實驗動物繁殖及研究中心
	73.	9	Hepatocellular carcinoma	Human	新光吳火獅紀念醫院
	74.	9	Hepatocellular carcinoma induced by aflatoxin B1	Wistar strain rats	台灣省農業藥物毒物試驗所
	81.	10	Angiomyolipoma	Human	羅東博愛醫院
	82.	10	Inverted papilloma of prostatic urethra	Human	省立新竹醫院
	84.	10	Nephrogenic adenoma	Human	國泰醫院
	86.	10	Multiple myeloma with systemic amyloidosis	Human	佛教慈濟綜合醫院
	87.	10	Squamous cell carcinoma of renal pelvis and calyces with extension to the ureter	Human	台北病理中心
	88.	10	Fibroepithelial polyp of the ureter	Human	台北耕莘醫院
	90.	10	Clear cell sarcoma of kidney	Human	台北醫學院
	93.	11	Mammary gland adenocarcinoma, complex type , with chondromucinous differentiation	Dog	台灣大學獸醫學系
	94.	11	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.	11	Transmissible venereal tumor	Dog	中興大學獸醫學系
	96.	11	Malignant lymphoma, large cell type, diffuse, B-cell phenotype	Human	彰化基督教醫院
	97.	11	Carcinosarcomas	Tiger	台灣養豬科學研究所
	98.	11	Mucinous carcinoma with intraductal carcinoma	Human	省立豐原醫院
	99.	11	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.	11	Malignant fibrous histiocytoma and paraffinoma	Human	中國醫藥學院
	102.	11	Pleomorphic adenoma (benign mixed tumor)	Human	佛教慈濟綜合醫院
腫瘤	103.	13	Atypical central neurocytoma	Human	新光吳火獅紀念醫院
	104.	13	Cardiac schwannoma	SD rat	國家實驗動物繁殖及研究中心
	109.	13	Desmoplastic infantile ganglioglioma	Human	高雄醫學院
	107.	13	1.Primary cerebral malignant lymphoma 2.Acquired immune deficiency syndrome	Human	台北市立仁愛醫院

腫瘤	111.	13	Schwannoma	Human	三軍總醫院
	114.	13	Osteosarcoma	Dog	美國紐約 動物醫學中心
	115.	14	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.	14	Krukenberg's Tumor	Human	台北病理中心
	117.	14	Primary insular carcinoid tumor arising from cystic teratoma of ovary.	Human	花蓮慈濟綜合醫院
	119.	14	Polypoid adenomyoma	Human	大甲李綜合醫院
	120.	14	Gonadal stromal tumor	Human	耕莘醫院
	122.	14	Gestational choriocarcinoma	Human	彰化基督教醫院
	123.	14	Ovarian granulosa cell tumor	Horse	中興大學獸醫學系
	129.	15	Kaposi's sarcoma	Human	華濟醫院
	131.	15	Basal cell carcinoma (BCC)	Human	羅東聖母醫院
	132.	15	Transmissible venereal tumor	Dog	臺灣大學獸醫學系
	137	17	Canine Glioblastoma Multiforme in Cerebellopontine Angle	Dog	中興大學 獸醫病理研究所
	143	18	Osteosarcoma associated with metallic implants	Dog	紐約動物醫學中心
	144	18	Radiation-induced osteogenic sarcoma	Human	花蓮慈濟綜合醫院
	145	18	Osteosarcoma, osteogenic	Dog	臺灣大學獸醫學系
	146	18	Pleomorphic rhabdomyosarcoma	Human	行政院衛生署 新竹醫院
	147	18	Papillary Mesothelioma of pericardium	Leopard	屏東科大學獸醫學系
	148	18	Cystic ameloblastoma	Human	台北醫學院
	149	18	Giant cell tumor of bone	Canine	中興大學獸醫學院
	150	18	Desmoplastic small round cell tumor (DSRCT)	Human	華濟醫院
	152	18	Hepatocellular carcinoma	Human	羅東聖母醫院
	158	20	Hemangiopericytoma	Human	羅東聖母醫院
	160	20	Cardiac fibroma	Human	高雄醫學大學 病理學科
	166	21	Nephroblastoma	Rabbit	紐約動物醫學中心
	168	21	Nephroblastoma	Pig	台灣動物科技研究所
	169	21	Nephroblastoma with rhabdomyoblastic differentiation	Human	高雄醫學大學病理科
	172	21	Spindle cell sarcoma	Human	羅東聖母醫院
	174	21	Juxtaglomerular cell tumor	Human	新光醫院病理檢驗科
	190	27	Angiosarcoma	Human	高雄醫學大學 病理學科
	192	27	Cardiac myxoma	Human	彰化基督教醫院 病理科
	194	27	Kasabach-Merrit syndrome	Human	慈濟醫院病理科
	195	27	Metastatic hepatocellular carcinoma, right atrium	Human	新光醫院病理科
	197	27	Papillary fibroelastoma of aortic valve	Human	新光醫院病理科

