

中華民國比較病理學會

Chinese Society of Comparative Pathology

第 59 次比較病理學研討會

(狂犬病及相關中樞系統感染症)



National Pingtung University of Science and Technology

國立屏東科技大學 主辦

November 16, 2013 (中華民國 102 年 11 月 16 日)

Chinese Society of Comparative Pathology

中華民國比較病理學會 協辦

SCHEDULE

59th MEETING OF COMPARATIVE PATHOLOGY

中華民國比較病理學會第 59 次比較病理學研討會

Date: November 16, 2013 (Sat) 09:30~16:30

時間：102 年 11 月 16 日(星期六) 09:10~16:30

Location: National Pingtung University of Science and Technology 屏東科技大學獸醫學院獸醫學系 VM106 教室

地址：91201 屏東縣內埔鄉老埤村學府路 1 號

Telephone: 08-7703202#5078

電話：08-7703202#5078

Time(時間)	Schedule(議程)		Moderator(主持)
09:10~09:30	Registration (報到)		
09:30~09:40	Opening Ceremony (致詞) –Dr. C. W. Shih 施洽雯 主任		
09:40~10:30	專題演講	Dr. P. H. Liao (廖碧虹 博士) 講題：Involvement of extraneural tissues and upregulation of inducible nitric oxide synthase after experimental infection with rabies virus in BALB/c mice and LEW/SsN rats	Dr. C. W. Shih 施洽雯 主任
10:30~10:50	Coffee Break		
10:50~11:40	專題演講	Dr. H. Y. Chiou (邱慧英 獸醫師) 講題：台灣鼬獾相關性狂犬病爆發：病理與分子特性 The Outbreak of Ferret-Badger Associated Rabies in Taiwan: Pathological and Molecular Characterization	Dr. C. W. Shih 施洽雯 主任
11:40~13:10	Lunch, and Board Meeting (中華民國比較病理學會理監事會議)		
13:10~13:40	Case 413	J.H. Wu (吳昭慧 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)	劉振軒 老師
13:40~14:10	Case 414	Y. H. Hsu (許永祥 主任) Buddhist Tzu Chi General Hospital and University, Taiwan (佛教慈濟綜合醫院暨慈濟大學病理科)	
14:10~14:30	Coffee Break		
14:30~15:00	Case 415	Y. C. Liao (廖翊君 獸醫師) Graduate Institute of Molecular and Comparative Pathobiology, School of Veterinary Medicine, National Taiwan University, Taipei (台灣大學獸醫專業學院分子暨比較病理生物學研究所)	張聰洲 老師
15:00~15:30	Case 416	S.C. Hsu (徐小晴 獸醫師) Department of veterinary pathology, National Pingtung University of Science and Technology (國立屏東科技大學獸醫教學醫院病理科)	
15:30~16:00	Case 417	Y. C. C. Lai (賴彥長 醫師) Kaohsiung Medical University Chung-Ho Memorial Hospital (高雄醫學大學中和附設醫院)	
16:00~16:30	General Discussion (綜合討論)		

目 錄

一、	Schedule (議程表)	1
二、	目錄.....	2
三、	專題演講.....	3
四、	Case Signalment	4
五、	Case Diagnosis.....	6
	Comparative Pathology Case 413.....	6
	Comparative Pathology Case 414.....	11
	Comparative Pathology Case 415.....	19
	Comparative Pathology Case 416.....	22
	Comparative Pathology Case 417.....	25
六、	中華民國比較病理學會章程.....	28
七、	第六屆理監事名單簡歷冊.....	33
八	數位組織切片資料庫.....	34
九	比較病理研討會病例分類一覽表.....	35
十、	會員資料更新服務.....	55
十一、	入會辦法.....	56

專 題 演 講

廖碧虹 博士

Involvement of extraneural tissues and upregulation of inducible nitric oxide synthase after experimental infection with rabies virus in BALB/c mice and LEW/SsN rats

邱慧英 獸醫師

台灣鼬獾相關性狂犬病爆發：病理與分子特性

The Outbreak of Ferret-Badger Associated Rabies in Taiwan:
Pathological and Molecular Characterization

CASE SIGNALMENT

59th MEETING OF COMPARATIVE PATHOLOGY

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(中華民國比較病理學會第 59 次比較病理學研討會)

Case No.	Presenter	Institution	Slide No.	Signalment
Case 413	吳昭慧	Graduate Institute of Veterinary Pathology, National Chung Hsing University (中興大學獸醫病理生物學研究所)	CO12-612	10-week-old, male SD (Sprague-Dawley) rats
Case 414	許永祥	Buddhist Tzu Chi General Hospital and University, Taiwan (佛教慈濟綜合醫院暨慈濟大學病理科)	A183-3	45-year-old woman
Case 415	廖翊君	Graduate Institute of Molecular and Comparative Pathobiology, School of Veterinary Medicine, National Taiwan University, Taipei (台灣大學獸醫專業學院 分子暨比較病理生物學研究所)	NTU2009-738G	1.5-year-old intact male mixed dog
Case 416	徐小晴	Department of veterinary pathology, National Pingtung University of Science and Technology (國立屏東科技大學獸醫教學醫院病理科)	WA102-2478	A mature female finless porpoise
Case 417	賴彥長	Kaohsiung Medical University Chung-Ho Memorial Hospital (高雄醫學大學中和附設醫院)		44 years old female

CASE DIAGNOSIS

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Case No.	Presenter	Institution	Slide No.	Diagnosis
Case 413	吳昭慧	Graduate Institute of Veterinary Pathology, National Chung Hsing University (中興大學獸醫病理生物學研究所)	CO12-612	DEN plus AAF carcinogens induced hepatic tumor in male rats
Case 414	許永祥	Buddhist Tzu Chi General Hospital and University, Taiwan (佛教慈濟綜合醫院暨慈濟大學病理科)	A183-3	Rabies virus infection
Case 415	廖翊君	Graduate Institute of Molecular and Comparative Pathobiology, School of Veterinary Medicine, National Taiwan University, Taipei (台灣大學獸醫專業學院 分子暨比較病理生物學研究所)	NTU2009-738 G	Canine distemper virus infection
Case 416	徐小晴	Department of veterinary pathology, National Pingtung University of Science and Technology (國立屏東科技大學獸醫教學醫院病理科)	WA102-2478	Toxoplasmosis in a finless porpoise.
Case 417	賴彥長	Kaohsiung Medical University Chung-Ho Memorial Hospital (高雄醫學大學中和附設醫院)		Alveolar soft part sarcoma

Wu, J.H.(吳昭慧) DVM, MS^{1*}; Chu, C.Y. (朱家俞) DVM¹; Tsai, Y.T.(蔡伊婷) DVM,¹; Chang, S.J. (張淑菁), BS², Yang SY (楊珊盈), MS¹, Chang, C.C.(張程智); Lai, Y.S.(賴奕欣) DVM,¹; DVM, MS¹; Wang, S.Y. (王升陽), PhD³, and Liao, J.W. (廖俊旺), DVM., PhD. ^{1,2}

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

² Animal Disease Diagnostic Center, National Chung Hsing University (中興大學動物疾病診斷中心)

³ Department of Forestry, National Chung Hsing University (中興大學森林系)

CASE HISTORY:

Signalment: 10-week-old, male SD (Sprague-Dawley) rats.

Clinical history:

Male, SD rats, age 5 weeks were single intraperitoneally injected with diethylnitrosamine (DEN, N-Nitrosodiethylamine) (200 mg/kg body weight) dissolved in saline. One week after DEN administration, the liver carcinogenic effect was promoted by acetylaminofluorene (2-AAF) 200 ppm in diet and partial hepatectomy. After four weeks, the rats were fasted overnight and sacrificed.

Gross Findings:

On gross examination, 2-AAF-treated rats showed liver swelling with several grayish white nodules and foci on the surface of livers.

Wu, J.H.(吳昭慧) DVM, MS^{1*}; Chu, C.Y. (朱家俞) DVM¹; Tsai, Y.T.(蔡伊婷) DVM,¹; Chang, S.J. (張淑菁), BS², Yang SY (楊珊盈), MS¹, Chang, C.C.(張程智); Lai, Y.S.(賴奕欣) DVM,¹; DVM, MS¹; Wang, S.Y. (王升陽), PhD³, and Liao, J.W. (廖俊旺), DVM., PhD. ^{1,2}

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CASE RESULT:

Histopathological finding:

Microscopical examination revealed that slight inflammatory cell infiltration, bile duct hyperplasia, and most of the preneoplastic lesions induced by DEN and 2-AAF treatment with partial hepatectomy (PH) were altered hepatic foci consisting of clear, basophilic and eosinophilic hepatocytes.

Histochemistry Examination:

The periodic acid schiff (PAS), Toluidine blue, Perls and γ -glutamyl transpeptidase (γ -GT) staining were used to detect hepatic altered foci, hepatic benign tumor or carcinoma. Results revealed that hepatocytes in the nodules and foci regions were positively stained by PAS, Toluidine blue and γ -GT histochemistry. However, the Perls staining result was negative.

Immunohistochemistry Examination:

For immunohistochemistry, deparaffinized liver sections were heated in retrieval solution and treated with 3% hydrogen peroxide. Sections were then incubated with antibodies against GST-P (1:200, MBL, Japan) for 2 hours, followed by peroxidase-conjugated antibodies (Dako, USA) for 30 mins. After exposure to an appropriate DAB chromogen (1:300, Dako, USA), the slides were lightly counterstained with hematoxylin for 1 min.

The neoplastic nodules were positively stained with GST-P marker. A semi-quantitative scoring system was used to assess the number of cells positively labeled by each staining: (-) absence of labeling, (+) <25% of cells labeled, (++) 25-50% of cells labeled, (+++) 50-75% of cells labeled, (++++) >75% of cells labeled. Result presented that the neoplastic nodules were moderately positively stained with GST-P marker.

Diagnosis: DEN plus AAF carcinogens induced hepatic tumor in male rats

Discussion:

The liver is the key player of metabolic homeostasis, controlling metabolism, synthesis, storage and redistribution of nutrients, carbohydrates, lipids and vitamins. The liver is also responsible for serum protein synthesis and xenobiotic detoxification. The main cell types of the liver are the parenchymal cells or hepatocytes, representing 80% of the hepatic cells that constitute the primary functional unit of the liver, the hepatic lobule.⁸

Although adult hepatocytes are long-lived and normally do not undergo cell division, they maintain the ability to proliferate in response to surgical ablation, toxic injury, infections, massive hepatocyte necrosis, or apoptosis.⁶ Due to their remarkable replicative capacity, only few hepatocytes are required to restore liver mass after profound liver injury. After partial hepatectomy (PH) or chronic liver injury, progenitor cells contribute to the formation of a very small number of mature hepatocytes (up to 2%), and they are not involved in regenerative responses following chemically-induced acute liver damage^{4,6}. Most major well known risk factors of hepatocellular carcinoma include hepatitis viral infection (HBV and HCV), food additives, alcohol, fungal toxins (aflatoxins), toxic industrial chemicals, and air and/or water pollutants.^{4,11} Diethylnitrosamine (DEN, *N*-Nitrosodiethylamine) a potent hepatocarcinogen, is known to cause perturbations in the nuclear enzymes involved in DNA repair/replication^{1,3,12}.

