Chinese Society of Comparative Pathology

中華民國比較病理學會

第 79 次比較病理學研討會

神經內分泌疾病病例討論專題

(Neuroendocrine diseases)

主辦單位

Chinese Society of Comparative Pathology

中華民國比較病理學會

國立臺灣大學獸醫專業學院

November 28, 2020 (中華民國 109 年 11 月 28 日)

SCHEDULE

79th MEETING OF COMPARATIVE PATHOLOGY

中華民國比較病理學會 第 79 次比較病理學研討會

神經內分泌疾病病例討論專題

時間：109 年 11 月 28 日（星期六）

地點：國立臺灣大學獸醫專業學院

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Time (時間)	Schedule (議程)		Moderator (主持)
09:10~9:30	Registration (報到)		
9:30~9:40	Opening Ceremony (致詞) 鄭謙仁 理事長		
9:40~10:40	專題演講	專題演講：鄭永銘 教授 題目：Neuroendocrine neoplasms	鄭謙仁 理事長
10:40-11:10	Coffee Break (拍團體照)		
11:10-11:40	Case 547	**Shih, Chia-Wen (施洽雯)**, M.D., M.S. [1]; Chen, Chu-Teh. (陳朱德) M.D. [2] ; Yeh, Hsuen-Tang (葉顯堂), M.D. [3] 1,2. Department of Pathology, Lotung Poh-Ai Hospital (羅東博愛醫院病理科) 3. Department of General Surgery, Lotung Poh-Ai Hospital (羅東博愛醫院一般外科)	黃威翔 秘書長
11:40~12:10	Case 548	**Shih, Cheng-Hsin (施正心)**, DVM; Chen, Yen-Han (陳彥涵), DVM; Chang, Hui-Wen (張惠雯), DVM, PhD; Jeng, Chian-Ren (鄭謙仁), DVM, PhD; Chang, Yen-Chen (張晏禎), DVM, PhD*; Huang, Wei-Hsiang (黃威翔), DVM, PhD* Graduate Institute of Molecular and Comparative Pathobiology, School of Veterinary Medicine, National Taiwan University (國立台灣大學獸醫專業學院分子暨比較病理生物學研究所)	黃威翔 秘書長
12:10~13:00	Lunch B09 Board Meeting R201 第九屆第一次理監事會議		
13:00~13:30	Case 549	**Chen, Tai-Chen[1] (陳泰里)**; Chiang,Yuan-Hung[2] (江元宏); Hsu, Yung-Hsiang[3] (許永祥)	黃威翔 秘書長

		[1]Department of Medical education, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan (佛教慈濟醫療財團法人花蓮慈濟醫院醫務部) [2]Department of Urology, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan (佛教慈濟醫療財團法人花蓮慈濟醫院皮膚科) [3]Department of Pathology, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan (佛教慈濟醫療財團法人花蓮慈濟醫院病理科)	
13:30~14:00	Case 550	**Jiang, Jia-Wei (江家瑋)**, DVM, MS[1]; Tsao, Wen-Tien (曹文恬), DVM, MS[1]; Luo, I-Chi (羅怡琪), DVM, MS[1] [1]HOPE Veterinary Pathology Diagnostic Center (霍普獸醫病理診斷中心)	黃威翔 秘書長
14:00~14:30	Case 551	**Chang, Junn-Liang (張俊梁)**, MD, PhD[1], Lin, Zheng-Xian (林政賢) , MD[2] [1]Department of Pathology & Laboratory Medicine, Taoyuan Armed Forces General Hospital（國軍桃園總醫院 病理檢驗部） [2]Department of Department of Obstetrics and Gynecology, Taoyuan Armed Forces General Hospital（國軍桃園總醫院 婦產科）	黃威翔 秘書長
14:30~15:00	Coffee Break		
15:00~15:30	Case 552	**Yen-Chi Chang (張言齊)**, DVM, MS[1,2]; Jiunn-Wang Liao (廖俊旺), DVM, Ph. D.[1,2], Hue-Ying Chiou (邱慧英), 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) 2 Animal Disease Diagnostic Center, National Chung Hsing University (國立中興大學動物疾病診斷中心)	黃威翔 秘書長
15:30~16:00	Case 553	**Meng-Hsuan Liu[1] (劉孟璿)**; Yen-Lin Chen[1] (陳燕麟) [1]Department of pathololgy, Cardinal Tien Hospital, School of Medicine, Fu-Jen Catholic University, New Taipei, Taiwan	黃威翔 秘書長
16:00~	**General Discussion (綜合討論) 鄭謙仁 理事長**		

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Special Lecture (專題演講)

題目：Neuroendocrine neoplasm

講者：鄭永銘（Yung-Ming Jeng） 教授 國立臺灣大學醫學院

Neuroendocrine neoplasm can be divided into well-differentiated neuroendocrine tumor (NET) and poorly differentiated neuroendocrine carcinoma (NEC). The latter is divided into small cell and large cell tumors. In the pancreas and gastrointestinal tract, NET is graded into G1, g2, and G3 based on mitotic count and ki-67 index. The pathogenesis of NEC is distinct from NET and discrimination of NET and NEC is important because they have different treatment method. In the pancreas, staining for Ki-67, p53, Rb, ATRX, and DAXX is helpful for differentiating these two lesions. In lung, NET is grading as carcinoid and atypical carcinoid based on mitotic count and area of necrosis.

The major change is the 5th version of WHO classification include the following. (1) Change of MANAC (mixed adenocarcinoma and neuroendocrine carcinoma) to MiNEN (mixed neuroendocrine-non-neuroendocrine neoplasm). (2) All NETs are considered malignant, including the L cell NET of rectum. (3) Appendiceal goblet cell carcinoid is renamed goblet cell adenocarcinoma and is no longer considered a subtype of appendiceal carcinoid.

Immunostaining of NDX6.1, TTF1, and CDX2 is helpful for identification of the primary site of metastatic NET. Immunostaining for SSTR2A may help to identify patients benefit from somatostatin analog therapy. Molecular analysis may help to identify patients potential benefit for mTOR inhibitor therapy.

Case Diagnosis

SCHEDULE

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79th CP slide website

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Case No.	Presenter	Slide No.	Diagnosis
Case 547	施洽雯	LP_2224	Glucagonoma, pancreas http://www.ivp.nchu.edu.tw/ivp_slide_view.php?id=1776
Case 548	施正心	NTU2020_2050H	Neuroendocrine carcinoma, skin, cat http://www.ivp.nchu.edu.tw/ivp_slide_view.php?id=1781
Case 549	陳泰里	S2020_12047A	Paraganglioma of urinary bladder http://www.ivp.nchu.edu.tw/ivp_slide_view.php?id=1772
Case 550	江家瑋	HP20-1145	Hepatic carcinoid (Neuroendocrine carcinoma), liver, cat http://www.ivp.nchu.edu.tw/ivp_slide_view.php?id=1784
Case 551	張俊梁	194842	Strumal carcinoid tumor of the ovary (SCTO) arising from mature cystic teratoma http://www.ivp.nchu.edu.tw/ivp_slide_view.php?id=1771
Case 552	張言齊	CS2003164	Pheochromocytoma and Associated Cardiomyopathy, Meerkat (*Suricata suricatta*) http://www.ivp.nchu.edu.tw/ivp_slide_view.php?id=1735
Case 553	劉孟璿	442048c	Adrenal, left, laparoscopic adrenalectomy --- Pheochromocytoma, malignant. Staging (pT2) http://www.ivp.nchu.edu.tw/ivp_slide_view.php?id=1791

Case Number: 547

Slide Number: LP_2224

Slide View: http://www.ivp.nchu.edu.tw/ivp_slide_view.php?id=1776

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3. Department of General Surgery, Lotung Poh-Ai Hospital (羅東博愛醫院一般外科)

CASE HISTORY:

Signalment: 61-year-old female.

Clinical History:

A 61-year-old female who was referred to the Department of General Surgery with the chief problem of pancreatic tumor noted by medical doctor of the Gastrointestinal Department. The patient denied abdomen tenderness, loss of appetite and body weight loss. The patient had past history of DM, hypertension, Sicca syndrome, depression and anxiety with regular medications. The patient also had past operation history for uterine myoma, descending colon diverticulitis with perforation, HIVD, and cataract.

The pancreatic tumor was first noted on Feb. 15, 2017 by sonography during regular follow up for her multiple diseases. The tumor was hypoechoic and measuring 1.0 cm in diameter. At the same time, CT scan of liver, chest and pelvis showed negative findings. On Nov. 21, 2017, the follow up sonography showed mild enlargement of the pancreatic tumor and measuring 1.2 cm in diameter. MRI was also performed and showed a pancreatic tumor measuring 1.4 x 1.2 cm with arterial enhancement. On Jan. 27, 2018, repeat CT scan of chest, abdomen and pelvis was performed and showed one small arterial enhanced nodule about 1.3 x 1.0 cm in size in uncinate process of pancreas. Enucleation of the pancreatic tumor was performed on Mar. 5, 2018. The specimen was sent to the Department of Pathology for pathologic diagnosis. The specimen submitted consisted of a small tissue measuring 1.6 x 1.5 x 1.3 cm with a well-defined tumor measuring 1.4 x 1.3 x 1.1 cm. The tumor was yellowish-brown color and elastic firm consistency.

Clinical Pathology:

BUN: 18 mg/dL (6-20 mg/dL), Creatinine: 0.9 mg/dL (0.6-1.1 mg/dL), Glucose: 171 mg/dL (70-100 mg/dL), Na: 145 mmol/L (135-145 mmol/L), K: 4.1 mmol/L (3.5-5.1 mmol/L), Ca: 9.5 mg/dL (8.6-10.2 mg/dL), AST (GOT): 47 U/L (5-40 U/L), ALT (GPT): 68 U/L (5-40 U/L), RBC: $3.79x10^6$/uL ($4.2-5.4x10^6$/uL), Hb: 11.5 gm/dL (12.0-16.0 gm/dL), Hct: 35.2 % (37-47%), Plt: 23.7 $x10^4$/dL (15-40 $x10^4$/dL), WBC: 16.2 $x10^3$/uL ($4.5x10^3$-$11.0x10^3$/uL), Lymphocyte: 12.7% (20.0-45.0%), Neutrophil: 78.1% (45.0-75.0%), Monocyte:9.0% (0.0-9.0%), Eosinophil: 0.0% (1.0-3.0%), Basophil: 0.2% (0.0-1.0%). CEA: 2.88 ng/mL (<5.0 nm/mL), Ca199 : 19.99 U/mL (<27.00 U/mL).

CASE RESULT:

Histopathologic Findings:

Histopathological examination revealed cords and nests of monotonous low grade neoplastic cells. The cells are arranged in a solid, trabecular, or glandular pattern, with fairly uniform nuclei, salt-and-pepper chromatin, and finely granular cytoplasm. Areas of hyalinized stroma can be seen. No significant atypia or mitotic figure was noted.