腫瘤	198	27	Extraplacental chorioangioma	Human	耕莘醫院病理科
	208	30	Granulocytic sarcoma (Chloroma) of uterine cervix	Human	高雄醫學大學 病理學科
	210	30	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	30	Lymphoma, multi-centric type	Dog	中興大學獸醫系
	214	30	CD30 (Ki-1)-postitive anaplastic large cell lymphoma (ALCL)	Human	新光醫院病理科
	215	30	Lymphoma, mixed type	Koala	台灣大學獸醫學系
	217	30	Mucosal associated lymphoid tissue (MALT) lymphoma, small intestine	Cat	臺灣大學獸醫學 研究所
	218	31	Nasal type NK/T cell lymphoma	Human	高雄醫學大學病理科
	222	31	Acquired immunodeficiency syndrome (AIDS)with disseminated Kaposi's sarcoma	Human	慈濟醫院病理科
	224	32	Epithelioid sarcoma	Human	彰化基督教醫院 病理科
	226	32	Cutaneous B cell lymphoma , eyelid , bilateral	Human	羅東聖母醫院病理科
	227	32	Extramammary Paget's disease (EMPD) of the scrotum	Human	萬芳北醫皮膚科 病理科
	228	32	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	34	Malignant melanoma, metastasis to intra-abdominal cavity	Human	財團法人天主教 耕莘醫院病理科
	232	34	Vaccine-associated rhabdomyosarcoma	Cat	台灣大學獸醫學系
	233	34	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	34	1. Neurofibromatosis, type I 2. Malignant peripheral nerve sheath tumor (MPNST)	Human	花蓮慈濟醫院病理科
	239	35	Glioblastoma multiforme	Human	羅東聖母醫院
	240	35	Pineoblastoma	Wistar rat	綠色四季
	241	35	Chordoid meningioma	Human	高醫病理科
	243	35	Infiltrating lobular carcinoma of left breast with meningeal carcinomatosis and brain metastasis	Human	花蓮慈濟醫院病理科
	245	35	Microcystic Meningioma.	Human	耕莘醫院病理科
	247	36	Well-differentiated fetal adenocarcinoma without lymph node metastasis	Human	新光吳火獅紀念醫院
	249	36	Adenocarcinoma of lung.	Human	羅東聖母醫院
	252	36	Renal cell carcinoma	Canine	國立台灣大學獸醫學系獸醫學研究所
	253	36	Clear cell variant of squamous cell	Human	高雄醫學大學附設

			carcinoma, lung		中和醫院病理科
	256	37	Metastatic adrenal cortical carcinoma	Human	耕莘醫院病理科
	258	37	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	38	Medullar thyroid carcinoma	Canine	臺灣大學獸醫學系
	264	39	Merkel cell carcinoma	Human	羅東博愛醫院
	266	39	Cholangiocarcinoma	Human	耕莘醫院病理科
	268	39	Sarcomatoid carcinoma of renal pelvis	Human	花蓮慈濟醫院病理科
	269	39	Mammary Carcinoma	Canine	中興大學獸醫學系
	270	39	Metastatic prostatic adenocarcinoma	Human	耕莘醫院病理科
	271	39	Malignant canine peripheral nerve sheath tumors	Canine	臺灣大學獸醫學系
	272	39	Sarcomatoid carcinoma, lung	Human	羅東聖母醫院
	273	40	Vertebra,T12,laminectomy, metastatic adenoid cystic carcinoma	Human	彰化基督教醫院
腫瘤	274	40	rhabdomyosarcoma	Canine	臺灣大學獸醫學系
	275	40	Fetal rhabdomyosarcoma	SD Rat	中興大學獸醫學系
	276	40	Adenocarcinoma, metastatic, iris, eye	Human	高雄醫學大學
	277	40	Axillary lymph node metastasis from an occult breast cancer	Human	羅東博愛醫院
	278	40	Hepatocellular carcinoma	Human	國軍桃園總醫院
	279	40	Feline diffuse iris melanoma	Faline	中興大學獸醫學系
	280	40	Metastatic malignant melanoma in the brain and inguinal lymph node	Human	花蓮慈濟醫院病理科
	281	41	Tonsil Angiosarcoma	Human	羅東博愛醫院
	282	41	Malignant mixed mullerian tumor	Human	耕莘醫院病理科
	283	41	Renal cell tumor	Rat	中興大學獸醫學系
	284	41	Multiple Myeloma	Human	花蓮慈濟醫院病理科
	285	41	Myopericytoma	Human	新光吳火獅紀念醫院
	287	41	Extramedullary plasmacytoma with amyloidosis	Canine	臺灣大學獸醫學系
	288	42	Metastatic follicular carcinoma	Human	羅東聖母醫院病理科
	289	42	Primitive neuroectodermal tumor (PNET), T-spine.	Human	羅東博愛醫院病理科
	292	42	Hemangioendothelioma of bone	Human	花蓮慈濟醫院病理科
	293	42	Malignant tumor with perivascular epithelioid differentiation, favored malignant PEComa	Human	彰化基督教醫院
	297	43	Mucin-producing cholangiocarcinoma	Human	基隆長庚醫院
	300	43	Cutaneous epitheliotropic lymphoma	Canine	臺灣大學 獸醫專業學院
	301	43	Cholangiocarcinoma	Felis Lynx	臺灣大學 獸醫專業學院
	302	43	Lymphoma	Canine	臺灣大學 獸醫專業學院
	303	43	Solitary fibrous tumor	Human	彰化基督教醫院