The process for the development of carcinomas from foci or nodules is poorly understood. One possibility is that the replicating cells in foci and nodules are more susceptible to mutagenesis by carcinogens. When the normally low level of proliferation of the liver is increased experimentally during restoration following partial hepatectomy, the susceptibility of the liver to carcinogens is greatly increased.¹⁰ Hepatic carcinogenesis is thought to be multisteps of initialtion, promotion and progression and leading from the regenerative process to the development of hepatocellular carcinoma (HCC). This multistep process is classified into 4 stages: regenerative nodules, dysplastic nodules, early HCC, and advanced HCC^{3,5,8}.

Regenerating nodules are the result of degeneration and necrosis of hepatic cells in response to various injuries and chemically-induced. The patterns of fibrosis vary depending on the type of liver injury. These nodules are rarely larger than 2 cm. Larger lesions are almost always dysplastic nodules.^{1,2}

Dysplastic (Neoplastic) nodules (DNs) are greater than 1 mm nodular foci of hepatocytes with dysplasia but without histologic features of malignancy. DNs are subdivided into low- and high-grade depending on the degree of cellular atypia. Nodules have elevated mitotic indices and show increased DNA synthesis.¹⁰ These nodules are considered to be premalignant. As the nodules progress toward malignancy, the portal tracts within the lesions are lost and new arterial tumor vessels, so-called nontriadal arteries, develop to supply the nodules. The most important feature to be noted for diagnosis of emergence of HCC in DN is that the contained cancerous foci in a DN indicating a well-differentiated cancer. When the emergence of HCC is observed in DN with iron deposits, the cancerous lesion usually shows no iron deposit^{5,7,9}.

HCC is classified as early or advanced, depending on the tumor size. HCC is categorized as well, moderately, or poorly differentiated, based on the degree of cellular differentiation. Early HCC is smaller than 2 cm with well-differentiated tumor cells arranged in a trabecular pattern and a well-defined margin with a thin fibrous capsule. Early HCC may be multi-nodular or show extra-nodular growth to involve surrounding liver sinusoids.

Advanced HCC can be subclassified as nodular, massive, or diffuse, depending on the pattern of growth. The nodular type consists of single, multiple separate, or confluent tumor masses with well-defined fibrous capsules. The massive type occupies at least an entire hepatic lobe. Both the nodular and the massive types show areas of hemorrhage, necrosis, and fibrosis within the tumor nodules. The diffuse type consists of small tumor nodules scattered throughout the liver^{2, 6, 7, 9}.

In this case, we used a short-term hepatocarcinogenic animal model to induce the foci in rat. Males were used in these studies because they are more susceptible than females to liver tumor development.¹⁰ The hepatocellular proliferative lesions in male SD rats were smaller than the size of a lobule is generally designated as a focus. The cells in foci may be abnormal in size, and they have a reduced level of bi-nuclearity and reduced fraction of peripheral nucleoli in contact with the nuclear membrane. Three distinctive types of foci are produced in rat liver by exposure to fluorenylacetamide or other hepatocarcinogens. These are the clear cell focus, the basophilic focus, and the eosinophilic focus.¹⁰ Foci are characterized by a number of functional abnormalities that can be revealed by special techniques. The cells in iron-resistant foci but negative in our study, also display a positive reaction for gamma-glutamyl transpeptidase, glycogen accumulation (PAS stain), and hyperbasophilia after staining with toluidine blue. Finally, based on the mentioned ensure that our case was carcinogen induced neoplasm of the liver on dysplastic nodules stage in the short-term bioassay model within 4 weeks.

Reference:

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Hsu Yung-Hsiang (許永祥), MD. Cho Li- Chen¹ (卓麗貞)

Buddhist Tzu-Chi General Hospital and Tzu-Chi University (佛教慈濟綜合醫院暨慈濟大學)

¹*Department of Nursing, Buddhist Tzu-Chi*

College of Technology, Hualien, Taiwan. (佛教慈濟技術學院)

CASE HISTORY:

Signalment: 45-year-old woman

Clinical history:

A 45 y/o woman presented with upper back pain two days prior to admission. On the morning of admission on June 29, 2002, symptoms of hydrophobia were reported by the patient, upon which her family brought her to Yu-Li Veterans Hospital, where heat stroke was diagnosed. She then visited the emergency service of TzuChi Hospital. When asked to demonstrate hydrophobia, she turned her head away as someone handed her a glass of water. Because her behavior appeared exaggerated, the emergency room physician initially did not believe the patient's assertion that she might have rabies. Upon further questioning, she revealed that she was bitten on her left wrist and right leg by a puppy on April 29, 2002 in Hu-Nan Province of mainland China. At the time, she did not receive post-exposure prophylactic vaccination for rabies, and the puppy was killed without further examination. Afterwards, she visited her sister in Yu-Li, Hualien, Taiwan in May. In the ER, her pulse rate was 80/min, respirations 18/min, blood pressure 130/70 mmHg, and body temperature 38°C. On physical examination, the patient appeared well-nourished but had dry oral mucosa and thick saliva. No lymphadenopathy was detected on palpation. The chest and heart were grossly normal. Her abdomen was globular, non-tender under palpation, and tympanic on percussion. The liver and spleen were not palpable. No pitting edema was found in the lower extremities. On neurological examination, the patient was lucid, oriented, and cooperative. After admission, the patient became irritable, and haloperidol and ativan injections were given. Her temperature was 38°C, and leukocytosis with left shift was noted (WBCs: 19,200/uL, segment neutrophils: 87%). Blood cultures were performed. Apnea suddenly developed the day after admission and endotracheal intubation was performed. Her respiration was subsequently supported by mechanical ventilation. Low blood pressure (SBP 70~90 mmHg) was noted the next day and dopamine was given. Empirical antibiotic treatment with ceftriaxone (2000 mg intravenously every 8h) was given. Her body temperature decreased to 37° C two days later.

The first dose of rabies immunoglobulin injection and vaccine were administered intramuscularly two days after admission. Cerebral spinal fluid study was within normal limits. The second dose of rabies vaccine was injected two days after the first dose. . A chest radiograph on the 7th hospital day showed increased infiltration with multiple small patches over the bilateral

lower lung fields. Moxifloxacin (400 mg daily) and rifampicin (300 mg every 12h) plus ribavirin (1000 mg daily) were prescribed. Increased salivation and perioral erosion were noted and arrhythmia with an S4 sound was detected. Diffuse skin rashes appeared over the neck and buttocks. . Ativan was started due to irritability. Her blood pressure declined to 60/40 mmHg on the 10th hospital day and norepinephrine was given. Multiple atrial (APC) and ventricular premature contractions (VPC) with bigeminy and trigeminy were noted and intravenous lidocaine was given. Low muscle tone, flaccid paralysis, chemosis in both eyes and general edema were also noted. The following day her Glasgow Coma Scale score declined to E₁VtM₁. Neurologic examination showed negative doll's eye sign, and unequal pupil size (R/L: 5/4 mm). Pupillary light reflex and gag reflex were also absent. Fundoscopy showed bilateral papilloedema. Abdominal examination revealed no bowel sounds with a distended abdomen. Her blood pressure dropped the next day despite dopamine and levophed supplementation. She died 12 days post-admission.

Gross Findings

Multiple patechiae lesions involved the whole brain stem and thalamus. Marked congestion, edema and focal hemorrhage were seen in both lungs (right: 720 gm; left: 700 gm). There were no remarkable findings in the other organs.

Hsu Yung-Hsiang (許永祥), MD. Cho Li- Chen¹ (卓麗貞)

Buddhist Tzu-Chi General Hospital and Tzu-Chi University (佛教慈濟綜合醫院暨慈濟大學)

¹*Department of Nursing, Buddhist Tzu-Chi*

College of Technology, Hualien, Taiwan. (佛教慈濟技術學院)

CASE RESULT:

Histology Findings:

Typical features of acute encephalitis characterized by perivascular lymphocyte cuffing, neuronophagia and glial nodule formation were noted. Characteristic Negri inclusion bodies were also found in neurons. The most prominent inflammatory lesions were seen in the medulla oblongata, pons and thalamus. The midbrain, hippocampus and cerebellum also showed acute inflammation, but to a lesser degree. In addition, severe lymphocytic ganglioneuritis was observed in the sympathetic and submucosal ganglion of the esophagus.

The heart showed mild mononuclear cell infiltration associated with focal myocardial necrosis. Both lungs showed interstitial pneumonitis accompanied by diffuse alveolar damage with granulation tissue formation in the alveolar space, which is consistent with the organizing phase of adult respiratory distress syndrome (ARDS). A mild lymphocytic inflammatory reaction was also seen in the submandibular gland, pituitary gland, adrenal medulla and interstitium of the kidney.

Virus Isolation:

Virus was successfully isolated from the medulla oblongata and cerebellum. These virus isolates were stained with rabies mouse monoclonal antibody (Neo Marker, USA) and demonstrated an apple green color in the cytoplasm on immunofluorescence microscopy.

RT-PCR for the Rabies Virus Genome and Nucleotide Sequence:

The RT-PCR products with the predicted 524-base-pair [5] were obtained from RNA extract from the medulla oblongata and cerebellum and the 5'-untranslated region of the rabies virus was detected by 1% agarose gel electrophoresis. The nucleotide sequence data of the RT-PCR product from the infected medulla oblongata showed 87 % identity with the corresponding sequence deposited in the Gene Bank under the accession number NC 001542. Immunopositivity to anti-rabies antibody was demonstrated in the medulla oblongata and cerebellum. Virus isolated from the medulla oblongata and cerebellum was confirmed to be rabies by RT-PCR.

Immunohistochemical Staining:

The mouse anti-rabies monoclonal antibody was highly reliable and specific with a reproducible, clear cut staining quality and no nonspecific background staining. The negative controls showed no nonspecific immunostaining (not shown). In the brain lesions (brain stem,

thalamus, hippocampus and cerebellum), most neurons were immunoreactive with rabies virus antigen, but negative for Negri bodies. Sympathetic ganglion and submucosal ganglion cells of the esophagus also revealed the rabies virus antigen. In addition, rabies virus antigen was also distributed in the tubular epithelial cells of the kidney. Rabies virus antigen immunostaining was negative, however, in the lung, myocardium, submandibular gland, pituitary gland and adrenal gland.

Diagnosis: Rabies virus infection

Discussion:

The first event in the transmission of rabies is the introduction of live virus through the epidermis or onto mucous membrane. Initial viral replication appears to occur within striated muscle cells at the site of inoculation. The peripheral nervous system is exposed at the neuromuscular and/or neurotendinous spindles of unmyelinated sensory nerve cell endings. The virus then spreads centripetally up the nerve to the CNS, probably via peripheral nerve axoplasm, at a rate of approximately 3 mm/h [9]. Viremia has been documented in experimental conditions but is thought not to play a role in naturally acquired human disease. Once the virus reaches the CNS, it replicates almost exclusively within the gray matter and then passes centrifugally along autonomic nerves to peripheral tissues such as the salivary glands, adrenal medulla, kidneys, lungs, liver, skeletal muscles, skin, and heart [10].