Immunohistochemistry:

Sections of tissue specimen were subjected for immunohistochemical evaluation. On immunohistochemical analysis, the tumor cells were positive for Chromogranin A, Synaptophysin, CD56 and Glucagon, and negative for gastrin and insulin. The Ki67 showed <1% positive.

Differential diagnosis:

1. Ductal adenocarcinoma
2. Acinar cell carcinoma.
3. Islet cell tumor.

Diagnosis: Glucagonoma, pancreas.

Discussion:

Pancreatic ductal carcinomas arising from the exocrine pancreas is the most common type accounting for 95% of these tumors. Two- thirds of these tumors occur in the head of the pancreas and have an aggressive behavior. Unlike ductal adenocarcinoma, many of the endocrine tumors are benign. Small subsets are endocrine carcinomas and make up around 1% of pancreatic cancers. Pancreatic cystic neoplasms include a group of tumors having varying malignant potential. Pancreatic

endocrine tumors including insulinoma(60%), gastrinoma (18%), non-functioning tumor(15%) and the others (7%, glucagonoma, somatostatinoma and VIPoma).

Glucagonoma is a rare pancreatic neuroendocrine tumor with an estimated incidence of 1/20,000,000/year. Glucagonoma originates from the alpha cells of the pancreatic islet. Since its first description by Becker in 1942, around 300 cases of glucagonoma have been described. Glucagonomas can be associated with other tumors in Multiple Endocrine Neoplasia syndrome type 1 (MEN 1), but this association is rare and comprises no more than 3% of glucagonomas. On the other hand, glucagonoma can be found in approximately 65% to 75% of the MEN1 patients.

Necrolytic migratory erythema (NME) is the most typical clinical symptom glucagonoma. Other possible symptoms include diabetes mellitus, weight loss, glossitis, cheilitis, steatorrhea, diarrhea and hyperglucagonemia. NME is present in about 70% of the patients with glucagonoma syndrome. The lesions of NME consist of erythematous scaling and crusting patches most frequently observed in the groin, intergluteal and genital areas. Central healing may occur giving an annular appearance. The most specific feature on skin histological examination is necrolysis of the upper epidermis with vacuolated keratinocytes, leading to focal or confluent necrosis. Normalization of glucagon concentrations by surgery results in a rapid disappearance of the skin rash. However, abnormal glucagon levels alone cannot explain all of the skin findings. The skin NEM of glucagonoma can precede the full-blown clinical syndrome by several years. In the absence of other clinical features, NME is often misdiagnosed as pemphigus foliaceus, pemphigoid, vasculitis, acrodermatitis enteropathica, psoriasis, herpes, seborrheic or contact dermatitis, or eczema.

Hypoaminoacidemia, nutritional lack of zinc and fatty acids or hepatocellular dysfunctions are all considered to be possible triggering factors of NME. Hyperglucagonemia provokes multiple nutrient and vitamin B deficiencies, which in turn are the probable cause of this typical skin disorder. Other systemic pathologies, such as chronic liver disease, inflammatory bowel disease, malabsorptive state, pancreatitis, various malignant neoplasms and heroin abuse have been associated with NME without glucagonoma. The early recognition of NME is therefore important because it will prevent the catabolic clinical features and reduce the risk of metastasis with obvious quality of life improvements.

Glucagonoma typically occurs in the distal pancreas (≈85% are in body or tail) and is large at time of diagnosis (0.4–25 cm) with the average gross tumor size of 5.0 cm. Usually glucagonoma is located in the pancreas, but there are exceptions. Poggi et al reported a case of primary malignant hepatic glucagonoma confirmed by immunohistochemistry and histopathological examination after autopsy.

Glucagonoma typically occurs in 6th decade with an age range of 16–88 years and mean age 54 years reported in the literature. Earlier studies suggest female predominant (3-4 : 1 female : male), a recent review of 168 cases published in English literature suggests only mild female predominant (93 females versus 75 males).

Glucagonoma should be taken into consideration when the patients present with typical erythematous rash. The imaging diagnostic methods, including ultrasonograhpy, CT, and MRI, are commonly used. Neuroendocrine tumors, in contrast to pancreatic exocrine adenocarcinoma, are hypervascular lesions, and

this characteristic is often useful when reviewing imaging studies. However, selective visceral angiography is considered the gold standard in diagnosis and localization of glucagonomas. A half of glucagonomas have metastasized by the time of diagnosis CT scan plays a critical role in assessing location, infiltration, and metastasis of the tumor.

High blood glucose level can be found in 80% of the patients with glucagonoma syndrome as glucagon can inhibit both the endocrine and exocrine functions of the pancreas. The presence of glucagonoma syndrome, the symptoms that accompany the pancreatic tumor, as well as elevated levels of glucagon in the blood, are what is used to diagnose glucagonoma. When a person presents with a blood glucagon concentration greater than 500 mg/mL along with the glucagonoma syndrome, a diagnosis can be established. It is important to note that not all cases of hyperglucagonemia will lead to a diagnosis of glucagonoma. Several multisystem diseases can show mild elevation of plasma glucagon levels (200 to 500 pg/ml), including cirrhosis, chronic renal disease, diabetic ketoacidosis, prolonged starvation, acute pancreatitis, acromegaly, hypercorticism, severe burns, severe stress, septicemia, and celiac disease. Stacpoole reported that all of the following criteria should be satisfied to diagnose a glucagonoma: demonstration of a tumor mass by direct visualization or radiographic techniques; proof that the tumor shows a preponderance of glucagon-containing cells on appropriate staining and/or proof of increased tissue levels of immunoreactive glucagon; elevation of basal circulating immunoreactive glucagon; and at least one of the following coincidental findings; (a) skin rash, (b) glucose intolerance, or (c) hypoaminoacidemia.

Histopathologically, glucagonoma is composed of cords and nests of monotonous low grade neuroendocrine cells. The cells are arranged in a solid, trabecular, gyriform, or glandular pattern, with fairly uniform nuclei, salt-and-pepper chromatin, and finely granular cytoplasm. Few mitoses and copious hyalinized stroma can be seen. Glucagon is usually detectable within the tumor cells by immunoperoxidase staining, and glucagon mRNA may be detected by in situ hybridization. Characteristic alpha cell granules may be seen on electron microscopy

. The differential diagnosis is based on histopathology demonstrating neuroendocrine features such as positive staining for chromogranin A, synaptophysin or CD56 and specific hormones such as gastrin, insulin and glucagon. The differential diagnosis of glucagonoma includes other primary pancreatic neoplasms such as ductal adenocarcinoma, acinar cell carcinoma, solid papillary neoplasms.

Surgery is the most effective treatment for glucagonoma. Distal pancreatectomy and pancreaticduodenenctomy are often chosen depending on the location of the tumor. Focal ablation should be considered if the tumor is small. Although the optimal treatment for glucagonoma is surgery, in 75-80% of cases, the glucagonoma starts in malignant form, and in 50% of malignant cases, metastasis exists at diagnosis. The liver is the most frequent site of metastasis, followed by the peripancreatic lymph nodes, bone, adrenal gland, kidney and lung. Novel advances in management of metastatic pancreatic neuroendocrine tumors include complex liver resections and liver transplantation, percutaneous ablation of liver metastases, long-acting somatostatin analogues, targeted radiotherapy. For most reported cases of glucagonoma were malignant with many patients presenting with metastatic disease (65-75%), early diagnosis is very important for early operation and better prognosis.

The predictors of survival are dependent on age, tumor grade, and distant metastases. The cure is rarely achieved once the tumor is metastatic. For most reported cases (75-80%) of glucagonoma were malignant with many patients presenting with metastatic disease (50%), early diagnosis is very important for early operation and better prognosis. Estimations of mean survival after diagnosis of glucagonoma have ranged from three to seven years or more

As per the National Comprehensive Cancer Network guidelines, the post-resection follow up includes history and physical examination, serum glucagon level, CT or MRI in the initial 3 to 12-month period. After 1 year, it is recommended to follow the same measures every 6 to 12 months up to a maximum of 10 years.

In conclusion, clinicians should consider the diagnosis of glucagonoma according to the typical initial symptom of necrolytic migratory erythema (NME), which might be misdiagnosed as skin diseases. Early diagnosis may provide a better prognosis. A multidisciplinary approach is effective in patients with unresectable metastatic tumors.

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Case Number: 548

Slide No.: NTU2020_2050H

Slide View: http://www.ivp.nchu.edu.tw/ivp_slide_view.php?id=1781

Shih, Cheng-Hsin (施正心), DVM; Chen, Yen-Han (陳彥涵), DVM; Chang, Hui-Wen (張惠雯), DVM, PhD; Jeng, Chian-Ren (鄭謙仁), DVM, PhD; Chang, Yen-Chen (張晏禎), DVM, PhD*; Huang, Wei-Hsiang (黃威翔), DVM, PhD*

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CASE HISTORY:

Signalment: Feline, chinchilla, 14-year-old, castrated male

Merkel cell carcinoma (MCC) at left axillary region near 2nd nipple was excised and diagnosed last December. The surgical pathology report indicated that the surgical margin was clean, and there was no lymphovascular invasion. Recently, cutaneous masses at right axillary region, dorsal neck, and chin were observed within a month. The blood examination, X-ray, and ultrasound revealed no significant finding. Surgical excision of the masses was performed and the masses were submitted for pathological examination.

Gross Findings:

The submitted right axillary mass was deeply embedded in an abundant amount of adipose tissue. The mass was multinodular and attached tightly to the deep skeletal muscle. The cut surface was beige, well-demarcated and homogenous. The cut surfaces of the masses taken from the dorsal neck and chin share similar gross features with those of the right axillary mass.

CASE RESULT:

Histopathological Findings:

Right axillary skin mass: Arising in and infiltrating throughout the subcutis, and invading the skeletal muscle is a non-encapsulated neoplastic growth consists of sheets, solid nests, and vague cords of individualized round neoplastic cells supported by a fine fibrovascular stroma. The neoplastic cells have scant light eosinophilic cytoplasm, and the size of the neoplastic cells vary

considerably from small cells resembling mature lymphocyte to large cells with polygonal nucleus up to 3 times of small one. Many nuclei contained fine granular chromatin and multiple small nucleoli. The mitotic rate is approximately 6 per HPF and apoptotic cells are numerous. Numerous tingible body macrophages disperse among the neoplastic cells, and massive central tissue necrosis are present within the neoplasm.

Skin masses at chin and dorsal neck: The masses share similar microscopic features with those of the right axillary mass.

Immunohistochemical (IHC) staining results:

The neoplastic cells show perinuclear dot-like or cytoplasmic immunopositivity for cytokeratin (CK). The neoplastic cells are also positive for synaptophysin and neuron specific enolase (NSE). The neoplastic cells are negative for cytokeratin 20 (CK20), CD3, and CD20.