腫瘤	304	43	Multiple sarcoma	Canine	臺灣大學 獸醫專業學院
	306	44	Malignant solitary fibrous tumor of pleura	Human	佛教慈濟綜合醫院暨 慈濟大學
	307	44	Ectopic thymic carcinoma	Human	彰濱秀傳紀念醫院 病理科
	308	44	Medullary carcinoma of the right lobe of thyroid	Human	彰化基督教醫院病 理科
	309	44	Thyroid carcinosarcoma with cartilage and osteoid formation	Canine	臺灣大學 獸醫專業學院
	312	44	Lymphocytic leukemia/lymphoma	Koala	臺灣大學 獸醫專業學院
	313	45	Neuroendocrine carcinoma of liver	Human	佛教慈濟綜合醫院暨 慈濟大學
	314	45	Parachordoma	Human	羅東博愛醫院病理科
	315	45	Carcinoma expleomorphic adenoma, submandibular gland	Human	天主教耕莘醫院 病理科
	316	45	Melanoma, tongue	Canine	國立臺灣大學 獸醫專業學院
	317	45	Renal cell carcinoma, papillary type	Canine	國立臺灣大學 獸醫專業學院
	323	46	Metastatic papillary serous cystadenocarcinoma, abdomen	Human	國軍桃園總醫院
	324	46	Malignant gastrointestinal stromal tumor	Human	天主教耕莘醫院
	329	47	Sclerosing stromal tumor	Human	彰化基督教醫院
	330	47	Pheochromocytoma	Human	天主教耕莘醫院
	334	48	Metastatic infiltrating ductal carcinoma, liver	Human	佛教慈濟綜合醫院
	335	48	Adenoid cystic carcinoma, grade II, Rt breast	Human	天主教耕莘醫院
	336	48	Malignant lymphoma, diffuse, large B-cell, right neck	Human	林新醫院
	337	48	Pulmonary carcinoma, multicentric	Dog	國立臺灣大學 獸醫專業學院
	338	48	Malignant melanoma, multiple organs metastasis	Rabbit	國立中興大學 獸醫學院
	340	49	Mucinous-producing urothelial-type adenocarcinoma of prostate	Human	天主教耕莘醫院
	342	49	Plexiform fibromyxoma	Human	彰化基督教醫院
	343	49	Malignant epithelioid trophoblastic tumor	Human	佛教慈濟綜合醫院
	344	49	Epithelioid sarcoma	Human	林新醫院
	346	49	Transmissible venereal tumor	Dog	國立臺灣大學 獸醫專業學院
	347	50	Ewing's sarcoma (PNET/ES tumor)	Human	天主教耕莘醫院 病理科

腫瘤	348	50	Malignant peripheral nerve sheath tumor, epithelioid type	Human	林新醫院病理科
	349	50	Low grade fibromyxoid sarcoma	Human	高雄醫學大學附設中和紀念醫院病理科
	351	50	Orbital embryonal rhabdomyosarcoma	Dog	Gifu University, Japan (岐阜大学)
	354	50	Granular cell tumor	Dog	國立臺灣大學獸醫專業學院
	356	50	Malignant neoplasm of unknown origin, cerebrum	Dog	國立臺灣大學獸醫專業學院
	357	51	Small cell Carcinoma, Urinary bladder	Human	天主教耕莘醫院
	364	51	Perivascular epithelioid cell tumor, in favor of lymphangiomyomatosi	Human	高雄醫學大學附設中和紀念醫院病理科
	365	52	Angiosarcoma, skin (mastectomy)	Human	天主教耕莘醫院病理科
	366	52	Rhabdomyoma (Purkinjeoma), heart	Swine	屏東縣家畜疾病防治所
	368	52	Langerhans cell sarcoma, lung	Human	高雄醫學大學附設中和紀念醫院病理科
	369	52	Biliary cystadenocarcinoma, liver	Camel	國立屏東科技大學獸醫教學醫院病理科
	371	52	Malignant melanoma, nasal cavity	Human	羅東博愛醫院病理科
	373	53	Malignant giant cell tumor of tendon sheath	Human	天主教耕莘醫院病理科
	376	53	Malignant mesothelioma of tunica vaginalis	Golden hamster	中興大學獸醫病理生物學研究所
	377	53	Perivascular Epithelioid Cell Tumor (PEComa) of the uterus	Human	彰化基督教醫院病理部
	378	53	Medullary carcinoma	Human	高雄醫學大學病理部
	389	55	Mantle cell lymphoma involving ascending colon, cecum, ileum, appendix and regional lymph nodes with hemorrhagic necrosis in the colon and leukemic change.	Human	奇美醫院病理部
	390	55	Pulmonary Squamous Cells Carcinoma of a Canine	Dog	國立屏東科技大學獸醫教學醫院病理科
	391	55	Squamous cell carcinoma, lymphoepithelioma-like type	Human	高醫附設醫院病理科
	393	55	Malignant peripheral nerve sheath tumor (MPNST), subcutis, canine.	Dog	中興大學獸醫學系
	394	55	Desmoplastic malignant melanoma (mimic malignant peripheral nerve sheath tumor)	Human	中山醫學大學醫學系病理學科暨附設醫院病理科
	397	56	Atypical meningioma	Human	奇美醫院病理科
	401	57	Lymph nodes, excision - Hodgkin's	Human	天主教耕莘醫院