In this autopsy study, the topographic distribution of rabies virus in the CNS was localized to the brain stem, thalamus, hippocampus and cerebellum. The histopathologic features including acute encephalitis with perivascular cuffing, neuronophagia, glial nodule formation and characteristic Negri body formation in infected neurons were similar to those reported in a previous study [11]. Rabies virus was isolated from fresh medulla oblongata and cerebellum tissues, identified in neurons by immunofluorescence stain with specific rabies monoclonal antibody, and confirmed by RT-PCR with sequence analysis.

Recently, immunohistochemical techniques have been developed for formalin fixed paraffin-embedded tissues in rabies studies [12]. While a positive result with such an analysis is diagnostic, these techniques lack the sensitivity of procedures employing fresh tissue and are thus useful primarily for retrospective analysis of cases for which formalin fixed tissue is available [11]. In this autopsy study, we used antigen retrieval immunohistochemistry staining [8] and the resulting sensitivity was similar to fresh tissue. We demonstrated virus antigen protein in the infected neurons but staining for Negri bodies was negative, as in a previous report [13].

In the peripheral organs, ganglioneuritis has been noted in the sympathetic and submucosal ganglion of the esophagus and rabies viral antigen was demonstrated in the ganglion cells [14]. These findings were also present in our patient and suggest that rabies virus infecting the submucosal ganglion of the esophagus may be involved in the mechanism responsible for the

behavioral symptoms of hydrophobia.

ARDS was also the first potentially lethal complication in a previous report although its occurrence in rabies is rare [15]. In our patient, ARDS developed on the 7th day of hospitalization as in a previous report [16]. Histology showed interstitial pneumonitis with diffuse alveolar damage and focal granulation tissue in the alveolar space consistent with the organized phase of ARDS. There was no other known precipitating factor of ARDS such as sepsis or aspiration. Although the rabies virus protein was not demonstrated by immunohistochemical stain and RT-PCR failed to show the rabies virus genome (data not shown) in the lung tissue, rabies associated ARDS due to cytokine storm of the immune response to rabies infection is highly suggested. The rabies virus transferred into lung tissue via autonomic nerves. Interstitial pneumonitis with lymphocytic infiltration then developed. iNOS is induced by a number of inflammatory cytokines and mediators, most notably IL-1, TNF, and interferon- γ . iNOS was detected diffusely in alveolar cells & alveolar macrophages in our patient (unpublished data). Then iNOS produced a large amount of NO. High NO concentrations are cytotoxic, because NO is an unstable molecule that triggers formation of oxidative free radicals such as peroxynitrite (ONOO⁻) and dinitrogen trioxide [17]. At higher levels, these short-lived molecules are implicated in a variety of tissue injury mechanisms, including 1) endothelial damage with thrombosis and increased permeability; 2) protease activation and antiprotease inactivation, with a net increase in breakdown of the extracellular matrix; and 3) direct injury to parenchymal cells such as alveolar cells [18]. Finally ARDS developed. To our knowledge, autopsy evidence of rabies associated ARDS has not been previously reported.

Rabies myocarditis is a rare complication first described in 1962 [19]. This condition (Fig. 3) in our patient appeared as lymphocytic infiltration in the myocardium accompanied by focal myocardial necrosis. Rabies virus antigen failed to show any positive stain in the myocardium, possibly due to the limited number of virus antigen molecules in the non-neuronal cells. The predominance of focal myocarditis in the atria and the conduction system may explain the concept of viral spread from the cardiac nerves to the myocardium, rather than hematogenous dissemination [20]. Our patient had frequent APC and VPCs (data not shown) which supports a cardiac nerve route of dissemination.

Experimental animal study has demonstrated adenohipophyseal infection with rabies virus, with reduction in growth hormone and vasopressin release [15]. In our patient, although levels of growth hormone or vasopressin were not determined and no symptoms of diabetes insipidus developed, marked lymphocytic infiltration of the pituitary gland was noted.

Adrenal medullitis with diffuse and intense mononuclear cell infiltration and eosinophilic body formation were noted on autopsy specimens from our patient (data not shown). The pathogenesis of adrenal medullitis in rabies may be related to embryological and metabolic relationships of the chromaffin system and the nervous system [21]. Focal interstitial nephritis accompanied by rabies virus antigen was noted in the cytoplasm of tubular epithelial cells (Fig. 7), suggesting rabies

associated interstitial nephritis. This is probably the first report of this association based on evidence obtained at complete autopsy.

Infection of the salivary gland occurs in the final phase of rabies virus infection, and appears to be essential in the transmission of rabies from animal to animal and from animal to human. The organ with the highest virus titer was the submandibular salivary gland [4]. Histology also showed marked lymphocytic infiltration in the submandibular gland. Immunohistochemistry stain failed to show rabies virus antigen in these tissues, as in a previous report [22], even though brain infection was demonstrated. The possibility of clinical recovery must be considered [22], but no evidence of clinical recovery was noted in our patient. Therefore the mechanism of this phenomenon is still unknown.

In conclusion, our autopsy study case of fatal rabies infection presenting with acute encephalitis, rabies associated ARDS and myocarditis suggests that rabies virus may disseminate into many organ systems and that fatal complications may develop after rabies virus infection.

Acknowledgments

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狂犬病毒感染：一解剖例作完整病理、免疫螢光、免疫組織化學及分子生物學研究

許永祥、王立信¹、陳立光²、李仁智³、楊惠華⁴

佛教慈濟綜合醫院病理科、感染科¹、急診科²、胸腔科³、病毒室⁴

抽印本索取及聯絡地址：花蓮市中央路3段707號佛教慈濟醫院病理科

許永祥醫師

摘要

目的：狂犬病在台灣自1958年已消跡，我們報告一例45歲女性在2002年6月境外移入死亡病例。本研究目的在探討狂犬病毒在體內分佈情況，並釐清此病毒致病機轉。

材料與方法：以此死亡病例做完整病理檢查、免疫螢光、免疫組織化學染色及分子生物學研究。

結果：急性狂犬病腦炎合併有典型的Negri包含體，主要侵犯腦幹及視丘，其次是海馬迴及小腦。發炎細胞以淋巴球為主且圍繞於血管周圍，合併神經元吞噬現象及神經膠結節。狂犬病毒可以從新鮮腦組織分離出來，我們以狂犬病毒單株抗體用免疫螢光染色法偵測到，並且用反轉錄酵素聚合酵素連鎖反應合併基因系列分析得到證實。除了中樞神經的病變外，週邊器官亦有變化，包括：交感神經節及食道黏膜下神經元的神經元神經炎；輕微局部心肌炎；間質性肺炎合併瀰漫性肺泡損傷及肺泡內肉芽組織生成；輕微慢性間質性腎炎及腦下垂體、腎上腺和頷下腺的淋巴球浸潤。以免疫組織化學染色偵測狂犬病毒抗原，可在腦幹、小腦、視丘、海馬迴、交感神經節、食道黏膜下神經元及腎小管上皮細胞發現病毒顆粒蛋白。

結論：本研究發現狂犬病毒有親神經性，另外此病毒可擴散到週邊器官引發死亡併發症。

關鍵語：腦炎，狂犬病，心肌炎，間質性肺炎。

Yi-Chun Liao (廖翊君), Jenny Hsiao (蕭君倪), Victor Fei Pang (龐飛)

Graduate Institute of Molecular and Comparative Pathobiology, School of Veterinary Medicine,
National Taiwan University, Taipei

CASE HISTORY:

Signalment: 1.5-year-old intact male mixed dog

Clinical history:

The patient received one dose of vaccine before 1 year old. Lethargy and several episodes of seizure were noted from 2009/8/9. Radiography (2009/8/10) and MRI (2009/8/31) revealed no remarkable changes. Results of pre-referral CBC showed mild anemia (PCV: 33%) and the SNAP 4Dx® test for heartworm, Lyme disease, *Anaplasma phagocytophilum* and *Ehrlichia canis* was negative. Positive result of reverse transcription-nested PCR (RT-nPCR) for canine distemper (CD) virus was seen in whole blood as well as nasal, rectal, and oral swabs. Seizure was controlled by phenobarbital. However, other progressive neurological signs, including myoclonus, chewing, ataxia, and disorientation, were observed one week later. Prednisolone was given, but the signs became worse gradually. The dog was euthanatized on 2009/8/31 due to severe disorientation, barking all day, and incapability of normal walking.

Gross findings:

There was no significant abnormality externally, but transparent, pink fluid oozed from the nasal cavity while necropsy was performed. The color of the oral mucosa was slightly pale. The lungs were diffusely red and wet, and some white-tan mottled lesions were disseminated on the right lobes, and there was a significant amount of white to bloody foam material present in the lumen of the trachea and bronchi. The spleen and the liver were mildly swollen, dark red, and the cross-section showed irregular appearance. The stomach was filled with partially digested food and the mucosa of the stomach and duodenum had multifocal red areas. On the cross sections of the cerebellum and cerebrum, multiple discolored regions were noted in the white matter.

Yi-Chun Liao (廖翊君), Jenny Hsiao (蕭君倪), Victor Fei Pang (龐飛)

Graduate Institute of Molecular and Comparative Pathobiology, School of Veterinary Medicine,
National Taiwan University, Taipei

CASE RESULT:

Histopathological finding:

Microscopic examination of the cerebrum and cerebellum reveals multifocal to patchy lymphoplasmacytic cuffing, astrocytosis, and formation of glial nodules, mainly located in the white matter. There are also formation of gitter cells, axonal swelling, and vacuolation of neuropil with formation of numerous eosinophilic, intracytoplasmic inclusion bodies, 1 to 5 μm in diameter, in astrocytes and microglial cells in the subependymal zone around the lateral ventricle. Similar lymphoplasmacytic perivascular cuffings are also noted in the brain stem and gray matter of spinal cord. The lungs show multifocal to coalescent accumulation of abundant plump alveolar macrophages along with varying amounts of proteinaceous substance, fibrin, exfoliated and/or necrotic epithelial cells, and some lymphocytes, plasma cells, and neutrophils in the alveolar spaces. The bronchial and bronchiolar epithelium is segmentally to diffusely sloughed or attenuated with lymphocyte infiltration in the lamina propria of mucosa. Some alveolar septa are thickened due to infiltration of mononuclear inflammatory cells and hyperplasia of type II pneumocytes. Similar intracytoplasmic inclusion bodies as those seen in the brain are also found in the type II pneumocytes and alveolar macrophages. The intracytoplasmic inclusion bodies found in the cerebrum, cerebellum, brain stem, spinal cord, and lungs are CDV-positive by immunohistochemical staining.

Differential diagnosis:

1. *Canine distemper*
2. *Rabies*

Diagnosis

Canine distemper virus infection

Discussion

Canine distemper virus (CDV) is a member of the genus *Morbillivirus* of the family Paramyxoviridae, which is closely related to the Measles virus [2]. The natural host ranges of CDV include Seal, Canidae, Mustelidae, Procyonidae, Felidae, Tayassuidae, and nonhuman primates. Other species such as mice, rats, hamsters, minks, pigs, cats, ferrets, and nonhuman primates can also be infected

experimentally with varying degrees of susceptibility [1]. The CDV, most abundant in respiratory exudates, is commonly spread by aerosol or droplet exposure; however, it can be isolated from most body tissues and secretions, including urine [3]. In the present case, CDV RNA could be detected in whole blood as well as nasal, rectal, and oral mucosa by RT-nPCR. Eosinophilic intracytoplasmic CDV-positive inclusion bodies of varying sizes could be found in the cerebrum, cerebellum, brain stem, spinal cord, and lungs. The route of viral entry and spread in the nervous system of dogs is known as that the free or lymphocyte-associated virus enters the cerebrospinal fluid (CSF) from the infected choroid plexus, where it then spreads to the periventricular and subpial tissue. The spreading of virus through CSF pathway might explain the early distribution of lesions in the subependymal and subpial regions as shown in the present case. The type of lesion produced and the course of infection within the CNS depend on the age and immunocompetence of the host at the time of exposure, the neurotropic and immunosuppressive properties of the virus, and the time when lesions are examined.