Pathological Diagnosis:

Neuroendocrine carcinoma, skin masses at the right axillary region, chin, and dorsal neck

Differential Diagnosis:

1. Merkel cell carcinoma (MCC)
2. Metastatic extracutaneous neuroendocrine carcinoma
3. Lymphoma
4. Trichoblastoma
5. Mammary gland carcinoma

Discussion:

The present case is quite a diagnostic challenge. Merkel cell carcinoma (MCC) was diagnosed at previous submission based on the species, the typical histologic features of MCC, and the immunopositivity of neuroendocrine markers (synaptophysin and NSE), but without the confirmation of immunoreactivity of CK20, which is highly specific for Merkel cell. The absence of CK20 positivity was disappointing and this result could not fully support the diagnosis of MCC. Therefore, neuroendocrine carcinoma was diagnosed, and the tumor origin was undetermined.

The other differential diagnoses include metastatic neuroendocrine carcinoma, lymphoma, trichoblastoma, and less likely, mammary gland carcinoma. The perinuclear dot-like cytokeratin immunoreactivity and the positive staining results of synaptophysin and NSE, confirming the neuroendocrine origin and ruled out other epithelial tumors and lymphoma. Skin metastases of pulmonary neuroendocrine carcinomas have been reported in human medicine. In contrast, there is no similar report in veterinary medicine. In the present case, though necropsy was not performed and the patient was still alive, metastatic pulmonary tumor or extracutaneous neuroendocrine carcinoma was tentatively excluded based on the nonspecific findings of the X-ray and ultrasonography.

CK20-negative MCC has been identified in human medicine, but only few data are available on the phenotype of this MCC variant. This distinct group of MCC can be distinguished from other neuroendocrine carcinomas by using Merkel cell markers such as neurofilament (NF) and special AT-rich sequence-binding protein 2 (SATB2), and detection of Merkel cell polyomavirus by immunohistochemistry or molecular procedures based on the virus-driven oncogenesis. However, the situation in domestic animals is still unknown. Interestingly, although the present case lacks CK20 immunoreactivity, the strong tendency of locally recurrence and aggressive behavior of the neoplasm in this case is identical to those described in the published reports of feline MCCs. In a previous study, distant skin lesions were observed in 8 of 20 cases after surgical resection of the primary lesion, though it was difficult to determine whether the secondary skin lesions were actually metastases of the primary tumor or were multicentric in origin. Considering that there was no lymphovascular invasion and nodal metastasis in this case, multicentric in origin was preferred. Recurrence after the surgical excision of these recurred three tumors was claimed by the clinician. But except decreased body weight, there was no significant findings in blood examination and radiological examination.

The other possible differential diagnosis is primary cutaneous neuroendocrine carcinoma. Primary cutaneous neuroendocrine tumors except for MCC have rarely been reported in human studies. There are a few case reports of primary cutaneous small cell neuroendocrine carcinoma and large cell neuroendocrine carcinoma. However, these kinds of information in veterinary medicine is still lacking, and the use of immunohistochemical markers is restricted due to the variable cross reactivities among different species.

In conclusion, the present feline skin neoplasm displays characteristic MCC histopathological features with positivity of neuroendocrine makers but lacks CK20 expression. Whether it belongs to CK20-negative MCC or other primary cutaneous neuroendocrine carcinomas is uncertain, and further investigation of the microscopic features and the immunohistochemical expressions of skin neuroendocrine tumors in different species is required.

Acknowledgement:

We gratefully thank Dr. Hsu, Yung-Hsiang for his help in immunohistochemistry and constructive suggestions in this case.

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Case Number: 549

Slide Number: S2020_12047A

Slide View: http://www.ivp.nchu.edu.tw/ivp_slide_view.php?id=1772

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CASE HISTORY:

Signalment:

A 58-year-old woman presented to Hualien Tzu Chi Hospital (HTCH) for request of exams for her liver cysts. No fever, chills, or other systemic symptoms was complained. Lab test and radiography showed no remarkable finding. Multiple liver cysts with an incidental finding of bladder tumor was indicated on the image of computed tomography (CT). She was referred to urologist and cystoscope revealed a 2-cm broad-base tumor at right bladder base.

Gross Findings:

There is a 2 cm, well-defined, broad-base tumor at right bladder base.

CASE RESULT:

Histopathological Findings:

Microscopically, there are round cells with pepper-salt like nucleus arranged in trabecular or Zellballen pattern. Immunohistochemistry staining showed CD56 (+), S-100 (+), CK7 (-), Synaptophysin (+), Chromogranin (+).

Pathological Diagnosis: Paraganglioma of urinary bladder

Differential Diagnosis:

1. Carcinoid tumor of urinary bladder
2. Adrenal cortical carcinoma
3. Metastatic tumor of other origin

Discussion:

Pheochromocytomas and paragangliomas are rare neuroendocrine tumors that arise from sympathetic and parasympathetic paraganglia, which are neural crest-derived chromaffin cells.
-Pheochromocytoma refers to a catecholamine-secreting tumor **within** the adrenal medulla.
-Paraganglioma refers to **extra-adrenal** tumors, which may or may not secrete catecholamines.
-Sympathetic paragangliomas are catecholamine-secreting tumors usually located in the retroperitoneum (or less commonly the pelvis or thorax).
-Parasympathetic paragangliomas are usually located in the skull base and neck, and only about 5% are reported to be catecholamine-secreting.

Familial cases are associated with disease-causing germline mutations (inherited mutations occurring in all cells of the body), and may occur in patients with hereditary cancer syndromes, MEN type 2, von Hippel-Lindau disease, or NF-1
Sporadic cases have no known genetic association, though more mutations are being identified yearly and repeat genetic testing may need to be discussed during long-term follow up, even if the testing is initially negative. Most are sporadic tumors that present in the fourth and fifth decade
In the genitourinary tract, the urinary bladder is the most common site for paragangliomas (79.2%), followed by the urethra (12.7%), pelvis (4.9%), and ureter (3.2%)

Symptoms and signs are due to catecholamine hypersecretion or mass effect.
Classic triad: **paroxysmal headache, palpitations, and sweating**; micturition syncope, urinary frequency, hematuria is found in cases with bladder paragangliomas.
Untreated pheochromocytomas and paragangliomas are associated with high cardiovascular morbidity and mortality.

Diagnosis:
Measure **metanephrines** in plasma and urine (Strong recommendation).

Consider a clonidine suppression test for differentiating false-positive and true-positive plasma metanephrine tests.
Perform imaging studies (CT/MRI) to localize the tumor after a biochemical diagnosis is established (Strong recommendation).
(If abdominal imaging is negative, consider an MRI of the skull base, neck, chest, and pelvis)
Due to the increased risk of additional tumors or metastatic disease, if the mass is large (for example, > 6-10 cm) in diameter or extra-adrenal, multifocal (except skull base and neck paragangliomas)
F-fluorodeoxyglucose (F-FDG)-PET-CT
I-labeled metaiodobenzylguanidine (I-MIBG) scintigraphy
Ga-DOTATATE-PET-CT
Pathology:
Cells: large, polygonal, uniform or extensively vacuolated
Cytoplasm: abundant fine, granular red-purple cytoplasm
Pigmented granules containing hemosiderin, melanin, neuromelanin and lipofuscin may be seen
Nuclei: may be uniform or exhibit extensive variation in size, round to oval nuclei, nucleoli prominent
IHC: CD56 (+), S-100 (+), CK7 (-), Synaptophysin (+), Chromogranin (+)

Management:
Start preoperative medical treatment at least 7-14 days prior to surgery to allow adequate time for blood pressure and heart rate normalization (Strong recommendation).
Beta-blockers can be used for controlling tachycardia only after successful blood pressure control with **alpha-blockers**
Target BP < 130/80 mm Hg in the supine position; target HR of 60-70 bpm when seated
Surgery is the treatment of choice

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Case Number: 550

Slide Number: HP20-1145

Slide View: http://www.ivp.nchu.edu.tw/ivp_slide_view.php?id=1784

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CASE HISTORY:

Signalment: A 9-year-old, female spayed, Chinchilla

The animal was referred to Jong-Shing Animal Hospital in Kaohsiung because of vomiting undigested food two to three times in one day from 2020/8. The weight loss form 5 Kg to 3.9 Kg. Blood examination and Liver-related enzyme show no remarkable change. Computed tomography showed heterogeneity enhanced lesion on left lobe and right lateral lobes of liver. Left liver lobe and right lateral liver lobe masses were excised by surgery.

Gross Findings:

The received specimen was a focal excised liver lobe with multiple, irregular, mottled nodules. On the cut section, the mass was in tan to white color. There is no obvious boundary between liver tissue and mass.

CASE RESULT:

Histopathological Findings:

Microscopically, the specimen loss normal hepatic lobules and hepatic cords architecture and replaced by numerous variable-sized tubular structures. The tubular structures are filled with erythrocytes and eosinophilic fluid. The neoplastic cells arranged in single layer and supported by a delicate fibrovascular stroma. The neoplastic cells are cuboid, have round and base located nuclei and moderate to abundant granular cytoplasm. In some areas, the tumor cells arrange in nest, rosette, or ribbon pattern. The nuclei are round to oval and have stippled chromatin. Mitotic figures are rare. Besides, typical neuroendocrine pattern is noted in some area and transform to tubular tumor cells.

Immunohistochemical staining reveals that the tumor cells are strongly immunoreactive with Chromogranin A and weakly immunoreactive with Synaptophysin.

Pathological Diagnosis: Hepatic carcinoid (Neuroendocrine carcinoma)

Differential diagnosis:

1. Cholangiocarcinoma
2. Metastatic carcinoids
3. Pheochromocytoma

Discussion:

Neuroendocrine carcinomas are rare neoplasms in domestic animals, which originate form neuroendocrine system. These tumors initially described in the small intestine of human beings were first named carcinoid. Hepatic carcinoids are malignant tumor which believed to originated from intrahepatic and extrahepatic (bile ducts and gall bladder) neuroendocrine cells. It is also possible that they could arise from hepatic progenitor cells, since these cells have been shown in humans to contain various neuroendocrine markers. Hepatic carcinoids are rare in human and domestic animals, but have been reported in dog, cats, and cattle. Carcinoids incidence are about 4% of feline hepatic neoplasms [6]. In the dogs, carcinoids appear to occur at a younger age than other primary hepatic neoplasms, although affected cats tend to be older with an age range from 3 to 17 years with a mean age of 9 years. In human being primary hepatic carcinoid tumor most occurs in the middle age (mean age = 48.2years) and is more frequent in females [3]. Clinical sing includes anorexia, weight loss and jaundice. Hepatomegaly and/or a detectable mass is noted [4, 7]. These tumor cells are known to produce biogenic amines and peptides. Therefore, some neuroendocrine carcinomas have endocrine functions. Zollinger-Ellison syndrome in humans and domestic animals is caused by a functional tumor of gastrin-producing cells that cause secondary gastrointestinal ulcers. The first case resembling Zollinger-Ellison syndrome in a cat was described in 2014[1].

Carcinoid can form large masses of multiple nodules scattered throughout the liver or, most often, form a diffuse distribution of small but distinct nodules affecting multiple lobes of the liver. In cats, carcinoids originate from intrahepatic and extrahepatic biliary tree sites about equally. With intrahepatic neuroendocrine carcinoma, multiple lobes are typically affected in cats. Extrahepatic neuroendocrine carcinoma usually remains extrahepatic and do not commonly metastasize into the liver parenchyma. Liver-related enzyme and bilirubin concentrations are more elevated in cats with extrahepatic carcinoids than those with intrahepatic carcinoid [4].