			lymphoma, mixed cellularity		
	402	57	1. Leukemia, nonlymphoid, granulocytic, involving bone marrow, spleen, liver, heart, lungs, lymph nodes, kidney, hardian gland, duodenum and pancreas. 2. Pinworm infestation, moderate, large intestines. 3. Fibrosis, focal, myocardium.	Mouse	國家實驗動物中心
腫瘤	403	57	Non-secretory multiple myeloma with systemic amyloidosis	Human	佛教慈濟綜合醫院暨慈濟大學病理科
	404	57	1. Hepatocellular adenocarcinoma, multifocal, severe, liver 2. Hemorrhage, moderate, acute, body cavity 3. Bumble foot, focal, mild, chronic, food pad 4. cyst and atherosclerosis, chronic, testis	Goose	國立中興大學獸醫病理生物學研究所
	406	57	Castleman's disease	Human	羅東博愛醫院
	407	58	Hepatoid adenocarcinoma of colon with multiple liver metastases	Human	羅東博愛醫院
	408	58	Cardiac and pulmonary melanoma	Pig	國立中興大學獸醫病理生物學研究所
	409	58	Double Tumors: (1) small cell carcinoma of lung (2) Hodgkin's lymphoma, mixed cellularity type. Acrokeratosis paraneoplastica	Human	佛教慈濟綜合醫院暨慈濟大學病理科
	410	58	Von Hippel–Lindau disease	Human	奇美醫院病理部
	411	58	Multiple neoplasia	Tiger	國立屏東科技大學獸醫教學醫院病理科
	412	58	Hepatocellular carcinoma and multiple myeloma	Human	中山醫學大學醫學系病理學科暨附設醫院病理科
	413	59	DEN plus AAF carcinogens induced hepatic tumor in male rats	Rat	中興大學獸醫病理生物學研究所
	417	59	Alveolar soft part sarcoma	Human	高雄醫學大學附設中和紀念醫院病理科
	418	60	Seminoma associated with supernumerary testicles	Human	羅東博愛醫院
	422	61	Retinoblastoma in a baby girl	Human	彰化基督教醫院
	423	61	Colloid goiter in a female Radiated tortoise (*Astrochelys radiata*)	Tortoise	台灣大學獸醫專業學院分子暨比較病理生物學研究所
	424	61	Lymphoepithelial carcinoma in a women	Human	羅東博愛醫院
	425	61	Histiocytic sarcoma in a SJL/J mouse	mouse	國家實驗動物中心
	428	62	Maligant lymphoma, diffuse large B-cell (DLBCL)	Human	國軍桃園總醫院

	429	62	Immune reconstitution inflammatory syndrome (IRIS)-associated Kaposi's sarcoma	Human	Immune reconstitution inflammatory syndrome (IRIS)-associated Kaposi's sarcoma
	430	62	Mammary adenocarcinoma	Cat	中興大學獸醫病理生物學研究所
	433	62	Rhabdomyosarcoma	Mouse	國家實驗動物中心
	434	62	Malignant pheochromocytoma	Human	嘉義聖馬爾定醫院
	436	63	Primary non-Hodgkins lymphoma of terminal ileum	Human	國軍桃園總醫院
	438	63	Ectopic thyroid gland tumor	Dog	台灣大學獸醫專業學院分子暨比較病理生物學研究所
	440	63	Hepatocellular cell carcinoma; Squamous cell carcinoma	Human	嘉義聖馬爾定醫院
細菌	6.	1	Tuberculosis	Monkey	臺灣大學獸醫學系
	7.	1	Tuberculosis	Human	省立新竹醫院
	12.	2	H. pylori-induced gastritis	Human	台北病理中心
	13.	2	Pseudomembranous colitis	Human	省立新竹醫院
	26.	3	Swine salmonellosis	Pig	中興大學獸醫學系
	27.	3	Vegetative valvular endocarditis	Pig	台灣養豬科學研究所
	28.	4	Nocardiosis	Human	台灣省立新竹醫院
	29.	4	Nocardiosis	Largemouth bass	屏東縣家畜疾病防治所
	32.	4	Actinomycosis	Human	台灣省立豐原醫院
	33.	4	Tuberculosis	Human	苗栗頭份為恭紀念醫院
	53.	7	Intracavitary aspergilloma and cavitary tuberculosis, lung.	Human	羅東聖母醫院
	54.	7	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.	7	Tuberculous enteritis with perforation	Human	佛教慈濟綜合醫院
	61.	8	Spirochetosis	Goose	國立嘉義農專獸醫科
	63.	8	Proliferative enteritis (*Lawsonia intracellularis* infection)	Porcine	屏東縣家畜疾病防治所
	68.	9	Liver abscess (Klebsillae pneumoniae)	Human	台北醫學院
	77.	10	Xanthogranulomatous inflammation with nephrolithiasis, kidney, right. Ureteral stone, right.	Human	羅東聖母醫院
	79.	10	Emphysematous pyelonephritis	Human	彰化基督教醫院
	89.	10	Severe visceral gout due to kidney damaged Infectious serositis	Goose	中興大學獸醫學系