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Hsu, S.C. (徐小晴), Tsung-Chou Chang

Department of veterinary pathology, National Pingtung University of Science and Technology (國立屏東科技大學獸醫教學醫院病理科)

CASE HISTORY:

Signalment: A mature female finless porpoise

Clinical history:

A mature female finless porpoise, was found dead-stranded at west coast of Taiwan, on April 24, 2011. The carcass was send to Marine Biology & Cetacean Research Center, National Cheng-Kung University, and stored in refrigerator for 24 hours before necropsy.

Gross findings:

There were few nematodes in stomach, a lot of nematodes and few trematodes in both sides of inner ear, and severe postmortem changes were noticed in the other organs.

Hsu, S.C. (徐小晴), Tsung-Chou Chang

Department of veterinary pathology, National Pingtung University of Science and Technology (國立屏東科技大學獸醫教學醫院病理科)

CASE RESULT:

Histopathological finding:

Multifocal tissue cysts were noticed in cerebrum and cerebellum with mononuclear cell infiltration indicating nonsuppurative encephalitis. The heart showed mild myocarditis constituted by multifocal necrosis and mononuclear cells associated with intralesional tachyzoites. Focal fibrosis and calcification were found in lung.

Morphological diagnosis:

1. Nonsuppurative encephalitis, multifocal, subacute, moderate, with intralesional tissue cysts, cerebrum and cerebellum.
2. Myocarditis, multifocal, subacute, moderate, with intralesional tissue cysts, heart.

Immunochemistry & Indirect Immunofluorescence Assay:

An immunochemistry method was performed and positive signals were observed in the cerebrum, cerebellum, and myocardium. An indirect immunofluorescence method was performed and the protozoa stained positively in the cerebrum. We commissioned the immunochemistry method and indirect immunofluorescence method from Pingtung County Livestock Disease Control Center.

Molecular detection:

DNA extraction from the brain, heart, and liver, was performed and following polymerase chain reaction for the detection of B1 gene of *T. gondii* was applied. Positive signal was observed in the brain.

Diagnosis: Toxoplasmosis in a finless porpoise.

Discussion:

Finless porpoise is a long-lived, top-level predator on a wide variety of fishes and shrimps, and occur in the shallow coastal waters of western Taiwan. Its very near-shore distributions make this species vulnerable to environmental degradation, direct exploitation, and fishery conflicts. Because shallow waters along the coast are influenced by terrestrial runoff, the diversity and abundance of pathogens in the coastal waters likely differ from those in oceanic areas. While marine environment

is increasingly influenced by anthropogenic encroachment, the risk of exposure to terrestrial pathogens of marine species is increased, especially for coastal species such as finless porpoise. It has been described that *T. gondii* could infect different marine mammal species. Felids are the only definitive hosts of *T. gondii*; both wild and domestic cats therefore serve as the main reservoir of infection. Some studies showed that one of the factors correlated with toxoplasmosis in marine mammals is from the landside sewage with the presence of *T. gondii* oocysts. Therefore, it is highly suspected that this animal consumed infectious oocysts from the sewage. Based on this case report, finless porpoise is suggested to be the sentinel for coastal environment health of the western Taiwan.

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Yen-Chang Clark Lai (賴彥長), MD, Chun-Chieh Wu(吳俊杰), MD, Chee- Yin Chai (蔡志仁) MD, PhD
Kaohsiung Medical University Chung-Ho Memorial Hospital (高雄醫學大學中和附設醫院病理部)

CASE HISTORY:

Signalment: 44 years old female

Clinical history:

Patient is a 44 years old female with past history of hypertension, mental retardation, and a tumor over left hip since 5 years ago. Tumor has increased in size through the duration of 5 years. As the tumor progressed with bleeding tendency, patient was sent to our emergency department on 06/10/2013. Left hip tumor was suggestive of angiosarcoma or atrial-venous malformation at admission.

Grossly, the mass lesion at left gluteal region has irregular surface with bleeding tendency. According to the patient, pain at tumor lesion is apparent but without numbness sensation.

The non-contrast MRI images revealed soft tissue mass lesion with heterogeneous signal intensity with impression of worsening of the malignant soft tissue tumor at left gluteal region with skin invasion. (15.8 x 9.69 x 12.25 cm in size).

Gross findings:

The specimen submitted consists of one biopsy tissue fragment in one bag, measuring 1.6 x 1.4 x 0.5 cm in size. Grossly, it is grayish white and elastic.

Yen-Chang Clark Lai (賴彥長), MD, Chun-Chieh Wu(吳俊杰), MD, Chee- Yin Chai (蔡志仁) MD, PhD
Kaohsiung Medical University Chung-Ho Memorial Hospital (高雄醫學大學中和附設醫院病理部)

CASE RESULT:

Histopathological finding:

Sections show round or polygonal neoplastic cells with well-defined cell borders, centrally placed nuclei, prominent nucleoli and granular or clear cytoplasm arranged in organoid or nesting pattern separated by delicate sinusoid vascular channels.

Clinical pathology:

RBC: $5.80 \times 10^6/\mu\text{L}$ ($0-5 \times 10^6/\mu\text{L}$), Hb: 11.9 gm/dL (14.0-18.0 gm/dL), Hct: 37.8% (40-54%), WBC: $10800/\mu\text{L}$ (4500-11000/ μL), Plt: $22.8 \times 10^4/\text{dL}$ ($15-40 \times 10^4/\text{dL}$), Lymphocyte: 15% (20.0-45.0%), Neutrophil: 81.0% (45.0-75.0%), Monocyte: 3.2% (0.0-9.0%), Eosinophil: 0.4% (1.0-3.0%), Basophil: 0.3% (0.0-1.0%).

Differential diagnosis:

Rhabdomyosarcoma

Angiosarcoma

Metastatic renal cell carcinoma

Granular cell tumor

Alveolar soft part sarcoma

Metastatic melanoma

Immunohistochemistry:

The tumor cells are-

Positive: TFE3, Desmin, CD10(focal), CAIX(focal)

Negative: CD31, CD34, S-100 protein, HMB-45, Myf-4, MyoD-1, Muscle specific actin, RCC

Discussion

Alveolar soft part sarcoma is a rare, distinctive sarcoma composed of large, uniform, epithelioid cells having abundant, eosinophilic, granular cytoplasm, arranged in solid nests and/or alveolar structures. It is characterized by an *ASPSCR1-TFE3* fusion gene, as a specific alteration with unbalanced translocation, $\text{der}(17)\text{t}(\text{X}:17)(\text{p}11;\text{q}25)$.

As for epidemiology, alveolar soft part sarcoma consists only 0.2-0.9% of all soft tissue sarcomas. It can occur at any age, but most common the ages are between 15-35 years. The female to male

predominance is about 2:1 (F:M=1:2).

In adults, alveolar soft part sarcoma occurs usually at deep soft tissue of thigh or buttock. In children and infants, the head and neck region is the most common, especially tongue and orbit. The unusual locations were also reported at lung, stomach, liver, breast, bone, larynx, heart, urinary bladder, or female genital tract (uterine cervix).

Because of the abundance of vascularity of the tumor with prominent draining veins, angiography, contrast-enhanced CT, or high signal intensity on T1-T2-weighted images on MRI are useful for tumor detection.

The most characteristic finding in immunohistochemistry is the strong nuclear staining with antibody which recognizes the carboxy terminal portion of TFE3 retained in the fusion protein. Desmin can also be helpful in about 50% of alveolar soft part sarcoma tumor expression.

The translocation results in the fusion of the TFE3 transcription factor gene (from Xp11) with ASPSCR1 (also known as ASPL) at 17q25. ASPSCR1-TFE3 RT-PCR and FISH for TFE3 rearrangement are both robust methods for molecular diagnosis.

The tumor seldom recurs locally after complete resection, but metastasis is common with long-term follow-up. Factors affecting prognosis include patient age at presentation, tumor size, and presence of metastases at diagnosis (lung, bone, or brain).

Primary treatment is complete resection surgery, but chemotherapy and radiotherapy have poor outcomes. New molecular therapies targeted to tyrosine receptor kinases and antiangiogenic agents have yielded promising data, and these next-generation therapies may soon comprise first-line treatment for this tumor type.

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中華民國比較病理學會章程

第一章 總則

- 第一條 本會定名為中華民國比較病理學會，英文名稱為 **Chinese Society of Comparative Pathology (CSCP)** (以下簡稱本會)。
- 第二條 本會依內政部人民團體法設立，為非營利目的之社會團體，以結合人類醫學與動物醫學資源，提倡比較病理學之研究與發展，交換研究教學心得，聯絡會員友誼及促進國際間比較醫學之交流為宗旨。
- 第三條 本會以全國行政區域為組織區域，會址設於主管機關所在地區，並得報經主管機關核准設主分支機構。前項分支機構組織簡則由理事會擬訂，報請主管機關核准後行之。會址及分支機構之地址於設置及變更時應報請主管機關核備。
- 第四條 本會之任務如左：
一、 提倡比較病理學之研究與發展。
二、 舉辦學術演講會、研討會及相關訓練課程。
三、 建立國內比較醫學相關資料庫。
四、 發行比較病理學相關刊物。
五、 促進國內、外比較醫學之交流。
六、 其他有關比較病理學術發展之事項。
- 第五條 本會之主管機關為內政部。目的事業主管機關依章程所訂之宗旨與任務，主要為行政院衛生署及農業委員會，其目的事業應受各該事業主管機關之指導與監督。

第二章 會員

- 第六條 本會會員申請資格如下：
一、 一般會員：贊同本會宗旨，年滿二十歲，具有國內外大專院校(或同等學歷)生命科學及其它相關科系畢業資格或高職畢業從事生命科學相關工作滿兩年者。
二、 學生會員：贊同本會宗旨，在國內、外大專院校生命科學或其它相關科系肄業者 (檢附學生身份證明)。
三、 贊助會員：贊助本會工作之團體或個人。
四、 榮譽會員：凡對比較病理學術或會務之推展有特殊貢獻，經理事會提名並經會員大會通過者。
前項一、二、三項會員申請時應填具入會申請書，經一般會員二人

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

- 第七條 一般會員有表決權、選舉權、被選舉與罷免權，每一會員為一權。贊助會員、學生會員與榮譽會員無前項權利。
- 第八條 會員有遵守本會章程、決議及繳納會費之義務。
- 第九條 會員有違反法令、章程或不遵守會員大會決議時，得經理事會決議，予以警告或停權處分，其危害團體情節重大者，得經會員大會決議予以除名。
- 第十條 會員喪失會員資格或經會員大會決議除名者，即為出會。
- 第十一條 會員得以書面敘明理由向本會聲明退會。但入會費與當年所應繳納的常年會費不得申請退費。