Histologically, there are several patterns, including nests, cords, rosettes, and solid arrangements separated by fine fibrovascular stroma. Variants of carcinoids can form rosettes with a central lumen that can resemble the acini and tubules of cholangiocarcinoma PAS stain can use for detecting the mucin, which is common in cholangiocarcinoma but not in carcinoids [1]. Others differential diagnosis include metastatic gastrointestinal carcinoids and pheochromocytoma. There are no histologic features or IHC markers to specifically identify hepatic carcinoids and through post-mortem examination is required to rule out the presence of a primary carcinoid in another location, such as intestine [4]. Pheochromocytomas will form mass in adrenal glands and those that metastasize to the liver usually have concurrent, often large, intravascular thrombi in the caudal vena cava [4].

The reports of hepatic neuroendocrine carcinoma in cats reveal that most of the neoplastic cells were immunoreactive for chromogranin A, neuron-specific enolase (NSE), Synaptophysin and S-100. The immunolabeling pattern of Cytokeratin AE1/AE3 was heterogeneous with variable intensity and distribution. Besides, suspected carcinoid tumors could be stained by silver impregnation to detect typical argyrophilic cytoplasmic granules [2,7]. By histological analysis of 53 cases of human hepatic carcinoid, 80% and 84% of the cases were positive for Grimelius silver stain and immunohistochemically positive for chromogranin A, respectively [3].

Hepatic carcinoids are aggressive neoplasms with invasive pattern growth, and intrahepatic spread is frequent. Lymphogenous and transcoelomic metastases are frequent. Hematogenous metastases are rare. In necropsy cases, metastatic lesion can be noted in reginal lymph nodes, pleura, peritoneum, visceral organ or lung. In one report reveal that fourteen of the 17 hepatic neuroendocrine carcinoma cats were euthanatized during or immediately after surgery [1, 7]. In contrast to cats, human primary hepatic carcinoids without metastasis are usually solitary and resectable. Complete surgical resection should be contemplated and is generally curative [5]. Surgical resection is the treatment primarily recommended with an 18-26% of recurrence rate and 74-92.4% of a survival rate after 5 years [3, 8]. 10-year survival rates for resected patients were 75% in another report. The overall long-term survival of patients with primary hepatic carcinoids appears to be better than carcinoid tumors at other primary sites. Owing to the high incidence of recurrence, long-term follow-up is necessary [8].

In conclusion, hepatic carcinoids are malignant tumor and rare seen in human and domestic animals. Using a panel of antibodies (NSE, chromogranin A, and synaptophysin) to diagnose carcinoids is important. Primary hepatic carcinoids need to be differentiated form metastatic lesion to institute appropriate treatment. The prognosis is guard to poor in previous study in cats but usually curative in human. In current case, the patient was recovery after surgery.

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Case Number: 551

Slide No.: 194842

Slide view: http://www.ivp.nchu.edu.tw/ivp_slide_view.php?id=1771

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CASE HISTORY:

Signalment: A 25-year-old female

Clinical History:

A 25-year-old female presented with severe abdominal pain, especially over the LLQ region since this midnight. According to patient's descriptions, she was suffered from intermittent lower abdominal pain and increased the abdominal circumference off and on for two months. The symptom got exacerbated in this midnight and was sent to the Local Clinic. A huge left ovarian tumor mass measured up to 11 cm in dimension was told. And then, she was referred to our Emergency Division and was admitted for further evaluation and management.

On admission, she was parity 1011 of history. Gynecological and obstetrical history: Menarche at age 12 years with regular menstrual cycles. She had right ovarian mature cystic teratoma after LAOC procedure one year ago. The vital signs showed BT; 36.4, pulse: 73, RR: 18, BP: 146/68, BH: 259cm, BW: 58.3Kg. Physical examination showed normal skin turgor. Head and neck revealed normal configuration with no lymphadenopathy or palpable mass. Conjunctivae was presented anemia (+) with no icteric sclera. Chest and lungs and heart showed symmetric expansion and no deformity of the chest, regular heart rate and rhythm. Abdomen revealed ovoid in shape, a palpable mass about 12 cm over the lower abdomen with moderate tenderness. Her extremities showed no pitting edema over the pretibial and ankle regions and the neurological examination was essential negative. Her past and medical history was unremarkable.

The chest-X ray film showed no abnormal finding. The sonography of abdomen images study demonstrated uterus was R/V, ET was 0.6 cm, a well capsulated cystic mass with hypoechoic with a thin hypointense capsule with well-defined borders and fat-like signal intensity, a focal heterogenously enhancing content measured up to 11 cm in dimension and a few of fluid collection

in the cul-de-sac, which impresses of mature cystic teratoma was the first diagnostic possibility. The right ovary is not seen. She underwent the laparoscopy-assisted left ovarian cystectomy after 2nd admitted two days at our hospital.

Clinical Pathology：

The laboratory analysis showed within normal limits included blood routine, biochemistry and negative for tumor markers CA125, CA19.9, and negative for pregnancy test. Prior to surgery, a hormonal analysis of the thyroid function was performed, the result of which was within normal limits.

Gross Findings：

The left ovarian mass measured about 10 by 5 by 2 cm with surgical opened status with exhibited well-encapsulated solid mass rubbery yellowish gelatinous areas, and cystic appearance. The cyst was filled with sebaceous material and hair shifts. There a part of the mature cystic teratoma (dermoid cyst), with predominated content was found.

CASE RESULT:

Histopathologic Findings：

Total sections of ovarian tissue demonstrated strumal carcinoid composed of two distinct components with a neoplastic thyroid-like tissue intermixed with tumor areas showing classical features of neuroendocrine tumors. The lobulated cystic features of struma ovarii filled with skin appendage, sebaceous glands, cartilage and bony fragments. Thyroid tissue revealed follicular adenoma variability of the embryonal, acinar, micro- and macro-follicular patterns, colloid content. In addition, the focally solid part of intermixed neuroendocrine tumor admixed with varying amount of trabecular, insular, or nested areas resembling well-differentiated neuroendocrine tumors of other origins. The polygonal cells with nuclei were round and enlarged with a characteristic pepper-and-salt chromatin pattern. No necrosis or mitotic activity was detected. The mature cystic teratoma with carcinoid tumor was firstly considered.

Immunohistochemistry：

Immunohistochemical study, these tumor cells demonstrated positively immunoreactivity for pan-CK, TTF1, CK7, galectin-3, NSE (neuron specific enolase) and S-100 protein stains, chromogranin, synaptophysin, insulinoma-
associated protein 1 (INSM1) and focally CEA. No elevated proliferating labeling Ki-67 index (less than 5%), and negative for CK20. Pathologic and immunohistologic examinations confirmed strumal carcinoid tumor of ovary (SCTO) arising from mature cystic teratoma of the left ovary. The patient recovered well with no obvious complications and was discharged on the 3rd day post-surgery. Suggest OPD follow-up was recommended. She was referred to 林口長庚醫院 for further evaluation and management after one year later. The patient continues asymptomatic.

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Differential Diagnosis：

1. Metastatic thyroid carcinoma to the ovary

2. Ovarian clear cell carcinoma
3. Sex cord stromal tumor
4. Melanoma
5. Struma ovarii in matrue teratoma or cystic struma ovarii
6. Mature cystic teratoma
7. Strumal carcinoid arising in one mature cystic teratoma of the ovary

Diagnosis：Strumal carcinoid tumor of the ovary (SCTO) arising from mature cystic teratoma

Discussion：

Ovarian carcinoid tumors were first described by Stewart et al. in 1939. Ovarian carcinoid tumors may be primary or metastatic. Differentiation is usually difficult, but bilateral, peritoneal deposition, lack of teratoma components, and lymphatic invasion are signs of metastatic carcinoid.

Teratomas are composed of multiple tissues derived from three types of germ cell layers include ectoderm, mesoderm and endoderm. Carcinoid tumors in ovarian and testicular teratomas are considered neuroendocrine cells from the gastrointestinal tract or respiratory tract epithelium. Carcinoid tumor can be investigated in the ovaries as a primary tumor with metastasis in the gastrointestinal tract or elsewhere. And a component of mature cystic teratoma or a primary pure tumor as an organ. Primary carcinoid tumor of the ovary represents less than 1% of all carcinoid tumors and less than 0.1% of all ovarian neoplasms. Primary carcinoid tumors of the ovary are usually unilateral, confined to the ovaries, and metastasis histologically indistinguishable.

Strumal carcinoid of the ovary (SCTO) is a germ cell tumor, a rare monodermal teratoma with histomorphologic features characterized by an innimate mixture of thyroid tissue and admixtured neuroendocrine tumor (carcinoid). in which can be diagnosed when the teratoma specimen contains at least 50% thyroid tissue.These account for approximately 2% of mature cystic teratoma (MCT), and are most common in the fifth or sixth decade of life. Malignant tranformation in the struma ovarii accounts for about 5% of MCT, or about 0.1%. Typically these malignannt tumors are found after surgery. Histologically, according to WHO, there are classified into four distinctive types include insular, trabecular, strumal, mucinous and mixed (insular and trabecular) Insular carcinoid is the most common type (about 50%). One third of the clinical features are related to carcinoid syndrome.

Most strumal carcinoid of the ovary (SCTO) tumors are found in perimenopausal women, commonly presenting with ovarian heterogeneous mass, or as an incidental finding in abdominal radiology done for other purpose. These ovarian tumors appear more frequently in peri and postmenopausal women. The age of presentation varies between 21 and 77 years old. These tumors have a variable size that can reach up to 26 cm or more. The SCTOs are usually unilateral as in our case, although, there are bilateral cases described. In 10% of cases, the contralateral ovary may present a tumor, which is usually a cystic teratoma, as occurred in our case. 60% of strumal carcinoids appear within dermoid cysts or solid mature teratomas Primary average survival time of 14 years, metastatic median survival time was 6 years. In 10% of cases, the contralateral ovary contains another tumor, usually a matrue cystic teratoma (dermoid cyst) or strum ovarii as in our case. Three-fifths of carcinoids occur in dermoid cysts or mature solid teratomas. Although it is believed that the carcinoid component of stromal carcinoid is a malignant transformation of the ovarian stroma, it is almost always benign, and simple ovariectomy or salpingo-oophorectomy is effective.

The microscopic (histological) description is similar to carcinoids found elsewhere. The nuclear features of neuroendocrine tumors (such as salt and pepper chromatin) may be helpful, but can also be seen in follicular cells of strumal carcinoids.Theser patterns are insular (similar to appendix or small intestine tumor), trabecular (similar to stomach or rectal tumor), strumal and mucinous. Except for stromal carcinoids, everyone else has gastrointestinal counterparts.Mixed primary ovarian carcinoids, such as insular and trabecular or strumal and goblet cell do exist.