	108.	13	Listeric encephalitis	Lamb	屏東縣家畜疾病防治所
	113.	13	Tuberculous meningitis	Human	羅東聖母醫院
	134.	16	Swine salmonellosis with meningitis	Swine	中興大學獸醫學系
	135.	16	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	17	Coliform septicemia of newborn calf	Calf	屏東縣家畜疾病防治所
	161	20	Porcine polyserositis and arthritis (Glasser's disease)	Pig	中興大學獸醫學院
	162	20	Mycotic aneurysm of jejunal artery secondary to infective endocarditis	Human	慈濟醫院病理科
	170	21	Chronic nephritis caused by Leptospira spp	Pig	中興大學獸醫學院
	173	21	Ureteropyelitis and cystitis	Pig	中國化學製藥公司
	254	36	Pulmonary actinomycosis.	Human	耕莘醫院病理科
	259	37	Tuberculous peritonitis	Human	彰化基督教醫院病理科
	260	38	Septicemic salmonellosis	Piglet	屏東科技大學獸醫系
	261	38	Leptospirosis	Human	慈濟醫院病理科
	267	39	Mycobacteriosis	Soft turtles	屏東科技大學獸醫系
	290	42	*Staphylococcus* spp. infection	Formosa Macaque	中興大學獸醫病理學研究所
	291	42	Leptospirosis	Dog	台灣大學獸醫學系
	296	43	Leptospirosis	Human	花蓮慈濟醫院
	305	43	Cryptococcus and Tuberculosis	Human	彰濱秀傳紀念醫院
	319	46	Placentitis, Coxiella burnetii	Goat	台灣動物科技研究所
	321	46	Pneumonia, Buirkholderia pseudomallei	Goat	屏東縣家畜疾病防治所
細菌	339	48	Mycoplasmosis	Rat	國家實驗動物中心
	352	50	Chromobacterium violaceum Septicemia	Gibbon	Bogor Agricultural University, Indonesia
	353	50	Salmonellosis	Pig	國立中興大學獸醫學院
	367	52	Melioidosis (Burkholderia pseudomallei), lung	Human	花蓮慈濟醫院
	370	52	Suppurative bronchopneumonia (*Bordetellae trematum)* with *Trichosomoides crassicauda* infestation	Rat	國立中興大學獸醫學院
	374	53	Pulmonary coccidiodomycosis	Human	彰化基督教醫院
	375	53	Paratuberculosis in Macaca cyclopis	Macaca cyclopis	國立屏東科技大學獸醫學院
	379	53	Bovine Johne's disease (BJD) or paratuberculosis of cattle	Dairy cow	屏東縣家畜疾病防治所
	380	53	NTB, Mycobacterium abscessus	Human	佛教慈濟綜合醫院暨

					慈濟大學病理科
	382	54	Leptospirosis	Pig	國立屏東科技大學 獸醫學院
	384	54	Neisseria Infected Pneumonitis	Cat	中興大學獸醫學系
	385	54	Mycobacteria avian complex dacryocyctitis	Human	花蓮佛教慈濟綜合醫院
	387	54	Swine Erysipelas	Pig	屏東縣家畜疾病防治所
	396	56	Suppurative meningitis caused by Streptococcus spp in pigs	Pig	國立中興大學獸醫病理生物學研究所
	399	56	Listeric encephalitis in dairy goats	Goat	屏東縣家畜疾病防治所
	435	63	Adrenal gland, left, adrenectomy, granulomatous inflammation, tuberculosis	Human	花蓮佛教慈濟綜合醫院
病毒	21.	3	Newcastle disease	Chicken	台灣大學獸醫學系
	22.	3	Herpesvirus infection	Goldfish	台灣大學獸醫學系
	30.	4	Demyelinating canine distemper encephalitis	Dog	台灣養豬科學研究所
	31.	4	Adenovirus infection	Malayan sun bears	台灣大學獸醫學系
	50.	7	Porcine cytomegalovirus infection	Piglet	台灣省家畜衛生 試驗所
	55.	7	Infectious laryngo-tracheitis (Herpesvirus infection)	Broilers	國立屏東技術學院獸醫學系
	69.	9	Pseudorabies (Herpesvirus infection)	Pig	台灣養豬科學研究所
	78.	10	Marek’s disease in native chicken	Chicken	屏東縣家畜疾病 防治所
	92.	11	Foot- and- mouth disease (FMD)	Pig	屏東縣家畜疾病 防治所
	101.	11	Swine pox	Pig	屏東科技大學 獸醫學系
	110.	13	Pseduorabies	Piglet	國立屏東科技大學
	112.	13	Avian encephalomyelitis	Chicken	國立中興大學
	128.	15	Contagious pustular dermatitis	Goat	屏東縣&台東縣家畜疾病防治所
	130.	15	Fowl pox and Marek’s disease	Chicken	中興大學獸醫學系
	133.	16	Japanese encephalitis	Human	花蓮佛教慈濟綜合醫院
	136	17	Viral encephalitis, polymavirus infection	Lory	美國紐約 動物醫學中心
	138	17	1. Aspergillus spp. encephalitis and myocarditis 2. Demyelinating canine distemper encephalitis	Dog	台灣大學獸醫學系
	153	19	Enterovirus 71 infection	Human	彰化基督教醫院