第三章 組織及職員

- 第十二條 本會以會員大會為最高權力機構。
- 第十三條 會員大會之職權如下：
一、 訂定與變更章程。
二、 選舉及罷免理事、監事。
三、 議決入會費、常年會費、事業費及會員捐款之方式。
四、 議決年度工作計畫、報告、預算及決算。
五、 議決會員之除名處置。
六、 議決財產之處分。
七、 議決本會之解散。
八、 議決與會員權利義務有關之其他重大事項。
前項第八款重大事項之範圍由理事會訂定之。
- 第十四條 本會置理事十五人，監事五人，由會員選舉之，分別成立理事會、監事會。
選舉前項理事、監事時，依計票情形得同時選出候補理事五人，候補監事一人，遇理事或監事出缺時，分別依序遞補之。
本屆理事會得提出下屆理事及監事候選人參考名單。
- 第十五條 理事會之職權如下：
一、 審定會員之資格。
二、 選舉及罷免常務理事及理事長。
三、 議決理事、常務理事及理事長之辭職。
四、 聘免工作人員。
五、 擬訂年度工作計畫、報告、預算及決算。

六、 其他應執行事項。

- 第十六條 理監事置常務理事五人，由理事互選之，並由理事就常務理事中選舉一人為理事長。
理事長對內綜理監督會議，對外代表本會，並擔任會員大會、理事會主席。
理事長因事不能執行職務時，應指定常務理事一人代理之，未指定或不能指定時，由常務理事互推一人代理之。
理事長或常務理事出缺時，應於一個月內補選之。
- 第十七條 監事會之職權如左：
一、監察理事會工作之執行。
二、審核年度決算。
三、選舉及罷免常務監事。
四、議決監事及常務監事之辭職。
五、其他應監察事項。
- 第十八條 監事會置常務監事一人，由監事互選之，監察日常會務，並擔任監事會主席。
常務監事因事不能執行職務時，應指定監事一人代理之，未指定或不能指定時，由監事互推一人代理之。監事會主席（常務監事）出缺時，應於一個月內補選之。
- 第十九條 理事、監事均為無給職，任期三年，連選得連任。理事長之連任以一次為限。
- 第二十條 理事、監事有下列情事之一者，應即解任：
一、喪失會員資格。
二、因故辭職經理事會或監事會決議通過者。
三、被罷免或撤免者。
四、受停權處分期間逾任期二分之一者。
- 第二十一條 本會置祕書長一人，承理事長之命處理本會事務，令置其他工作人員若干人，由理事長提名經理事會通過後聘免之，並報主管機關備查。但祕書長之解聘應先報主管機關核備。
前項工作人員不得由選任之職員（理監事）擔任。
工作人員權責及分層負責事項由理事會令另定之。
- 第二十二條 本會得設各種委員會、小組或其它內部作業組織，其組織簡則由理事會擬定，報經主機關核備後施行，變更時亦同。
- 第二十三條 本會得由理事會聘請無給顧問若干人，其聘期與理事、監事之任期同。

第四章 會議

- 第二十四條 會員大會分定期會議與臨時會議兩種，由理事長召集，召集時除緊急事故之臨時會議外應於十五日前以書面通知之。定期會議每年召開一次，臨時會議於理事會過半數認為必要，或經會員五分之一以上之請，或監事會半數函請召集時召開之。
- 第二十五條 會員不能親自出席會員大會時，得以書面委託其他會員代理，每一會員以代理一人為限。
- 第二十六條 會員大會之決議，以出席人數過半之同意行之。但章程之訂定與變更、會員之除名、理事及監事之罷免、財產之處置、本會之解散及其他與會權利義務有關之重大事項應有出席人數三分之二以上同意。但本會如果辦理法人登記後，章程之變更應以出席人數四分之三以上之同或全體會員三分之二以上書面之同意行之。
- 第二十七條 理事會及監事會至少每六個月各舉行會議一次，必要時得召開聯席會議或臨時會議。
- 前項會議召集時除臨時會議外。應於七日以前以書面通知，會議之決議各以理事、監事過半數之出席，出席人較多數之同意行之。
- 第二十八條 理事應出席理事會議，監事應出席監事會議，不得委託出席；理事、監事連續二次無故缺席理事會、監事會者，視同辭職。

第五章 經費及會計

- 第二十九條 本會經費來源如下：
- 一、入會費：一般會員新台幣壹仟元，學生會員壹佰元，贊助會員伍仟元，於入會時繳納。
 - 二、常年會費：一般會員新台幣五百元，學生會員壹佰元。
 - 三、事業費。
 - 四、會員捐款。
 - 五、委託收益。
 - 六、基金及其孳息。
 - 七、其他收入。
- 第三十條 本會會計年度以國曆年為準，自每年一月一日起至十二月三十一日止。
- 第三十一條 本會每年於會計年度開始前二個月由理事會編造年度工作計劃、收支預算表、員工待遇表，提會員大會通過（會員大會因故未能如期召開者，先提理監事聯席會議通過），於會計年度開始前報主管機關核備，並於會計年度終了後二個月內由理事會編造年度工作報

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

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

第三十三條 本章程未規定事項，悉依有關法令規定辦理。

第三十四條 本章程經大會通過，報經主管機關核備後施行，變更時亦同。

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

中華民國比較病理學會第六屆理監事名單簡歷冊

職別	姓名	性別	出生年月日	學歷	經歷	現任本職	電話	傳真
理事長	施洽雯	男	46/08/30	國防醫學院病理研究所	中山醫學院病理科副教授	羅東博愛醫院病理科主任	039-543131-2716	039-551543
常務理事	呂福江	男	37/11/21	美國漢尼門大學病理學博士	國防醫學院病理學研究所所長	耕莘醫院病理部主任	02-22193391 ext 65236	02-2193506
常務理事	許永祥	男	48/10/30	國立台大醫學院病理研究所碩士	台大醫院病理科住院醫師	慈濟醫院病理科主任	03-8565301-2197	03-8574265
常務理事	張俊梁	男	45/5/6	國防醫學院醫學科學研究所博士	國防醫學院兼任助理教授	國軍桃園總醫院病理檢驗部主任	02-2303-2209 03-4799595 ext 325570	02-2303-5192
常務理事	廖俊旺	男		國立台灣大學獸醫學研究所博士	農業藥物毒物試驗所應用毒理組副研究員	中興大學獸醫病理學研究所教授	04-22840894 ext406	04-22862073
理事	劉振軒	男	42/10/9	美國加州大學戴維斯校區比較病理學博士	台灣養豬科學研究所主任	國立台灣大學獸醫專業學院院長	02-33663760	02-23633289
理事	祝志平	男	46/02/25	台大病理研究所碩士	台北醫學院講師	高雄醫學大學病理科主治醫師	07-3121101 ext 7081~7085	039-572916
理事	李進成	男	49/06/06	英國倫敦大學神經病理博士	長庚醫院內科醫師	新光吳火獅紀念醫院病理檢驗科醫師	02-28389306	02-28389306
理事	陳三多	男	40/08/11	比利時魯汶大學博士	中興大學獸醫系教授	中興大學獸醫病理研究所教授	04-22840368	04-22853552
理事	張文發	男				國立中興大學獸醫學院 動物疾病診斷中心副主任		
理事	張聰洲	男	41/11/29	國立中興大學獸研所碩士班	國立屏東技術學院助教	國立屏東科技大學副教授	06-2333529	08-7740295
理事	賴銘淙	男	47/10/14	清華大學生命科學院博士	華濟醫院病理科主任	彰濱秀傳紀念醫院病理科主任	04-3250487	
理事	蔡睦宗	男	49/10/25	國立台灣大學獸醫學系公共衛生組碩士	台灣養豬科學研究所比較醫學系約聘技術員	屏東縣家畜疾病防治所技士	08-7224109	08-7224432
理事	陳憲全	男	25/5/18	日本麻布大學獸醫學研究科博士	US Veterinary Medical Officer, USDA/AFIS Philadelphia District Guloff Station, Elisabethtown, PA, USA	玉樹生技病理顧問有限公司首席獸醫病理學家/台灣動物科技研究所顧問	02-27832557 037-585875	037-585850
理事	朱旆億	男		國立台灣大學醫學系		天主教聖馬爾定醫院病理科主任	05-2756000	
常務監事	江蓉華	男		國防醫學院醫學士	國軍花蓮總醫院病理部主任	耕莘醫院組織病理科主任	02-22193391	
監事	林永和	男	46/02/24	台大病理研究所	台北醫學院病理科講師	台北醫學院病理科講師	02-27361661	02-23770054
監事	梁鍾鼎	男	51/01/25	台灣大學獸醫學研究所博士班	國家實驗動物中心副研究員	國家實驗動物中心首席獸醫師	02-2789-5569	02-27895588
監事	阮正雄	男	30/05/28	日本國立岡山大學 大學院醫齒藥總合研究科博士	1. 台北市立婦幼綜合醫院病理科主任及婦產科主治醫師 2. 台北醫學大學副教授兼細胞學中心主任 3. 高雄市防癌篩檢中心細胞學主任	童綜合醫院婦產科及病理科主治醫師	02-2362-2656	04-26581919 轉4320 (辦公室)

How-To Access Comparative Pathology Virtual Slides

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

(中華民國比較病理學會數位式組織切片影像資料庫)

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

1. Please make sure that your web browser (e.g. Internet Explorer, Firefox or Safari) is equipped with "flash player." If not, it can be added from <http://www.adobe.com/products/flashplayer/> for free.
2. Please go to the NTU Vet Med Digital Pathology Lab web site at <http://140.112.96.83:82/CSCP/> with your web browser.
3. A pop-up window appears to ask for "User name" and "Password." Enter "guest " for both boxes.
4. Choose a Comparative Pathology meeting (e.g. 52nd CSCP)
5. Pick any case you'd like to read (e.g. case365-372)

**中華民國比較病理學會
第一次至第五十九次比較病理學研討會病例分類一覽表**

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

腫 瘤

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

腫 瘤

	tumor)		
103.	Atypical central neurocytoma	Human	新光吳火獅紀念醫院
104.	Cardiac schwannoma	SD rat	國家實驗動物繁殖及研究中心
109.	Desmoplastic infantile ganglioglioma	Human	高雄醫學院
107.	1.Primary cerebral malignant lymphoma 2.Acquired immune deficiency syndrome	Human	台北市立仁愛醫院
111.	Schwannoma	Human	三軍總醫院
114.	Osteosarcoma	Dog	美國紐約動物醫學中心
115.	Mixed germ-cell stromal tumor, mixed sertoli cell and seminoma-like cell tumor	Dog	美國紐約動物醫學中心
116.	Krukenberg's Tumor	Human	台北病理中心
117.	Primary insular carcinoid tumor arising from cystic teratoma of ovary.	Human	花蓮慈濟綜合醫院
119.	Polypoid adenomyoma	Human	大甲李綜合醫院
120.	Gonadal stromal tumor	Human	耕莘醫院
122.	Gestational choriocarcinoma	Human	彰化基督教醫院
123.	Ovarian granulosa cell tumor	Horse	中興大學獸醫學系
129.	Kaposi's sarcoma	Human	華濟醫院
131.	Basal cell carcinoma (BCC)	Human	羅東聖母醫院
132.	Transmissible venereal tumor	Dog	臺灣大學獸醫學系
137	Canine Glioblastoma Multiforme in Cerebellopontine Angle	Dog	中興大學獸醫病理研究所
143	Osteosarcoma associated with metallic implants	Dog	紐約動物醫學中心
144	Radiation-induced osteogenic sarcoma	Human	花蓮慈濟綜合醫院
145	Osteosarcoma, osteogenic	Dog	臺灣大學獸醫學系
146	Pleomorphic rhabdomyosarcoma	Human	行政院衛生署新竹醫院
147	Papillary Mesothelioma of pericardium	Leopard	屏東科大學獸醫學系
148	Cystic ameloblastoma	Human	台北醫學院
149	Giant cell tumor of bone	Canine	中興大學獸醫學院
150	Desmoplastic small round cell tumor (DSRCT)	Human	華濟醫院
152	Hepatocellular carcinoma	Human	羅東聖母醫院
158	Hemangiopericytoma	Human	羅東聖母醫院