The morphological examination of strumal carcinoid is composed of two distinct components. Neoplastic thyroid-like tissue intermixed with tumor areas showing classical features of neuroendocrine tumors, showed struma ovarii with a thyroid follicle-like structure with positive for thyroid transcription factor 1 (TTF1), thyroglobulin, CD56, CK 19, and negative for Hector Battifora and mesothelioma 1 (HBME1), and a neuroendocrine cell component with a trabecular arrangement and island growth with positive for insulinoma-associated protein 1 (INSM1), synaptophysin, chromogranin, CD56, and CK7 negative. Papillary thyroid carcinoma of follicular type was ruled out by CD56 positivity and HBME1 negativity. Medullary thyroid carcinoma with strumal component was excluded by calcitonin negative staining.

It is difficult to establish an optimal surgical intervention for the uncommon disease. An attempt is made to adapt the surgical aggressiveness by the patient's age. Conservative surgery (addnexectomy) is reserved for young women, especially
nulliparous or who wish to preserve fertility. Hysterectomy and bilateral salpingo-oophorectomy are advised in postmenopausal patients. In most case, a definitive diagnosis is possible only on postoperative examination of multiple tissue sections. If the patient has symptoms of carcinoid syndrome, it may be suspected that there is a carcinoid tumor in the ovarian teratoma before surgery.

In conclusion, strumal carcinoid tumor of the ovary (SCTO) is an extrememly rare ovarian tumor. The symptoms of SCTO are often nonspecific and misleading. Therefore, a comprehensive understanding of the characteristics SCTO, diagnosis and treatment is very important. SCTO represents an interesting form of primary ovarian carcinoid tumors, usually asymptomatic and is limited to the ovaries. Diagnosis should be confirmed by immunohistochemistry, and secondary carcinoid should be excluded. Although the carcinoid component of the strumal carcinoid has been considered a malignant transformation of struma ovarii, it is almost always benign, and treatment with a simple oophorectomy or salpingo-oophorectomy is effective.It is emphasized that extensive sampling of any solid parts in mature teratomas to avoid missing carcinoids. Adequate treatment methods are not well defined, but surgery is still the main line of chemotherapy, and those with high proliferation index measured by Ki67 are retained.

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Case Number: 552

Slide No.: CS2003164

Slide view: http://www.ivp.nchu.edu.tw/ivp_slide_view.php?id=1735

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CASE HISTORY

Signalment: An adult, male, weighing 1045g Meerkat (*Suricata suricatta*).

Clinical History:

The owner claimed that the adult meerkat kept with another conspecific was found reluctant to move 1 day before its death.

Gross Findings:

At necropsy, the right adrenal gland was enlarged, (2.2×1.7×1.2 cm) and the vascular engorgement on the surface was noted. The cross-section of the right adrenal gland lost the layer structure, and the color was mottled dark red. Distention of the coronary artery and multifocal pale lesions of the myocardium were observed in the heart.

CASE RESULT

Histopathologic Findings:

Right adrenal gland

An expansile, nonencapsulated, demarcated mass with moderate cellularity compresses remnant cortical tissue. The mass is composed of nest or lobular structures by finely fibrovascular stroma, or present in perivascular pattern. Tumor cells of PCCs are uniform, polyhedral with lightly eosinophilic, finely granular cytoplasm, and round to ovoid, concentric, hyperchromatic nuclei. There is no mitosis

in ten high power fields. Central necrosis, hemorrhage, and autolysis are observed in the central area of the mass.

Heart

Degeneration of the tunica media and externa with perivascular hemorrhage and fibrinous exudate are observed in several coronary arterioles. Single or cluster of cardiomyocytes are hypereosinophilic, shrunken or fragmented with pyknosis or karyorrhexis.

Lungs

There is diffuse and severe congestion throughout the section. Multifocal emphysema is noted. The alveoli are filled with lightly eosinophilic proteinaceous fluid combined with moderate to large amount of erythrocytes in multifocal areas.

Morphological diagnosis:

- Adrenal gland tumor, suspected pheochromocytoma, right adrenal gland
- Cardiomyopathy, multifocal to coalescing, acute, moderate to severe, with contraction band necrosis and hemorrhage of coronary arterioles, myocardium, heart
- Fibrosis, multifocal, chronic, moderate, myocardium, heart
- Pulmonary hemorrhage, edema and emphysema, multifocal to coalescing, severe, acute, lungs

Laboratory examination

1. Histochemistry

Contraction bands were accentuated using phosphotungstic acid-hematoxylin (PTAH) stain, demonstrating loss of myofibrillar organization and fragmentation and coalescence of the sarcoplasm.

2. Immunohistochemistry

The right adrenal gland tumor cells revealed positive immunoreactivity against chromogranin A and synaptophysin and negative immunoreactivity for GFAP. Results of Melan-A, inhibin α, and calretinin were unavailable since no immunoreactivity was noted in normal adrenal cortical cells.

Differential Diagnosis:

1. Pheochromocytoma
2. Adrenal cortical adenoma/ carcinoma
3. Paraganglioma
4. Infection of adrenal gland

Final diagnosis:

Discussion:

In this case, the most obvious gross lesions are the enlargement of the right adrenal gland and multifocal pale foci of the heart. Differential diagnoses of the adrenal mass including medullar tumors, cortical tumors, infections, and nodular hyperplasia. Since the cytological examination reveals uniform polygonal cells without inflammatory cells infiltration or infective organism, infection and nodular hyperplasia were ruled out. Subsequently, histomorphology and immunohistological properties also are consistent with a diagnosis of pheochromocytoma.

Pheochromocytoma (PCC) is the most common adrenal medullary neoplasm in domestic animals. PCC is most often reported in dogs, horses, and cattle, while relatively rare in other domestic animals or wildlife. To our knowledge, PCC has not been reported in the meerkat. In a previous retrospective study, more than 60% of PCC canine cases are incidental findings or undiagnosed.

PCCs can be functionally active or inactive. Functionally active PCCs can secrete catecholamines (CA), which lead to systemic cardiovascular effects. The most common clinical signs of PCCs are largely related to CA secretion, including generalized weakness, episodic collapse, agitation, nervous behavior, and excessive panting. In affected humans, most common complaints are subjective symptoms but not objective signs, so it is not surprising that limited diagnostic information can be obtained from history and clinical signs in veterinary cases. Tachypnea, tachycardia, paroxysmal or sustained hypertension are most common physical examination abnormalities. These findings reveal evidence of cardiopulmonary disease but are not specific for PCC. Identification of an adrenal mass by abdominal ultrasonography in the patient presenting cardiovascular or pulmonary signs mentioned above are most helpful in establishing a tentative diagnosis of pheochromocytoma. Measurement of urinary catecholamine concentrations or their metabolites are useful in suspected PCC canine cases; however, these tests are not commonly performed. In this case, suddenly collapse is noted but none of the clinical or physical examination data are available since the patient had never been referred to animal hospital. This situation indicates that the owner's awareness on the patient condition is crucial for diagnosing PCC in veterinary medicine.

Definite diagnosis of a PCC relies on pathological examination. Grossly, the PCCs are almost usually located at the suprarenal and intra-adrenal site, although extra-adrenal masses may be found along the large vessels in surrounding areas. The size, color, and architecture of PCCs are varied by cases and species, remnant of adrenal cortex can be found at one pole or surrounding the major mass (cortical rim). Tumor emboli may be noted compressing or protruding into caudal vena cava, renal vein, or phrenicoabdominal vein. Histologically, expansile, nonencapsulated, well or poorly

demarcated mass with moderate cellularity may compress the remnant cortex or even invade into adjacent soft tissue. Typically, tumor cells are subdivided into nest or lobular pattern by finely fibrovascular stroma, or in perivascular pattern. Tumor cells of PCCs vary from small, uniform, polyhedral cells with lightly basophilic, finely granular cytoplasm, which resembles the normal medullary cells, to highly pleomorphic multinucleated cells. Cytoplasmic invagination with marked anisocytosis and anisokaryosis has also been reported. Mitoses usually are not frequently observed. Several biomarkers have been used to elucidate the cell origin of adrenal tumors, including chromogranin A, synaptophysin, PGP 9.5 for medullary cells, and melan-A, inhibin α for cortical cells. In this case, only a single mass was noted in the right adrenal gland, indicating a primary adrenal tumor. Based on cytological and histological examination, the diagnosis of PCC in this case is straightforward and is further confirmed by IHC.

CA secretion of functional PCCs often leads to paroxysmal or sustained hypertension and hypertensive lesion. Sustained elevation of catecholamines can cause significant cardiotoxicity which is known as pheochromocytoma-associated cardiomyopathy (PCCAC). PCCAC has been reported in several species. Multiple mechanisms evolve into presence of PCCAC. The overstimulation of catecholamine receptors leads to functional hypoxia and irreversible myocardial damage. The increase of intracellular Ca^{2+} concentration and metabolite of CA, known as aminochrome, may lead to amplification of oxidative stress demonstrated leading into mitochondrial dysfunction. The most common gross lesions of PCCAC are multifocal myocardial pallor that often extends along large vessels, concentric hypertrophy of ventricles and petechial to ecchymotic myocardial hemorrhages. Histopathological findings largely depend on the disease stage and evolve both the myocardiocytes and vascular tissue, particularly the coronary arterioles. Hypercontracted, hypereosinophilic contraction band measured approximately 2 to 4 mm in width and transversed the affected myocardiocytes may be spotted under regular H&E stain or can be accentuated using PTAH staining. The presence of contraction band is thought to be a characteristic histologic finding of myocardial infarction. Hypertensive lesion includes retinal detachment, pulmonary edema, and hemorrhage, and arteriosclerosis in other organs can also be observed in PCCAC cases. In this case, while other striking evidence of CA evolvement (e.g. higher urine catecholamine: creatinine ratio) are lacking, the gross lesions and histopathological findings are consistent with PCCAC. Multifocal myocardial fibrosis in this meerkat may occur due to previous CA surging or other causes of myocardial damage but can not be determinated.

This report provides the pathological characteristics of PCC and systemic paraneoplastic syndrome in an exotic animal species. PCCs are often neglected or undiagnosed because of the nonspecific or unapparent clinical signs and examination results. Nonetheless, highly invasive

features and the cardiovascular effects caused by functional PCC are detrimental to affected animals life quality and can not be ignored. Therefore, early diagnosis of PCC is important because medical treatment with surgical excision of tumor mass has been shown to minimize cardiovascular symptoms and reverse the PCCAC.

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Case Number: 553

Slide No.: 442048c

Slide view: http://www.ivp.nchu.edu.tw/ivp_slide_view.php?id=1791

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CASE HISTORY

This 73-year-old woman had history of hypertension. This time, she went to our ER due to symptoms of dizziness, cold sweating and nausea, chest tightness and exertion dyspnea. Fever was also noted when arrival of ER. Serial blood survey showed leukocytosis with neutrophil predominant and elevated NT-proBNP level. Urine routine examination showed pyuria. Under the impression of urinary tract infection, she was admitted. The patient also had similar symptoms of chronic intermittent dizziness associated with throbbing headache, cold sweating, malaise, and palpitation for months under regular neurology OPD follow-up. After admission, however, the patient's BP spiked every night so antihypertensive agents were given. Abdominal sonography and CT without contrast showed left supra-renal mass. MRI confirmed a left adrenal gland tumor (5*5*4cm mass with T2 hyperintensity, T1 hypointensity in the left suprarenal area). Aldosterone(39.1pg/mL), ACTH (32.2pg/mL), cortisol (12.76-17.14 ug/dL) were within normal limit. Elevated urine VMA (24.09mg/day) and norepinephrine (592.7ug/day) were noted. Laparoscopic adrenectomy was done.