	154	19	Ebola virus infection	African Green monkey	行政院國家科學委員會實驗動物中心
	155	19	Rabies	Longhorn Steer	台灣大學獸醫學系
	163	20	Parvoviral myocarditis	Goose	屏東科技大學獸醫學系
	199	28	SARS	Human	台大醫院病理科
	200	28	TGE virus	swine	臺灣動物科技研究所
	201	28	Feline infectious peritonitis(FIP)	Feline	台灣大學獸醫學系
	209	30	Chicken Infectious Anemia (CIA)	Layer	屏東防治所
病毒	219	31	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	31	Cytomegalovirus colitis	Human	彰化基督教醫院病理科
	221	31	Canine distemper virus Canine adenovirus type ll co-infection	Canine	國家實驗動物繁殖及研究中心
	223	32	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	35	Hydranencephaly	Cattle	國立屏東科技大學獸醫學系
	248	36	Porcine Cytomegalovirus (PCMV) infection	Swine	國立屏東科技大學獸醫學系
	250	36	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
病毒	255	37	Vaccine-induced canine distemper	gray foxes	國立台灣大學獸醫學系
	265	39	Bronchointerstitial pneumonia (PCV II infection)	Swine	台灣大學獸醫學系

	295	42	Feline infectious peritonitis (FIP)	Cat	中興大學獸醫病理所
	362	51	Canine distemper virus infection combined pulmonary dirofilariasis	Dog	國家實驗研究院
	381	54	Polyomavirus infection of urinary tract	Human	羅東博愛醫院
	405	57	Porcine circovirus-associated lymphadenitis	Swine	國立屏東科技大學 獸醫教學醫院病理科
	414	59	Rabies virus infection	Human	佛教慈濟綜合醫院暨 慈濟大學病理科
	415	59	Canine distemper virus infection	Dog	台灣大學 獸醫專業學院 分子暨比較病理生物 學研究所
	420	60	Respiratory syncytial virus infection	Human	佛教慈濟綜合醫院暨 慈濟大學病理科
	421	60	Porcine epidemic diarrhea (PED)	Piglet	國立中興大學獸醫病 理生物學研究所
	439	63	Porcine proliferative enteritis (PPE)	Swine	國立中興大學獸醫病 理生物學研究所
黴菌	23.	3	Chromomycosis	Human	台北病理中心
	47.	7	Lung: metastatic carcinoma associated with cryptococcal infection. Liver: metastatic carcinoma. Adrenal gland, right: carcinoma (primary)	Human	三軍總醫院
	48.	7	Adiaspiromycosis	Wild rodents	台灣大學獸醫學系
	52.	7	Aspergillosis	Goslings	屏東縣家畜疾病 防治所
	53.	7	Intracavitary aspergilloma and cavitary tuberculosis, lung.	Human	羅東聖母醫院
	54.	7	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.	13	Mucormycosis Diabetes mellitus	Human	花蓮佛教慈濟綜合醫 院
	127.	15	Eumycotic mycetoma	Human	花蓮佛教慈濟綜合醫 院
	138	17	1. Aspergillus spp. encephalitis and myocarditis 2. Demyelinating canine distemper encephalitis	Dog	台灣大學獸醫學系
黴菌	298	43	Systemic Candidiasis	Tortoise	中興大學獸醫學院
	318	45	Alfatoxicosis in dogs	Canine	國立臺灣大學 獸醫專業學院
	322	46	Allergic fungal sinusitis	Human	羅東博愛醫院
	326	46	Meningoencephalitis, Aspergillus flavus	Cat	國立臺灣大學 獸醫專業學院

	331	47	Histoplasmosis	Human	花蓮慈濟醫院病理科
	332	47	Pulmonary Blastomycosis	Rat	中興大學獸醫學院
	355	50	Encephalitozoonosis	Rabbit	國立中興大學 獸醫學院
	356	50	Eosinophilic granuloma with fungal infection, Skin	Cat	國立臺灣大學 獸醫專業學院
	386	54	Dermatophytic pseudomycetoma	Cat	台灣動物科技研究所
	395	56	Systemic Cryptococcus neoformans infection in a Golden Retriever	Dog	國立台灣大學分子暨比較病理生物學研究所
寄生蟲	14.	2	Dirofilariasis	Dog	台灣省家畜衛生試驗所
	15.	2	Pulmonary dirofilariasis	Human	台北榮民總醫院
	20.	3	Sparganosis	Human	台北榮民總醫院
	46.	7	Feline dirofilariasis	Cat	美國紐約動物醫學中心
	49.	7	Echinococcosis	Human	台北榮民總醫院
	60.	8	Intestinal capillariasis	Human	台北馬偕醫院
	64.	8	Adenocarcinoma of sigmoid colon Old schistosomiasis of rectum	Human	省立新竹醫院
	66.	8	Echinococcosis	Chapman's zebra	台灣大學獸醫學系
	67.	9	Hepatic ascariasis and cholelithiasis	Human	彰化基督教醫院
	106.	13	Parasitic meningoencephalitis, caused by Toxocara canis larvae migration	Dog	臺灣養豬科學研究所
	139	17	Disseminated strongyloidiasis	Human	花蓮佛教慈濟綜合醫院
	141	17	Eosinophilic meningitis caused by Angiostrongylus cantonensis	Human	台北榮民總醫院 病理檢驗部
	156	19	Parastrongylus cantonensis infection	Formosan gem-faced civet	中興大學獸醫學院
	157	19	Capillaria hepatica, Angiostongylus cantonensis	Norway Rat	行政院農業委員會 農業藥物毒物試驗所
	202	29	Colnorchiasis	Human	高雄醫學院附設醫院
	203	29	Trichuriasis	Human	彰化基督教醫院
寄生蟲	204	29	Psoroptes cuniculi infection (Ear mite)	Rabbit	農業藥物毒物試驗所
	205	29	Pulmonary dirofilariasis	Human	和信治癌中心醫院
	206	29	Capillaries philippinesis	Human	和信治癌中心醫院
	207	29	Adenocarcinoma with schistosomiasis	Human	花蓮佛教慈濟綜合醫院
	286	41	Etiology- consistent with *Spironucleus* (*Hexamita*) *muris*	Rat	國家實驗動物繁殖及研究中心
	327	46	Dermatitis, mange infestation	Serow	中興大學獸醫學院
	328	46	Trichosomoides crassicauda, urinary bladder	Rat	國家實驗動物中心