腫 瘤	160	Cardiac fibroma	Human	高雄醫學大學病理學科
	166	Nephroblastoma	Rabbit	紐約動物醫學中心
	168	Nephroblastoma	Pig	台灣動物科技研究所
	169	Nephroblastoma with rhabdomyoblastic differentiation	Human	高雄醫學大學病理科
	172	Spindle cell sarcoma	Human	羅東聖母醫院
	174	Juxtaglomerular cell tumor	Human	新光醫院病理檢驗科
	190	Angiosarcoma	Human	高雄醫學大學病理學科
	192	Cardiac myxoma	Human	彰化基督教醫院病理科
	194	Kasabach-Merrit syndrome	Human	慈濟醫院病理科
	195	Metastatic hepatocellular carcinoma, right atrium	Human	新光醫院病理科
	197	Papillary fibroelastoma of aortic valve	Human	新光醫院病理科
	198	Extraplacental chorioangioma	Human	耕莘醫院病理科
	208	Granulocytic sarcoma (Chloroma) of uterine cervix	Human	高雄醫學大學病理學科
	210	Primary non-Hodgkin's lymphoma of bone, diffuse large B cell, right humerus	Lymphoma	彰化基督教醫院病理科
	213	Lymphoma, multi-centric type	Dog	中興大學獸醫系
	214	CD30 (Ki-1)-positive anaplastic large cell lymphoma (ALCL)	Human	新光醫院病理科
	215	Lymphoma, mixed type	Koala	台灣大學獸醫學系
	217	Mucosal associated lymphoid tissue (MALT) lymphoma, small intestine	Cat	臺灣大學獸醫學研究所
	218	Nasal type NK/T cell lymphoma	Human	高雄醫學大學病理科
	222	Acquired immunodeficiency syndrome (AIDS)with disseminated Kaposi's sarcoma	Human	慈濟醫院病理科
	224	Epithelioid sarcoma	Human	彰化基督教醫院病理科
	226	Cutaneous B cell lymphoma , eyelid , bilateral	Human	羅東聖母醫院病理科
	227	Extramammary Paget's disease (EMPD) of the scrotum	Human	萬芳北醫皮膚科,病理科
228	Skin, back, excision, CD30+diffuse large B cell lymphoma, Soft tissue, leg , side not stated, excision, vascular leiomyoma	Human	高雄醫學大學附設醫院病理科	
231	Malignant melanoma, metastasis to	Human	財團法人天主教耕莘醫	

腫 瘤

	intra-abdominal cavity		院病理科
232	Vaccine-associated rhabdomyosarcoma	Cat	台灣大學獸醫學系
233	1. Pleura: fibrous plaque 2. Lung: adenocarcinoma 3. Brain: metastatic adenocarcinoma	Human	高雄醫學大學附設中和醫院病理科
235	1. Neurofibromatosis, type I 2. Malignant peripheral nerve sheath tumor (MPNST)	Human	花蓮慈濟醫院病理科
239	Glioblastoma multiforme	Human	羅東聖母醫院
240	Pineoblastoma	Wistar rat	綠色四季
241	Chordoid meningioma	Human	高醫病理科
243	Infiltrating lobular carcinoma of left breast with meningeal carcinomatosis and brain metastasis	Human	花蓮慈濟醫院病理科
245	Microcystic Meningioma.	Human	耕莘醫院病理科
247	Well-differentiated fetal adenocarcinoma without lymph node metastasis	Human	新光吳火獅紀念醫院
249	Adenocarcinoma of lung.	Human	羅東聖母醫院
252	Renal cell carcinoma	Canine	國立台灣大學獸醫學系 獸醫學研究所
253	Clear cell variant of squamous cell carcinoma, lung	Human	高雄醫學大學附設中和醫院病理科
256	Metastatic adrenal cortical carcinoma	Human	耕莘醫院病理科
258	Hashimoto's thyroiditis with diffuse large B cell lymphoma and papillary carcinoma	Human	高雄醫學大學附設中和醫院病理科
262	Medullar thyroid carcinoma	Canine	臺灣大學獸醫學系
264	Merkel cell carcinoma	Human	羅東博愛醫院
266	Cholangiocarcinoma	Human	耕莘醫院病理科
268	Sarcomatoid carcinoma of renal pelvis	Human	花蓮慈濟醫院病理科
269	Mammary Carcinoma	Canine	中興大學獸醫學系
270	Metastatic prostatic adenocarcinoma	Human	耕莘醫院病理科
271	Malignant canine peripheral nerve sheath tumors	Canine	臺灣大學獸醫學系
272	Sarcomatoid carcinoma, lung	Human	羅東聖母醫院
273	Vertebra, T12, laminectomy, metastatic adenoid cystic carcinoma	Human	彰化基督教醫院

腫 瘤

274	rhabdomyosarcoma	Canine	臺灣大學獸醫學系
275	Fetal rhabdomyosarcoma	SD Rat	中興大學獸醫學系
276	Adenocarcinoma, metastatic, iris, eye	Human	高雄醫學大學
277	Axillary lymph node metastasis from an occult breast cancer	Human	羅東博愛醫院
278	Hepatocellular carcinoma	Human	國軍桃園總醫院
279	Feline diffuse iris melanoma	Feline	中興大學獸醫學系
280	Metastatic malignant melanoma in the brain and inguinal lymph node	Human	花蓮慈濟醫院病理科
281	Tonsil Angiosarcoma	Human	羅東博愛醫院
282	Malignant mixed mullerian tumor	Human	耕莘醫院病理科
283	Renal cell tumor	Rat	中興大學獸醫學系
284	Multiple Myeloma	Human	花蓮慈濟醫院病理科
285	Myopericytoma	Human	新光吳火獅紀念醫院
287	Extramedullary plasmacytoma with amyloidosis	Canine	臺灣大學獸醫學系
288	Metastatic follicular carcinoma	Human	羅東聖母醫院病理科
289	Primitive neuroectodermal tumor (PNET), T-spine.	Human	羅東博愛醫院病理科
292	Hemangioendothelioma of bone	Human	花蓮慈濟醫院病理科
293	Malignant tumor with perivascular epithelioid differentiation, favored malignant PEComa	Human	彰化基督教醫院
297	Mucin-producing cholangiocarcinoma	Human	基隆長庚醫院
300	Cutaneous epitheliotropic lymphoma	Canine	臺灣大學獸醫專業學院
301	Cholangiocarcinoma	Felis Lynx	臺灣大學獸醫專業學院
302	Lymphoma	Canine	臺灣大學獸醫專業學院
303	Solitary fibrous tumor	Human	彰化基督教醫院
304	Multiple sarcoma	Canine	臺灣大學獸醫專業學院
306	Malignant solitary fibrous tumor of pleura	Human	佛教慈濟綜合醫院暨慈濟大學
307	Ectopic thymic carcinoma	Human	彰濱秀傳紀念醫院病理科
308	Medullary carcinoma of the right lobe of thyroid	Human	彰化基督教醫院病理科
309	Thyroid carcinosarcoma with cartilage and osteoid formation	Canine	臺灣大學獸醫專業學院
312	Lymphocytic leukemia/lymphoma	Koala	臺灣大學獸醫專業學院
313	Neuroendocrine carcinoma of liver	Human	佛教慈濟綜合醫院暨慈

腫 瘤

			濟大學
314	Parachordoma	Human	羅東博愛醫院病理科
315	Carcinoma expleomorphic adenoma, submandibular gland	Human	天主教耕莘醫院病理科
316	Melanoma, tongue	Canine	國立臺灣大學獸醫專業學院
317	Renal cell carcinoma, papillary type	Canine	國立臺灣大學獸醫專業學院
323	Metastatic papillary serous cystadenocarcinoma, abdomen	Human	國軍桃園總醫院
324	Malignant gastrointestinal stromal tumor	Human	天主教耕莘醫院
329	Sclerosing stromal tumor	Human	彰化基督教醫院
330	Pheochromocytoma	Human	天主教耕莘醫院
334	Metastatic infiltrating ductal carcinoma, liver	Human	佛教慈濟綜合醫院
335	Adenoid cystic carcinoma, grade II, Rt breast	Human	天主教耕莘醫院
336	Malignant lymphoma, diffuse, large B-cell, right neck	Human	林新醫院
337	Pulmonary carcinoma, multicentric	Dog	國立臺灣大學獸醫專業學院
338	Malignant melanoma, multiple organs metastasis	Rabbit	國立中興大學獸醫學院
340	Mucinous-producing urothelial-type adenocarcinoma of prostate	Human	天主教耕莘醫院
342	Plexiform fibromyxoma	Human	彰化基督教醫院
343	Malignant epithelioid trophoblastic tumor	Human	佛教慈濟綜合醫院
344	Epithelioid sarcoma	Human	林新醫院
346	Transmissible venereal tumor	Dog	國立臺灣大學獸醫專業學院
347	Ewing's sarcoma (PNET/ES tumor)	Human	天主教耕莘醫院病理科
348	Malignant peripheral nerve sheath tumor, epithelioid type	Human	林新醫院病理科
349	Low grade fibromyxoid sarcoma	Human	高醫大附設中和紀念醫院病理科
351	Orbital embryonal rhabdomyosarcoma	Dog	Gifu University, Japan (岐阜大学)
354	Granular cell tumor	Dog	國立臺灣大學獸醫專業

腫 瘤

			學院
356	Malignant neoplasm of unknown origin, cerebrum	Dog	國立臺灣大學獸醫專業學院
357	Small cell Carcinoma, Urinary bladder	Human	天主教耕莘醫院
364	Perivascular epithelioid cell tumor, in favor of lymphangiomyomatosis	Human	高醫大附設中和紀念醫院病理科
365	Angiosarcoma, skin (mastectomy)	Human	天主教耕莘醫院病理科
366	Rhabdomyoma (Purkinjeoma), heart	Swine	屏東縣家畜疾病防治所
368	Langerhans cell sarcoma, lung	Human	高醫大附設中和紀念醫院病理科
369	Biliary cystadenocarcinoma, liver	Camel	國立屏東科技大學獸醫教學醫院病理科
371	Malignant melanoma, nasal cavity	Human	羅東博愛醫院病理科
373	Malignant giant cell tumor of tendon sheath	Human	天主教耕莘醫院病理科
376	Malignant mesothelioma of tunica vaginalis	Golden hamster	中興大學獸醫病理生物學研究所
377	Perivascular Epithelioid Cell Tumor (PEComa) of the uterus	Human	彰化基督教醫院病理部
378	Medullary carcinoma	Human	高雄醫學大學病理部
389	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	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	Squamous cell carcinoma, lymphoepithelioma-like type	Human	高醫附設醫院病理科
393	Malignant peripheral nerve sheath tumor (MPNST), subcutis, canine.	Dog	中興大學獸醫學系
394	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	Atypical meningioma	Human	奇美醫院病理科
401	Lymph nodes, excision --- Hodgkin's lymphoma, mixed cellularity	Human	天主教耕莘醫院
402	1. Leukemia, nonlymphoid, granulocytic, involving bone marrow,	Mouse	國家實驗動物中心