Gross examination:

The specimen submitted consisted of a piece of soft tissue measuring 8 x 1.5 x 0.3 cm in size and 105 gm in weighed, fixed in formalin. Grossly, there showed a variegated dark black-brown color tumor of soft in consistency. Focal hemorrhage and capsular invasion were noticed. The adrenal gland measured 4 x 1 cm. Representative sections were taken.

CASE RESULT

Histopathological findings:

Microscopically, the sections showed picture of an encapsulated tumor with capsular invasion. The tumor arranged in prominent uniform cell nests (Zellballen) consisting of nests of polygonal tumor cells separated by peripheral capillaries. Irregular histoarchitecture and a gradient of cell size, with varied cytological features were noted. Necrosis was not found. Pleomorphic nuclei containing prominent pseudoinclusions formed by invagination of cytoplasm and intracytoplasmic hyaline globules were noted. Nuclear pleomorphism and cellular pleomorphism were noted. Mitoses were rarely seen. In addition, tumor emboli and perineural invasion were seen.

Differential diagnosis:

- Metastatic adrenal tumor
- Adrenal cortical adenoma/carcinoma
- Phaeochromocytoma

Diagnosis:

Adrenal, left, laparoscopic adrenalectomy --- Pheochromocytoma, malignant. Staging (pT2)

Immunohistochemical stains:

Synaptophysin (++).

Chromogranin-A (+++).

CD56(+++).

Inhibin (-).

MIB-1 (Ki-67) index: Mild to moderate increased proliferative index

PAS stain: (+).

Silver stain: Reticulin fiber around tumor cell nests.

Discussion:

The annual incidence of phaeochromocytoma is 0.4-9.5 cases per 1 million population. Currently, as many as 61% of phaeochromocytomas are discovered as incidentaiomas. Most phaeochromocytomas present in the fourth to fifth decades of life, with a roughly equal sex distribution. However, they can occur in patients of any age, including very young children and elderly individuals. Hereditary disease tends to first manifest before the age of 40 years, but can also present late in life. As many as 70% of children aged < 10 years with an apparently sporadic phaeochromocytoma are eventually shown to have hereditary disease.

By definition, phaeochromocytomas arise exclusively in the adrenal glands. Morphologically and functionally similar tumours arising in extra-adrenal paraganglia are classified as paragangliomas. All phaeochromocytomas are capable of catecholamine synthesis, and most signs and symptoms are caused by excess catecholamine production and release. The most common sign is hypertension, which can be sustained or paroxysmal. The classic triad of headache, tachycardia/palpitations, and sweating is seen in < 25% of patients. At least one component of the triad occurs in slightly less than 50% of patients. Increasingly, patients whose tumors are discovered as incidentaiomas or after positive screening for a hereditary susceptibility gene are asymptomatic. Phaeochromocytomas occasionally cause paraneoplastic syndromes by producing ectopic regulatory peptides. The most common is Cushing syndrome, caused by ACTH or (rarely) CRH secretion.

Clinical suspicion of phaeochromocytoma must be confirmed by biochemical testing to demonstrate catecholamine production. The specific test used depends on the institution. Current guidelines recommend that initial testing should include measurements of plasma free metanephrines or urinary fractionated metanephrines, which are the most sensitive analytes because they reflect intratumoural O-methylation of catecholamines leaked from storage vesicles in tumor cells. The catecholamine metabolite profile can point to specific genetic disorders. Phaeochromocytomas associated with multiple endocrine neoplasia type 2 (MEN2) or neurofibromatosis type 1 typically produce epinephrine, resulting in increased concentrations of metanephrine. In contrast, isolated increases in normetanephrine and norepinephrine suggest von Hippel-Lindau syndrome. Additional or isolated production of the dopamine metabolite 3-methoxytyramine points to the presence of SDHB, SDHD, or SDHC mutation and is also associated with potentially metastatic tumors

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中華民國比較病理學會章程

第一章　總則

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

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

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

第四條　本會之任務如左：

一、　提倡比較病理學之研究與發展。

二、　舉辦學術演講會、研討會及相關訓練課程。

三、　建立國內比較醫學相關資料庫。

四、　發行比較病理學相關刊物。

五、　促進國內、外比較醫學之交流。

六、　其他有關比較病埋學術發展之事項。

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

第二章　會員

第六條　本會會員申請資格如下：

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

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

三、　贊助會員：贊助本會工作之團體或個人。

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

前項一、二、三項會員申請時應填具入會申請書，經一般會員二人之推薦，經理事會通過，並繳納會費。學生會員身份改變成一般會員時，得再補繳一般會員入會費之差額後，即成為一般會員，榮譽會員免繳入會費與常年會費。

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

第八條　會員有遵守本會章程、決議及繳納會費之義務。

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

第十條　會員喪失會員資格或經會員大會決議除名者，即為出會。

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

第三章　組織及職員

第十二條　本會以會員大會為最高權力機構。

第十三條　會員大會之職權如下：

一、　訂定與變更章程。

二、　選舉及罷免理事、監事。

三、　議決入會費、常年會費、事業費及會員捐款之方式。

四、　議決年度工作計畫、報告、預算及決算。

五、　議決會員之除名處置。

六、　議決財產之處分。

七、　議決本會之解散。

八、　議決與會員權利義務有關之其他重大事項。

前項第八款重大事項之範圍由理事會訂定之。

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

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

本屆理事會得提出下屆理事及監事候選人參考名單。

第十五條　理事會之職權如下：

一、　審定會員之資格。

二、　選舉及罷免常務理事及理事長。

三、　議決理事、常務理事及理事長之辭職。

四、　聘免工作人員。

五、　擬訂年度工作計畫、報告、預算及決算。

六、　其他應執行事項。

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

理事長對內綜理監督會議，對外代表本會，並擔任會員大會、理事會主席。

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

理事長或常務理事出缺時，應於一個月內補選之。

第十七條　監事會之職權如左：

一、監察理事會工作之執行。

二、審核年度決算。

三、選舉及罷免常務監事。

四、議決監事及常務監事之辭職。

五、其他應監察事項。

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

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

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

第二十條　理事、監事有下列情事之一者，應即解任：

一、喪失會員資格。

二、因故辭職經理事會或監事會決議通過者。

三、被罷免或撤免者。

四、受停權處分期間逾任期二分之一者。

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

前項工作人員不得由選任之職員（理監事）擔任。

工作人員權責及分層負責事項由理事會令另定之。

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

第二十三條　本會得由理事會聘請無給顧問若干人，其聘期與理事、監事之任期同。

第四章　會議

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

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

第二十六條　會員大會之決議，以出席人數過半之同意行之。但章程之訂定與變更、會員之除名、理事及監事之罷免、財產之處置、本會之解散及其他與會權利義務有關之重大事項應有出席人數三分之二以上同意。但本會如果辦理法人登後，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：一般會員新台幣壹仟元，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 第九屆理監事簡歷冊

序號	職別	姓名	性別	學歷	經歷	現任本職
1	理事長	鄭謙仁	男	美國北卡羅萊納州立大學博士	台灣大學獸醫學系教授兼所長	台灣大學獸醫學系教授
2	常務理事	賴銘淙	男	清華大學生命科學院博士	彰濱秀傳紀念醫院病理科主任	衛生福利部臺中醫院病理學科主任
3	常務理事	施洽雯	男	國立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
4	常務理事	張俊梁	男	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	國防醫學院兼任助理教授
5	常務理事	邱慧英	女	國立台大獸醫專業學院博士	台灣養豬科學研究所	國立中興大學獸醫病理生物學研究所助理教授
6	理事	朱旆億	男	國立臺灣大學醫學系 國立臺灣大學獸醫專業學院博士	輔仁大學醫學系兼任助理教授	彰化秀傳紀念醫院病理科主任
7	理事	劉振軒	男	美國加州大學戴維斯校區比較病理學博士	國立臺灣大學獸醫專業學院院長	台灣大學分子暨比較病理生物學研究所教授
8	理事	阮正雄	男	日本國立岡山大學大學院 醫齒藥總合研究科博士	台北醫學大學副教授兼細胞學中心主任	輔英科技大學附設醫院
9	理事	林永和	男	國立台大病理研究所碩士	台北醫學院病理科講師	台北醫學院病理科副教授
10	理事	祝志平	男	台大病理研究所	台北醫學院講師	彰化秀傳紀念醫院病理部
11	理事	張惠雯	女	國立臺灣大學獸醫專業學院 博士	美國哈佛醫學院博士後	國立臺灣大學獸醫專業學院副教授
12	理事	賈敏原	男	國立臺灣大學獸醫專業學院 博士	國衛院研究員	國立中興大學獸醫系 助理教授
13	理事	陳燕麟	男	輔仁大學化學研究所博士	日本國立神經精神中心研究員	耕莘醫院組織病理科主治醫師
14	理事	陳姿妤	女	國立中興大學獸醫病理學研究所碩士	生技中心研究員	國家實驗動物中心病理獸醫師
15	理事	張晏禎	女	國立臺灣大學獸醫專業學院 博士	中央研究院博士後	國立臺灣大學獸醫專業學院助理教授
16	常務監事	許永祥	男	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教授

17	監事	蔡慧玲	女			
18	監事	楊俊宏	男	長庚大學生物醫學研究所博士		農委會農業藥物毒物試驗所
19	監事	簡耀君	男	國立臺灣大學獸醫學研究所獸醫學碩士	長青動物醫院病理部主任	長青動物醫院病理部主任
20	監事	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	國立中興大學獸醫病理生物學研究所教授
21	秘書長	黃威翔	男	國立臺灣大學獸醫專業學院 博士		台灣大學分子暨比較病理生物學研究所 助理教授