	362	51	Canine distemper virus infection combined pulmonary dirofilariasis	Dog	國家實驗研究院
	370	52	Suppurative bronchopneumonia (*Bordetellae trematum)* with *Trichosomoides crassicauda* infestation	Rat	國立中興大學 獸醫學院
	416	59	Toxoplasmosis in a finless porpoise	Finless porpoise	國立屏東科技大學獸醫教學醫院病理科
原蟲	4.	1	Cryptosporidiosis	Goat	台灣養豬科學研究所
	15.	2	Amoebiasis	Lemur fulvus	台灣養豬科學研究所
	16.	2	Toxoplasmosis	Squirrel	台灣養豬科學研究所
	17.	2	Toxoplasmosis	Pig	屏東技術學院 獸醫學系
	51.	7	Pneumocystis carinii pneumonia	Human	台北病理中心
	57.	8	Cecal coccidiosis	Chicken	中興大學獸醫學系
	65.	8	Cryptosporidiosis	Carprine	台灣養豬科學研究所
	211	30	Avian malaria, African black-footed penguin	Avian	臺灣動物科技研究所
	242	35	Neosporosis	Cow	國立屏東科技大學 獸醫學系
	263	38	Intestinal amebiasis	Human	彰化基督教醫院 病理科
	320	46	Cutaneous leishmaniasis	Human	佛教慈濟綜合醫院
	325	46	Myocarditis/encephalitis, Toxoplasma gondii	Wallaby	國立臺灣大學 獸醫專業學院
立克次體	229	32	Necrotizing inflammation due to scrub typhus	Human	佛教慈濟醫院病理科
	251	36	Scrub typhus with diffuse alveolar damage in bilateral lungs.	Human	佛教慈濟醫院病理科
皮膚	216	30	Cytophagic histiocytic panniculitis with terminal hemophagocytic syndrome	Human	佛教慈濟綜合醫院病理科
	359	51	Eosinophilic granuloma with fungal infection, Skin	Cat	國立臺灣大學 獸醫專業學院
	360	51	Septa panniculitis with lymphocytic vasculitis	Human	慈濟綜合醫院暨慈濟大學
其它	9.	2	Perinephric pseudocyst	Cat	台灣大學獸醫學系
	10.	2	Choledochocyst	Human	長庚紀念醫院
	11.	2	Bile duct ligation	Rat	中興大學獸醫學系
	37.	4	Myositis ossificans	Human	台北醫學院
	75.	9	Acute yellow phosphorus intoxication	Rabbits	中興大學獸醫學系
	76.	10	Polycystic kidney bilateral and renal failure	Cat	美國紐約 動物醫學中心
	80.	10	Glomerular sclerosis and hyalinosis, segmental, focal, chronic, moderate	SHR rat	國防醫學院 & 國家實驗動物繁殖及研究