腫 瘤		spleen, liver, heart, lungs, lymph nodes, kidney, hardian gland, duodenum and pancreas. 2. Pinworm infestation, moderate, large intestines. 3. Fibrosis, focal, myocardium.		
	403	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	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	Castleman's disease	Human	羅東博愛醫院
	407	Hepatoid adenocarcinoma of colon with multiple liver metastases	Human	羅東博愛醫院
	408	Cardiac and pulmonary melanoma	Pig	國立中興大學獸醫病理生物學研究所
	409	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	Von Hippel-Lindau disease	Human	奇美醫院病理部
	411	Multiple neoplasia	Tiger	
	412	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	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	Alveolar soft part sarcoma	Human	高雄醫學大學中和附設醫院	
細 菌	6.	Tuberculosis	Monkey	臺灣大學獸醫學系
	7.	Tuberculosis	Human	省立新竹醫院
	12.	H. pylori-induced gastritis	Human	台北病理中心
	13.	Pseudomembranous colitis	Human	省立新竹醫院
	26.	Swine salmonellosis	Pig	中興大學獸醫學系

細菌

27.	Vegetative valvular endocarditis	Pig	台灣養豬科學研究所
28.	Nocardiosis	Human	台灣省立新竹醫院
29.	Nocardiosis	Largemouth bass	屏東縣家畜疾病防治所
32.	Actinomycosis	Human	台灣省立豐原醫院
33.	Tuberculosis	Human	苗栗頭份為恭紀念醫院
53.	Intracavitary aspergilloma and cavitory tuberculosis, lung.	Human	羅東聖母醫院
54.	Fibrocalcified pulmonary TB, left Apex. Mixed actinomycosis and aspergillosis lung infection with abscess DM, NIDDM.	Human	林口長庚紀念醫院
58.	Tuberculous enteritis with perforation	Human	佛教慈濟綜合醫院
61.	Spirochetosis	Goose	國立嘉義農專獸醫科
63.	Proliferative enteritis (<i>Lawsonia intracellularis</i> infection)	Porcine	屏東縣家畜疾病防治所
68.	Liver abscess (<i>Klebsillae pneumoniae</i>)	Human	台北醫學院
77.	Xanthogranulomatous inflammation with nephrolithiasis, kidney, right. Ureteral stone, right.	Human	羅東聖母醫院
79.	Emphysematous pyelonephritis	Human	彰化基督教醫院
89.	Severe visceral gout due to kidney damaged Infectious serositis	Goose	中興大學獸醫學系
108.	Listeric encephalitis	Lamb	屏東縣家畜疾病防治所
113.	Tuberculous meningitis	Human	羅東聖母醫院
134.	Swine salmonellosis with meningitis	Swine	中興大學獸醫學系
135.	Meningoencephalitis, fibrinopurulent and lymphocytic, diffuse, subacute, moderate, cerebrum, cerebellum and brain stem, caused by <i>Streptococcus</i> spp. infection	Swine	國家實驗動物繁殖及研究中心
140	Coliform septicemia of newborn calf	Calf	屏東縣家畜疾病防治所
161	Porcine polyserositis and arthritis (Glasser's disease)	Pig	中興大學獸醫學院
162	Mycotic aneurysm of jejunal artery secondary to infective endocarditis	Human	慈濟醫院病理科

細菌

170	Chronic nephritis caused by <i>Leptospira</i> spp	Pig	中興大學獸醫學院
173	Ureteropyelitis and cystitis	Pig	中國化學製藥公司
254	Pulmonary actinomycosis.	Human	耕莘醫院病理科
259	Tuberculous peritonitis	Human	彰化基督教醫院病理科
260	Septicemic salmonellosis	Piglet	屏東科技大學獸醫系
261	Leptospirosis	Human	慈濟醫院病理科
267	Mycobacteriosis	Soft turtles	屏東科技大學獸醫系
290	<i>Staphylococcus</i> spp. infection	Formosa Macaque	中興大學獸醫病理學研究所
291	Leptospirosis	Dog	台灣大學獸醫學系
296	Leptospirosis	Human	花蓮慈濟醫院
305	Cryptococcus and Tuberculosis	Human	彰濱秀傳紀念醫院
319	Placentitis, <i>Coxiella burnetii</i>	Goat	台灣動物科技研究所
321	Pneumonia, <i>Burkholderia pseudomallei</i>	Goat	屏東縣家畜疾病防治所
339	Mycoplasmosis	Rat	國家實驗動物中心
352	<i>Chromobacterium violaceum</i> Septicemia	Gibbon	Bogor Agricultural University, Indonesia
353	Salmonellosis	Pig	國立中興大學獸醫學院
367	Melioidosis (<i>Burkholderia pseudomallei</i>), lung	Human	花蓮慈濟醫院
370	Suppurative bronchopneumonia (<i>Bordetellae trematum</i>) with <i>Trichosomoides crassicauda</i> infestation	Rat	國立中興大學獸醫學院
374	Pulmonary coccidiomycosis	Human	彰化基督教醫院
375	Paratuberculosis in <i>Macaca cyclopis</i>	<i>Macaca cyclopis</i>	國立屏東科技大學獸醫學院
379	Bovine Johne's disease (BJD) or paratuberculosis of cattle	Dairy cow	屏東縣家畜疾病防治所
380	NTB, <i>Mycobacterium abscessus</i>	Human	佛教慈濟綜合醫院暨慈濟大學病理科
382	Leptospirosis	Pig	國立屏東科技大學獸醫學院
384	<i>Neisseria</i> Infected Pneumonitis	Cat	中興大學獸醫學系
385	<i>Mycobacteria</i> avian complex dacryocystitis	Human	花蓮佛教慈濟綜合醫院
387	Swine Erysipelas	Pig	屏東縣家畜疾病防治所
396	Suppurative meningitis caused by	Pig	國立中興大學獸醫病理

	Streptococcus spp in pigs		生物學研究所
399	Listeric encephalitis in dairy goats	Goat	屏東縣家畜疾病防治所
病毒	21. Newcastle disease	Chicken	台灣大學獸醫學系
	22. Herpesvirus infection	Goldfish	台灣大學獸醫學系
	30. Demyelinating canine distemper encephalitis	Dog	台灣養豬科學研究所
	31. Adenovirus infection	Malayan sun bears	台灣大學獸醫學系
	50. Porcine cytomegalovirus infection	Piglet	台灣省家畜衛生試驗所
	55. Infectious laryngo-tracheitis (Herpesvirus infection)	Broilers	國立屏東技術學院獸醫學系
	69. Pseudorabies (Herpesvirus infection)	Pig	台灣養豬科學研究所
	78. Marek's disease in native chicken	Chicken	屏東縣家畜疾病防治所
	92. Foot- and- mouth disease (FMD)	Pig	屏東縣家畜疾病防治所
	101. Swine pox	Pig	屏東科技大學獸醫學系
	110. Pseudorabies	Piglet	國立屏東科技大學
	112. Avian encephalomyelitis	Chicken	國立中興大學
	128. Contagious pustular dermatitis	Goat	屏東縣&台東縣家畜疾病防治所
	130. Fowl pox and Marek's disease	Chicken	中興大學獸醫學系
	133. Japanese encephalitis	Human	花蓮佛教慈濟綜合醫院
	136. Viral encephalitis, polymavirus infection	Lory	美國紐約動物醫學中心
	138. 1. Aspergillus spp. encephalitis and myocarditis 2. Demyelinating canine distemper encephalitis	Dog	台灣大學獸醫學系
	153. Enterovirus 71 infection	Human	彰化基督教醫院
	154. Ebola virus infection	African Green monkey	行政院國家科學委員會實驗動物中心
	155. Rabies	Longhorn Steer	台灣大學獸醫學系
	163. Parvoviral myocarditis	Goose	屏東科技大學獸醫學系
	199. SARS	Human	台大醫院病理科
	200. TGE virus	swine	臺灣動物科技研究所
	201. Feline infectious peritonitis(FIP)	Feline	台灣大學獸醫學系
	209. Chicken Infectious Anemia (CIA)	Layer	屏東防治所
	219. 1. Lymph node:Lymphdenitis, with lymphocytic depletion and	Pig	臺灣動物科技研究所

病毒		intrahistiocytic basophilic cytoplasmic inclusion bodies. Etiology consistent with Porcine Circovirus(PCV)infection. 2. Lung: Bronchointerstitial pneumonia,moderate, lymphoplasmacytic, subacute.		
	220	Cytomegalovirus colitis	Human	彰化基督教醫院病理科
	221	Canine distemper virus Canine adenovirus type II co-infection	Canine	國家實驗動物繁殖及研究中心
	223	1. Skin, mucocutaneous junction (lip): Cheilitis, subacute, diffuse, sever, with epidermal pustules, ballooning degeneration, proliferation, and eosinophilic intracytoplasmic inclusion bodies, Saanen goat. 2. Haired skin: Dermatitis, proliferative, lymphoplasmacytic, subacute, diffuse, sever, with marked epidermal pustules, ballooning degeneration, acanthosis, hyperkeratosis, and eosinophilic intracytoplasmic inclusion bodies.	Goat	台灣動物科技研究所
	238	Hydranencephaly	Cattle	國立屏東科技大學獸醫學系
	248	Porcine Cytomegalovirus (PCMV) infection	Swine	國立屏東科技大學獸醫學系
	250	Porcine respiratory disease complex (PRDC) and polyserositis, caused by co-infection with pseudorabies (PR) virus, porcine circovirus type 2 (PCV 2), porcine reproductive and respiratory syndrome (PRRS) virus and <i>Salmonella typhimurium</i> .	Swine	屏東縣家畜疾病防所
	255	Vaccine-induced canine distemper	gray foxes	國立台灣大學獸醫學系
	265	Bronchointerstitial pneumonia (PCV II infection)	Swine	台灣大學獸醫學系
	295	Feline infectious peritonitis (FIP)	Cat	中興大學獸醫病理所
病毒	362	Canine distemper virus infection combined pulmonary dirofilariasis	Dog	國家實驗研究院