中華民國比較病理學會 109 年度工作報告

一、 召開會員大會、理監事會議、舉辦學術研討會

(一) 會員大會

1. 中華民國比較病理學會第九屆第一次會員大會於 109 年 7 月 11 日於國立臺灣大學獸醫專業學院召開。

2. 第八屆理監事會議

(1) 第八屆第十次理監事會議於 109 年 7 月 11 日於國立臺灣大學獸醫專業學院召開。

3. 舉辦學術研討會

(1) 第 78 次比較病理研討會於 108 年 4 月 21 日於衛國軍桃園總醫院召開。

二、 舉辦學術演講

(一) 第 78 次比較病理研討會邀請專題演講：振興醫院解剖病理科蕭正祥主任，演講題目：SARS 與新冠肺炎的組織病理學的分析與比較

三、 舉辦學術病理切片病例討論

(一) 於第 78 次比較病理研討會共有 5 個單位提供 5 個病例供會員討論。

四、 架設學會網站

(一) 提供第 78 次比較病理研討會活動花絮照片，於學會網站地址： http://www.ivp.nchu.edu.tw/cscp/

五、 完成第 78 次比較病理研討會與會獸醫師再教育學分認證。

中華民國比較病理學會 110 年度工作計劃

一、 會務

(一) 徵求會員

二、 持續進行學會推廣及會員召募，擴大會員陣容，

(一) 整理會藉與清查會費

1. 更新整理會藉資料，並製作會員通訊錄
2. 清查會員繳費狀況，進行催繳，缺繳三年以上徹底實行停權

(二) 召開會議：召開會員大會一次，審查 108 年度工作報告與經費收支狀況，研議 109 年度之工作計劃及預算

(三) 學術活動：持續辦理三次研討會，並邀請國內外專家學者做學術性的演講

三、 業務

(一) 繳納會費

(二) 文書處理

(三) 整理與更新會員信箱，刪除無效信箱

(四) 病例資料處理：掃描研討會議病例切片，供會員研究教學使用

(五) 研討會活動照片、會員狀態及網頁維護更新

(六) 進行獸醫再教育學分申請及協助會員學分認證

資料庫使用須知

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

第一次至第七十八次比較病理學研討會病例分類一覽表

腫瘤

病例編號	會議場次	診　　斷	動物別	提　供　單　位
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
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 rats	台灣省農業藥物毒物試驗所
	10	Angiomyolipoma	Human	羅東博愛醫院
	10	Inverted papilloma of prostatic urethra	Human	省立新竹醫院
	10	Nephrogenic adenoma	Human	國泰醫院
	10	Multiple myeloma with systemic amyloidosis	Human	佛教慈濟綜合醫院
	10	Squamous cell carcinoma of renal pelvis and calyces with extension to the ureter	Human	台北病理中心
	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
103.	13	Atypical central neurocytoma	Human	新光吳火獅紀念醫院
	13	Cardiac schwannoma	SD rat	國家實驗動物繁殖及研究中心
	13	Desmoplastic infantile ganglioglioma	Human	高雄醫學院
	13	1.Primary cerebral malignant lymphoma 2.Acquired immune deficiency syndrome	Human	台北市立仁愛醫院
	13	Schwannoma	Human	三軍總醫院
	13	Osteosarcoma	Dog	美國紐約動物醫學中心
	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
	14	Krukenberg's Tumor	Human	台北病理中心
	14	Primary insular carcinoid tumor arising from cystic teratoma of ovary.	Human	花蓮慈濟綜合醫院
	14	Polypoid adenomyoma	Human	大甲李綜合醫院
	14	Gonadal stromal tumor	Human	耕莘醫院
	14	Gestational choriocarcinoma	Human	彰化基督教醫院
	14	Ovarian granulosa cell tumor	Horse	中興大學獸醫學系
	15	Kaposi's sarcoma	Human	華濟醫院
	15	Basal cell carcinoma (BCC)	Human	羅東聖母醫院
	15	Transmissible venereal tumor	Dog	臺灣大學獸醫學系
	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
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	Human	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
	31	Nasal type NK/T cell lymphoma	Human	高雄醫學大學病理科
	31	Acquired immunodeficiency syndrome	Human	慈濟醫院病理科

		(AIDS)with disseminated Kaposi's sarcoma		
	32	Epithelioid sarcoma	Human	彰化基督教醫院病理科
	32	Cutaneous B cell lymphoma, eyelid , bilateral	Human	羅東聖母醫院病理科
	32	Extramammary Paget's disease (EMPD) of the scrotum	Human	萬芳北醫皮膚科病理科
	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
	34	Malignant melanoma, metastasis to intra-abdominal cavity	Human	財團法人天主教耕莘醫院病理科
	34	Vaccine-associated rhabdomyosarcoma	Cat	台灣大學獸醫學系
	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
	34	1. Neurofibromatosis, type I 2. Malignant peripheral nerve sheath tumor (MPNST)	Human	花蓮慈濟醫院病理科
	35	Glioblastoma multiforme	Human	羅東聖母醫院
	35	Pineoblastoma	Wistar rat	綠色四季
	35	Chordoid meningioma	Human	高醫病理科
	35	Infiltrating lobular carcinoma of left breast with meningeal carcinomatosis and brain metastasis	Human	花蓮慈濟醫院病理科
	35	Microcystic Meningioma.	Human	耕莘醫院病理科
	36	Well-differentiated fetal adenocarcinoma without lymph node metastasis	Human	新光吳火獅紀念醫院
	36	Adenocarcinoma of lung.	Human	羅東聖母醫院
	36	Renal cell carcinoma	Canine	國立台灣大學獸醫學系獸醫學研究所
	36	Clear cell variant of squamous cell carcinoma, lung	Human	高雄醫學大學附設中和醫院病理科

	37	Metastatic adrenal cortical carcinoma	Human	耕莘醫院病理科
	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
	38	Medullar thyroid carcinoma	Canine	臺灣大學獸醫學系
	39	Merkel cell carcinoma	Human	羅東博愛醫院
	39	Cholangiocarcinoma	Human	耕莘醫院病理科
	39	Sarcomatoid carcinoma of renal pelvis	Human	花蓮慈濟醫院病理科
	39	Mammary Carcinoma	Canine	中興大學獸醫學系
	39	Metastatic prostatic adenocarcinoma	Human	耕莘醫院病理科
	39	Malignant canine peripheral nerve sheath tumors	Canine	臺灣大學獸醫學系
	39	Sarcomatoid carcinoma, lung	Human	羅東聖母醫院
	40	Vertebra,T12,laminectomy, metastatic adenoid cystic carcinoma	Human	彰化基督教醫院
	40	rhabdomyosarcoma	Canine	臺灣大學獸醫學系
	40	Fetal rhabdomyosarcoma	SD Rat	中興大學獸醫學系
	40	Adenocarcinoma, metastatic, iris, eye	Human	高雄醫學大學
	40	Axillary lymph node metastasis from an occult breast cancer	Human	羅東博愛醫院
	40	Hepatocellular carcinoma	Human	國軍桃園總醫院
	40	Feline diffuse iris melanoma	Faline	中興大學獸醫學系
	40	Metastatic malignant melanoma in the brain and inguinal lymph node	Human	花蓮慈濟醫院病理科
	41	Tonsil Angiosarcoma	Human	羅東博愛醫院
	41	Malignant mixed mullerian tumor	Human	耕莘醫院病理科
	41	Renal cell tumor	Rat	中興大學獸醫學系
	41	Multiple Myeloma	Human	花蓮慈濟醫院病理科
	41	Myopericytoma	Human	新光吳火獅紀念醫院
	41	Extramedullary plasmacytoma with amyloidosis	Canine	臺灣大學獸醫學系
	42	Metastatic follicular carcinoma	Human	羅東聖母醫院病理科
	42	Primitive neuroectodermal tumor (PNET), T-spine.	Human	羅東博愛醫院病理科
	42	Hemangioendothelioma of bone	Human	花蓮慈濟醫院病理科

	42	Malignant tumor with perivascular epithelioid differentiation, favored malignant PEComa	Human	彰化基督教醫院
	43	Mucin-producing cholangiocarcinoma	Human	基隆長庚醫院
	43	Cutaneous epitheliotropic lymphoma	Canine	臺灣大學獸醫專業學院
	43	Cholangiocarcinoma	Felis Lynx	臺灣大學獸醫專業學院
	43	Lymphoma	Canine	臺灣大學獸醫專業學院
	43	Solitary fibrous tumor	Human	彰化基督教醫院
	43	Multiple sarcoma	Canine	臺灣大學獸醫專業學院
	44	Malignant solitary fibrous tumor of pleura	Human	佛教慈濟綜合醫院暨慈濟大學
	44	Ectopic thymic carcinoma	Human	彰濱秀傳紀念醫院病理科
	44	Medullary carcinoma of the right lobe of thyroid	Human	彰化基督教醫院病理科
	44	Thyroid carcinosarcoma with cartilage and osteoid formation	Canine	臺灣大學獸醫專業學院
	44	Lymphocytic leukemia/lymphoma	Koala	臺灣大學獸醫專業學院
	45	Neuroendocrine carcinoma of liver	Human	佛教慈濟綜合醫院暨慈濟大學
	45	Parachordoma	Human	羅東博愛醫院病理科
	45	Carcinoma expleomorphic adenoma, submandibular gland	Human	天主教耕莘醫院病理科
	45	Melanoma, tongue	Canine	國立臺灣大學獸醫專業學院
	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
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 lymphoma, mixed cellularity	Human	天主教耕莘醫院
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
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	Goose	國立中興大學獸醫病理生物學研究所

		4. cyst and atherosclerosis, chronic, testis		
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) in a women	Human	國軍桃園總醫院病理檢驗部
429	62	Immune reconstitution inflammatory syndrome (IRIS)-associated Kaposi's sarcoma in a man	Human	花蓮慈濟醫院
430	62	Mammary adenocarcinoma, tubular form in a female feline	Cat	中興大學獸醫病理生物學研究所

433	62	Rhabdomyosarcoma, retroperitoneal cavity in a female mouse	Mouse	國家實驗動物中心
434	62	Malignant pheochromocytoma with pleural metastasis in a man	Human	天主教聖馬爾定醫院病理科
436	63	Primary non-Hodgkins lymphoma of terminal ileum	Human	國軍桃園總醫院病理檢驗部
438	63	Ectopic thyroid gland tumor	Beagle	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	天主教聖馬爾定醫院口腔顎面外科
442	64	Large B cell lymphoma in a man	Human	羅東博愛醫院
444	64	Olfactory neuroblastoma in a female cat	Cat	台灣大學獸醫專業學院分子暨比較病理生物學研究所
445	64	Oligodendroglioma in a man	Human	國軍桃園總醫院病理檢驗部
447	64	Ameloblastoma of mandible in a man	Human	天主教聖馬爾定醫院口腔顎面外科
448	65	EBV associated extranodal NK / T-cell lymphoma, nasal type	Human	羅東博愛醫院
451	65	Mouse, subcutaneously mass – exocrine pancreatic adenocarcinoma, AsPC-1 cells, human origin, heterotopical model	Mouse	國家實驗動物中心
452	65	1. Extranodal NK/T-cell lymphoma, nasal type 2. 2. Regional lymph nodes and omentum are involved.	Human	台中醫院
457	66	Metastatic squamous cell carcinoma (SCC)	Horse	台灣大學獸醫專業學院分子暨比較病理生物學研究所
459	66	Squamous intraepithelial lesion (SIL)	Human	高雄醫學大學附設醫院病理部
460	66	Subcutaneous liposarcoma and uterine endometrial stromal sarcoma	African hedgehog	中興大學獸醫病理生物學研究所