		Benign hypertension		中心
83.	10	Phagolysosome-overload nephropathy	SD rats	國家實驗動物 繁殖及研究中心
85.	10	Renal amyloidosis	Dog	台灣養豬科學研究所
89.	10	Severe visceral gout due to kidney damaged infectious serositis	Goose	中興大學獸醫學系
91.	10	Hypervitaminosis D	Orange-rumped agoutis	台灣大學獸醫學系
118.	14	Cystic endometrical hyperplasia	Dog	臺灣養豬科學研究所
121.	14	Cystic subsurface epithelial structure (SES)	Dog	國科會實驗動物中心
124.	15	Superficial necrolytic dermatitis	Dog	美國紐約 動物醫學中心
125.	15	Solitary congenital self-healing histiocytosis	Human	羅東博愛醫院
126.	15	Alopecia areata	Mouse	國家實驗動物 繁殖及研究中心
142	17	Avian encephalomalacia (Vitamin E deficiency)	Chicken	國立屏東科技大學 獸醫學系
151	18	Osteodystrophia fibrosa	Goat	台灣養豬科學研究所 &台東縣家畜疾病防治所
159	20	Hypertrophic cardiomyopathy	Pig	台灣大學獸醫學系
165	21	Chinese herb nephropathy	Human	三軍總醫院 病理部及腎臟科
167	21	Acute pancreatitis with rhabdomyolysis	Human	慈濟醫院病理科
171	21	Malakoplakia	Human	彰化基督教醫院
183	25	Darier's disease	Human	高雄醫學大學病理科
191	27	1. Polyarteritis nodosa 2. Hypertrophic Cardiomyopathy	Feline	台灣大學獸醫學系
193	27	Norepinephrin cardiotoxicity	Cat	台中榮總
196	27	Cardiomyopathy (Experimental)	Mice	綠色四季
212	30	Kikuchi disease (histiocytic necrotizing lymphandenitis)	Lymphandenitis	耕莘醫院病理科
225	32	Calcinosis circumscripta, soft tissue of the right thigh, dog	Dog	台灣大學獸醫所
230	34	Hemochromatosis, liver, bird	Bird	台灣大學獸醫學系
234	34	Congenital hyperplastic goiter	Holstein calves	屏東縣家畜疾病 防治所
236	34	Hepatic lipidosis (fatty liver)	Rats	中興大學獸醫學 病理學研究所
237	35	Arteriovenous malformation (AVM) of cerebrum	Human	耕莘醫院病理科
244	35	Organophosphate induced delayed neurotoxicity in hens	Hens	中興大學獸醫學 病理學研究所
257	37	Severe lung fibrosis after chemotherapy in a child with Ataxia- Telangiectasia	Human	慈濟醫院病理科

其它

	294	42	Arteriovenous malformation of the left hindlimb	Dog	台灣大學獸醫學系
	299	43	Polioencephalomalacia	Goat kid	屏東家畜疾病防治所
	310	44	Hyperplastic goiter	Piglet	屏東家畜疾病防治所
	311	44	Melamine and cyanuric acid contaminated pet food induced nephrotoxicity	Rat	中興大學獸醫學 病理學研究所
	318	45	Alfatoxicosis	Canine	國立臺灣大學 獸醫專業學院
	333	47	Lordosis, C6 to C11	Penguin	國立臺灣大學 獸醫專業學院
	341	49	Pulmonary placental transmogrification	Human	羅東博愛醫院
	345	49	Acute carbofuran intoxication	Jacana	國立中興大學 獸醫學院
	350	50	Malakoplakia, liver	Human	慈濟綜合醫院暨慈濟大學
	351	50	Eosionphilic granuloma, Right suboccipital epidural mass	Human	羅東博愛醫院病理科
	359	51	Eosinophilic granuloma with fungal infection, Skin	Cat	國立臺灣大學 獸醫專業學院
	360	51	Septa panniculitis with lymphocytic vasculitis	Human	慈濟綜合醫院暨慈濟大學
	361	51	Hepatotoxicity of SMA-AgNPs	Mouse	國立中興大學獸醫病理生物學研究所
	363	51	Hypertrophy osteopathy	Cat	國立臺灣大學 獸醫專業學院
	372	52	Snake bite suspected, skin and spleen	Monkey (red guenon)	國立臺灣大學 獸醫專業學院
其他	383	54	Langerhans cell histiocytosis	Human	聖馬爾定醫院病理科
	388	54	Canine protothecosis	Dog	國立臺灣大學 獸醫專業學院
	392	55	Lithium nephrotoxicity	Human	佛教慈濟綜合醫院暨慈濟大學病理科
	398	56	Gamma-knife-radiosurgery-related demyelination	Human	佛教慈濟綜合醫院暨慈濟大學病理科
	400	56	Canine Disseminated form Granulomatous Meningoencephalitis (GME)	Dog	國立屏東科技大學獸醫教學醫院病理科
	419	60	Mucopolysaccharidosis	Cat	國立中興大學獸醫病理生物學研究所
	426	61	Phleboliths in a man	Human	台北醫學大學附設醫院口腔外科口腔病理科
	427	61	Visceral gout in a Green iguana (*Iguana iguana*)	Iguana	中興大學獸醫病理生物學研究所
	431	62	pulmonary alveolar proteinosis	Human	羅東博愛醫院病理科

432	62	Congenital pulmonary airways malformation	Human	高雄醫學大學
437	63	Large solitary luteinized follicular cyst of pregnancy and puerperium	Human	羅東博愛醫院病理科
441	63	Protothecosis	Dog	國家實驗動物繁殖及研究中心

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
國立中興大學　獸醫病理生物學研究所
廖俊旺 教授實驗室
助理　吳昭慧
sosia3342@gmail.com
04-22840894 轉 315
402 台中市南區國光路 250 號 動物疾病診斷中心 3F 305 室

----------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：一般會員新台幣一仟元，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：402 台中市南區國光路 250 號 動物疾病診斷中心 3F 305 室、電話：04-22840894#315、傳真 04-22852186。

中華民國比較病理學會入會申請及會員卡

會員電腦編號

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<tr><td rowspan="2">姓名</td><td>中文</td><td></td><td rowspan="2">姓別</td><td>□ 男
□ 女</td><td>出生</td><td colspan="2">民國　年　月　日</td><td rowspan="2">出生地</td><td rowspan="2"></td></tr>
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<tr><td colspan="5">研究員 主任 其他:</td></tr>
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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>審核結果</td></tr>
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