	381	Polyomavirus infection of urinary tract	Human	羅東博愛醫院
	405	Porcine circovirus-associated lymphadenitis	Swine	國立屏東科技大學獸醫教學醫院病理科
	414	Rabies virus infection	Human	佛教慈濟綜合醫院暨慈濟大學病理科
	415	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
黴菌	23.	Chromomycosis	Human	台北病理中心
	47.	Lung: metastatic carcinoma associated with cryptococcal infection. Liver: metastatic carcinoma. Adrenal gland, right: carcinoma (primary)	Human	三軍總醫院
	48.	Adiaspiromycosis	Wild rodents	台灣大學獸醫學系
	52.	Aspergillosis	Goslings	屏東縣家畜疾病防治所
	53.	Intracavitary aspergilloma and cavitory tuberculosis, lung.	Human	羅東聖母醫院
	54.	Fibrocalcified pulmonary TB, left Apex. Mixed actinomycosis and aspergillosis lung infection with abscess DM, NIDDM.	Human	林口長庚紀念醫院
	105.	Mucormycosis Diabetes mellitus	Human	花蓮佛教慈濟綜合醫院
	127.	Eumycotic mycetoma	Human	花蓮佛教慈濟綜合醫院
	138	1. Aspergillus spp. encephalitis and myocarditis 2. Demyelinating canine distemper encephalitis	Dog	台灣大學獸醫學系
	298	Systemic Candidiasis	Tortoise	中興大學獸醫學院
	318	Alfatoxicosis in dogs	Canine	國立臺灣大學獸醫專業學院
	322	Allergic fungal sinusitis	Human	羅東博愛醫院
	326	Meningoencephalitis, Aspergillus flavus	Cat	國立臺灣大學獸醫專業學院
	331	Histoplasmosis	Human	花蓮慈濟醫院病理科
	332	Pulmonary Blastomycosis	Rat	中興大學獸醫學院
	355	Encephalitozoonosis	Rabbit	國立中興大學獸醫學院

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

	328	Trichosomoides crassicauda, urinary bladder	Rat	國家實驗動物中心
	362	Canine distemper virus infection combined pulmonary dirofilariasis	Dog	國家實驗研究院
	370	Suppurative bronchopneumonia (<i>Bordetellae trematum</i>) with <i>Trichosomoides crassicauda</i> infestation	Rat	國立中興大學獸醫學院
	416	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.	Cryptosporidiosis	Goat	台灣養豬科學研究所
	15.	Amoebiasis	Lemur fulvus	台灣養豬科學研究所
	16.	Toxoplasmosis	Squirrel	台灣養豬科學研究所
	17.	Toxoplasmosis	Pig	屏東技術學院獸醫學系
	51.	Pneumocystis carinii pneumonia	Human	台北病理中心
	57.	Cecal coccidiosis	Chicken	中興大學獸醫學系
	65.	Cryptosporidiosis	Carprine	台灣養豬科學研究所
	211	Avian malaria, African black-footed penguin	Avian	臺灣動物科技研究所
	242	Neosporosis	Cow	國立屏東科技大學獸醫學系
	263	Intestinal amebiasis	Human	彰化基督教醫院病理科
	320	Cutaneous leishmaniasis	Human	佛教慈濟綜合醫院
	325	Myocarditis/encephalitis, <i>Toxoplasma gondii</i>	Wallaby	國立臺灣大學獸醫專業學院
立克次體	229	Necrotizing inflammation due to scrub typhus	Human	佛教慈濟醫院病理科
	251	Scrub typhus with diffuse alveolar damage in bilateral lungs.	Human	佛教慈濟醫院病理科
皮膚	216	Cytophagic histiocytic panniculitis with terminal hemophagocytic syndrome	Human	佛教慈濟綜合醫院病理科
	359	Eosinophilic granuloma with fungal infection, Skin	Cat	國立臺灣大學獸醫專業學院
	360	Septa panniculitis with lymphocytic vasculitis	Human	慈濟綜合醫院暨慈濟大學
其它	9.	Perinephric pseudocyst	Cat	台灣大學獸醫學系
	10.	Choledochocyst	Human	長庚紀念醫院
	11.	Bile duct ligation	Rat	中興大學獸醫學系
	37.	Myositis ossificans	Human	台北醫學院

其它

75.	Acute yellow phosphorus intoxication	Rabbits	中興大學獸醫學系
76.	Polycystic kidney bilateral and renal failure	Cat	美國紐約動物醫學中心
80.	Glomerular sclerosis and hyalinosis, segmental, focal, chronic, moderate Benign hypertension	SHR rat	國防醫學院 & 國家實驗動物繁殖及研究中心
83.	Phagolysosome-overload nephropathy	SD rats	實驗動物繁殖及研究中心
85.	Renal amyloidosis	Dog	台灣養豬科學研究所
89.	Severe visceral gout due to kidney damaged Infectious serositis	Goose	中興大學獸醫學系
91.	Hypervitaminosis D	Orange-rumped agoutis	台灣大學獸醫學系
118.	Cystic endometrical hyperplasia	Dog	臺灣養豬科學研究所
121.	Cystic subsurface epithelial structure (SES)	Dog	國科會實驗動物中心
124.	Superficial necrolytic dermatitis	Dog	美國紐約動物醫學中心
125.	Solitary congenital self-healing histiocytosis	Human	羅東博愛醫院
126.	Alopecia areata	Mouse	實驗動物繁殖及研究中心
142	Avian encephalomalacia (Vitamin E deficiency)	Chicken	國立屏東科技大學獸醫學系
151	Osteodystrophia fibrosa	Goat	台灣養豬科學研究所 & 台東縣家畜疾病防治所
159	Hypertrophic cardiomyopathy	Pig	台灣大學獸醫學系
165	Chinese herb nephropathy	Human	三軍總醫院病理部及腎臟科
167	Acute pancreatitis with rhabdomyolysis	Human	慈濟醫院病理科
171	Malakoplakia	Human	彰化基督教醫院
183	Darier's disease	Human	高雄醫學大學病理科
191	1. Polyarteritis nodosa 2. Hypertrophic Cardiomyopathy	Feline	台灣大學獸醫學系
193	Norepinephrin cardiotoxicity	Cat	台中榮總
196	Cardiomyopathy (Experimental)	Mice	綠色四季
212	Kikuchi disease (histiocytic necrotizing lymphadenitis)	Lymphadenitis	耕莘醫院病理科
225	Calcinosis circumscripta, soft tissue of	Dog	台灣大學獸醫所

其它

	the right thigh, dog		
230	Hemochromatosis, liver, bird	Bird	台灣大學獸醫學系
234	Congenital hyperplastic goiter	Holstein calves	屏東縣家畜疾病防治所
236	Hepatic lipidosis (fatty liver)	Rats	中興大學獸醫學病理學研究所
237	Arteriovenous malformation (AVM) of cerebrum	Human	耕莘醫院病理科
244	Organophosphate induced delayed neurotoxicity in hens	Hens	中興大學獸醫學病理學研究所
257	Severe lung fibrosis after chemotherapy in a child with Ataxia-Telangiectasia	Human	慈濟醫院病理科
294	Arteriovenous malformation of the left hindlimb	Dog	台灣大學獸醫學系
299	Polioencephalomalacia	Goat kid	屏東家畜疾病防治所
310	Hyperplastic goiter	Piglet	屏東家畜疾病防治所
311	Melamine and cyanuric acid contaminated pet food induced nephrotoxicity	Rat	中興大學獸醫學病理學研究所
318	Alfatoxicosis	Canine	國立臺灣大學獸醫專業學院
333	Lordosis, C6 to C11	Penguin	國立臺灣大學獸醫專業學院
341	Pulmonary placental transmogrification	Human	羅東博愛醫院
345	Acute carbofuran intoxication	Jacana	國立中興大學獸醫學院
350	Malakoplakia, liver	Human	慈濟綜合醫院暨慈濟大學
351	Eosinophilic granuloma, Right suboccipital epidural mass	Human	羅東博愛醫院病理科
359	Eosinophilic granuloma with fungal infection, Skin	Cat	國立臺灣大學獸醫專業學院
360	Septa panniculitis with lymphocytic vasculitis	Human	慈濟綜合醫院暨慈濟大學
361	Hepatotoxicity of SMA-AgNPs	Mouse	國立中興大學獸醫病理生物學研究所
363	Hypertrophy osteopathy	Cat	國立臺灣大學獸醫專業學院
372	Snake bite suspected, skin and spleen	Monkey (red	國立臺灣大學獸醫專業

其他

		guenon)	學院
383	Langerhans cell histiocytosis	Human	聖馬爾定醫院病理科
388	Canine protothecosis	Dog	國立臺灣大學獸醫專業學院
392	Lithium nephrotoxicity	Human	佛教慈濟綜合醫院暨慈濟大學病理科
398	Gamma-knife-radiosurgery-related demyelination	Human	佛教慈濟綜合醫院暨慈濟大學病理科
400	Canine Disseminated form Granulomatous Meningoencephalitis (GME)	Dog	國立屏東科技大學獸醫教學醫院病理科

會員資料更新服務

各位會員：

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

中華民國比較病理學會秘書處
10617 臺北市大安區羅斯福路四段 1 號
國立臺灣大學獸醫系三館 515 室 鄭謙仁秘書長 收
Tel: (02) 33663868
Fax: (02) 23621965
e-mail address: crjeng@ntu.edu.tw

-----中華民國比較病理學會-----

會員資料更改卡

姓 名：_____ 會員類別：一般會員
學生會員
贊助會員

最高學歷：_____

服務單位：_____ 職 稱：_____

永久地址：_____

通訊地址：_____

電 話：_____ 傳 真：_____

E-Mail Address：_____

中華民國比較病理學會

誠摯邀請您加入

入 會 辦 法

一、本會會員申請資格為：

- (一) 一般會員：贊同本會宗旨，年滿二十歲，具有國內外大專院校（或同等學歷）生命科學及其它相關科系畢業資格或高職畢業從事生命科學相關工作滿兩年者。
- (二) 學生會員：贊同本會宗旨，在國內、外大專院校生命科學或其他相關科系肄業者（請檢附學生身份證明）。
- (三) 贊助會員：贊助本會工作之團體或個人。
- (四) 榮譽會員：凡對比較病理學術或會務之推廣有特殊貢獻，經理事會提名並經會員大會通過者。

二、會員：

- (一) 入 會 費：一般會員新台幣一仟元，學生會員一百元，贊助會員伍仟元，於入會時繳納。
- (二) 常年會費：一般會員新台幣一仟元，學生會員一百元。

【註：學生會員身份變更為一般會員時，只需繳交一般會員之常年會費】

三、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：10617 臺北市羅斯福路四段一號獸醫三館 515 室、電話：02-33663868、傳真 02-23621965。

中華民國比較病理學會入會申請及會員卡

會籍電腦編號 _____

姓名	中文		性別	男 <input type="checkbox"/>	出生	民國	年	月	日	出生地	省	
	英文		女 <input type="checkbox"/>	身分證字號								縣市
學歷	(1)				稱謂(請圈選) 先生 小姐 醫師 獸醫師							
					研究員 博士 教授 主任 其他: _____							
	(2)				研究 興 趣	(1)						
	(3)					(2)						
(4)				(3)								
主要 經歷	機關名稱			職務		起			止			
						年 月			年 月			
						年 月			年 月			
						年 月			年 月			
現職						年 月			年 月			
<p>通訊地址: 現在 電話: 傳真:</p> <p>永久 電話: 傳真:</p> <p>電子郵遞(E-mail)地址:</p>												
<p>茲 贊 同</p> <p>貴會宗旨擬加入為會員嗣後並願遵守一切規章共圖發展</p> <p>此 致</p> <p>中華民國比較病理學會</p> <p style="text-align: right;">申請人 簽章</p> <p style="text-align: right;">介紹人 簽章</p> <p style="text-align: right;">介紹人 簽章</p> <p>中華民國 年 月 日</p>										<p>審核結果</p>		