463	67	Splenic undifferentiated pleomorphic sarcoma in a Djungarian hamster	Hamster	國立中興大學獸醫教學醫院鳥禽與野生動物科
465	67	Plasmacytoid urothelial carcinoma	Dog	國立台灣大學獸醫專業學院分子暨比較病理生物學研究所
467	67	1.Poorly differentiated hemangiosarcoma in face 2.Squamous cell carcinoma in ear	Civet	農委會特有生物研究保育中心
473	68	Simple mammary gland adenocarcinoma	Guinea pig	中興大學獸醫病理生物學研究所
476	69	Mediastinum dedifferentiated liposarcoma	Human	羅東博愛醫院
477	69	Uterus adenosarcoma	Hedgehog	中興大學獸醫病理生物學研究所
478	69	Primary pericardial mesothelioma in a woman	Human	佛教慈濟綜合醫院暨慈濟大學病理科
479	69	Pulmonary solid adenocarcinoma	Dog	國立台灣大學獸醫專業學院分子暨比較病理生物學研究所
481	70	Paraganglioma of liver	Human	佛教慈濟綜合醫院暨慈濟大學病理科
482	70	Adenocarcinoma, transmural, recurrent, with desmoplasia and metastasis to regional lymph node, jejunum and ileocecal junction Mast cell tumor, moderately-differentiated, multiple, jejunal and ileocecal masses	Cat	國立台灣大學獸醫專業學院分子暨比較病理生物學研究所
483	70	Solitary fibrous tumor of pelvis	Human	羅東博愛醫院病理科
484	70	Chronic lymphocytic leukemia, with systemic dissemination, bone marrow, intestine, generalized lymph node, spleen, liver, kidney and lung	Dog	國立台灣大學獸醫專業學院分子暨比較病理生物學研究所

485	70	Intestine, large, colon, ascending, --- Carcinoma, poorly differentiated (pT4aN1b). (ADVANCED) 2. Stomach, distal, --- Adenocarcinoma, moderately differentiated (pT1bNO) (EARLY) (Synchronous cancer)	Human	秀傳醫療社團法人秀傳紀念醫院
487	70	Angiomyolipoma of the liver	Human	衛生福利部臺中醫院病理科
490	71	Xp11.2 translocation renal cell carcinoma	Human	羅東博愛醫院病理科
491	71	Anaplastic renal cell carcinoma	Djungarian hamster	國立中興大學獸醫病理生物學研究所
493	71	Mucin-producing urothelial-type adenocarcinoma of the prostate (MPUAP)	Human	天主教耕莘醫療財團法人耕莘醫院
494	71	Left paratesticular dedifferentiated liposarcoma with leiomyomatous differentiation.	Human	天主教耕莘醫療財團法人耕莘醫院
495	71	Renal nephroblastoma, blastema-predominant with metastasis to gingiva, renal mass	Dog	國立台灣大學獸醫專業學院分子暨比較病理生物學研究所
496	71	Testis, left: Malignant mixed germ cell–sex cord stromal tumor (spermatocytic germinoma and Sertoli cell tumor), with angiolymphatic invasion. Testis, right: Germ cell atrophy, multifocal, moderate.	Dog	長青動物醫院
499	72	Brain, frontal lobe, Lt., Malignant melanoma, consistent with metastatic cutaneous malignant melanoma.	Human	國軍桃園總醫院
501	72	Anaplastic carcinoma thyroid (spindle cell type)	Human	天主教耕莘醫院

502	72	Primitive neuroectodermal tumor (PNET), most likely originating from ureter, with metastasis to liver and involvements of urinary bladder, uterus and left adrenal gland	Formosan serow	臺灣大學獸醫學系
503	72	Metastatic follicular carcinoma	Human	衛生福利部台中醫院
506	73	Type B1 thymoma	Human	天主教耕莘醫院
508	73	Metastatic melanoma	Human	秀傳醫療社團法人秀傳紀念醫院
511	74	Crystal storing histiocytosis associated with multiple myeloma.	Human	羅東博愛醫院病理科
512	74	Myeloid sarcoma	Human	佛教慈濟綜合醫院暨慈濟大學病理科
513	74	Neurolymphomatosis (neurotropic lymphoma), B cell, right musculocutaneous nerve	Cat	國立台灣大學獸醫專業學院分子暨比較病理生物學研究所
514	74	Primary diffuse large B-cell lymphoma (activated B- cell type) of right testis, Stage IE at least	Human	國防醫學院三軍總醫院病理部
515	74	Thymoma, most likely, mediastinal mass	Dolphin	國立台灣大學獸醫專業學院分子暨比較病理生物學研究所
516	74	Extranodal marginal zone lymphoma of mucosa- associated lymphoid tissue (MALT lymphoma)	Human	秀傳醫療社團法人秀傳紀念醫院
517	74	Angioliposarcoma in a Cockatiel	Dog	國立中興大學獸醫病理生物學研究所
520	74	Intravascular diffuse large B cell lymphoma.	Human	國防醫學院三軍總醫院病理部
521	75	Primary anorectal malignant melanoma (PAMM)	Human	國軍桃園總醫院
523	75	Pancreatic panniculitis associated with acinar cell carcinoma	Human	羅東博愛醫院

524	75	Anaplastic large cell lymphoma (ALCL), ALK-negative	Human	秀傳醫療社團法人秀傳紀念醫院
525	75	Canine cutaneous epitheliotropic T-cell lymphoma with the involvement of left axillary lymph node	Dog	國立台灣大學獸醫專業學院分子暨比較病理生物學研究所
528	75	Basal cell carcinoma with sebaceous differentiation	Human	天主教耕莘醫院
529	76	Tongue, Schwannoma	Human	國軍桃園總醫院
530	76	Amyloid-producing odontogenic tumor	Dog	國立台灣大學獸醫專業學院分子暨比較病理生物學研究所
531	76	Embryonal rhabdomyosarcoma	Human	花蓮慈濟大學暨慈濟醫院病理科
532	76	Adenocarcinoma, suspected mammary gland tumor metastasis, mass from iris and partially ciliary bodies of right eye	Cat	國立台灣大學獸醫專業學院分子暨比較病理生物學研究所
533	76	Kaposi's sarcoma, parotid gland.	Human	羅東博愛醫院病理科
537	77	Primary appendiceal mantle cell lymphoma (MCL), B-cell type, caused acute suppurate appendicitis.	Human	國軍桃園總醫院
538	77	Follicular lymphoma in thyroid of nodular goiter.	Human	羅東博愛醫院
544	78	Ectopic parathyroid adenoma, anterior mediastinum.	Human	羅東博愛醫院

細菌

病例編號	會議場次	診　　斷	動物別	提　供　單　位
	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
	10	Xanthogranulomatous inflammation with nephrolithiasis, kidney, right. Ureteral stone, right.	Human	羅東聖母醫院
	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
	13	Listeric encephalitis	Lamb	屏東縣家畜疾病防治所
	13	Tuberculous meningitis	Human	羅東聖母醫院
	16	Swine salmonellosis with meningitis	Swine	中興大學獸醫學系
	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
	17	Coliform septicemia of newborn calf	Calf	屏東縣家畜疾病防治所
	20	Porcine polyserositis and arthritis（Glasser's disease）	Pig	中興大學獸醫學院

	20	Mycotic aneurysm of jejunal artery secondary to infective endocarditis	Human	慈濟醫院病理科
	21	Chronic nephritis caused by Leptospira spp	Pig	中興大學獸醫學院
	21	Ureteropyelitis and cystitis	Pig	中國化學製藥公司
	36	Pulmonary actinomycosis.	Human	耕莘醫院病理科
	37	Tuberculous peritonitis	Human	彰化基督教醫院病理科
	38	Septicemic salmonellosis	Piglet	屏東科技大學獸醫系
	38	Leptospirosis	Human	慈濟醫院病理科
	39	Mycobacteriosis	Soft turtles	屏東科技大學獸醫系
	42	Staphylococcus spp. infection	Formosa Macaque	中興大學獸醫病理學研究所
	42	Leptospirosis	Dog	台灣大學獸醫學系
	43	Leptospirosis	Human	花蓮慈濟醫院
	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
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	Tuberculosis	Human	花蓮佛教慈濟綜合醫院
438	63	Porcine proliferative enteritis (PPE)	Pig	國立中興大學獸醫病理生物學研究所
446	64	Actinomycosis (lumpy jaw) in a dairy cattle	Cattle	國立中興大學獸醫病理生物學研究所
450	65	Mycobacterium avium infection	Human	花蓮佛教慈濟綜合醫院
464	67	Ulcerative actinomycotic squamous plaque with focal (basal) severe dysplasia, mucosa, gingivobuccal junction, right lower gingiva in a man	Human	嘉義聖馬爾定醫院
469	68	Scrub typhus	Human	佛教慈濟綜合醫院暨慈濟大學
489	71	Malakoplakia due to Escherichia coli infection, left testis	Human	佛教慈濟綜合醫院暨慈濟大學
492	71	Cystitis, bilateral ureteritis and pyelonephritis, hemorrhagic, necrotic, purulent, severe, diffuse, chronic progressive, urinary bladder, ureters and kidneys	Dog	國立中興大學獸醫病理生物學研究所
522	75	Secondary syphilis	Human	佛教慈濟綜合醫院暨慈濟大學
526	75	Dermatophilosis caused by *Austwickia chelonae (basonym Dermatophilus chelonae*) in a free-ranging wild Taiwanese japalure	Taiwanese japalure	台灣大學獸醫學系

病毒

病例編號	會議場次	診　　斷	動物別	提　供　單　位

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
	13	Pseduorabies	Piglet	國立屏東科技大學
	13	Avian encephalomyelitis	Chicken	國立中興大學
	15	Contagious pustular dermatitis	Goat	屏東縣&台東縣家畜疾病防治所
	15	Fowl pox and Marek's disease	Chicken	中興大學獸醫學系
	16	Japanese encephalitis	Human	花蓮佛教慈濟綜合醫院
	17	Viral encephalitis, polymavirus infection	Lory	美國紐約動物醫學中心
	17	1. Aspergillus spp. encephalitis and myocarditis 2. Demyelinating canine distemper encephalitis	Dog	台灣大學獸醫學系
	19	Enterovirus 71 infection	Human	彰化基督教醫院
	19	Ebola virus infection	African Green monkey	行政院國家科學委員會實驗動物中心
	19	Rabies	Longhorn Steer	台灣大學獸醫學系
	20	Parvoviral myocarditis	Goose	屏東科技大學獸醫學系
	28	SARS	Human	台大醫院病理科
	28	TGE virus	swine	臺灣動物科技研究所
	28	Feline infectious peritonitis(FIP)	Feline	台灣大學獸醫學系
	30	Chicken Infectious Anemia (CIA)	Layer	屏東防治所

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

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
455	66	Goose Haemorrhagic Polyomaviruses (GHPV)	Goose	農委會家畜衛生試驗所
456	66	HPV associated small cell neuroendocrine carcinoma of uterine cervix	Human	羅東博愛醫院病理科
458	66	Roventricular dilatation disease (PDD)	Cacatuini	國立中興大學獸醫病理生物學研究所
468	68	Avian poxvirus	Eagle	國立中興大學獸醫病理生物學研究所
472	68	Suspected viral infection with secondary aspergillosis	Parrot	國立中興大學獸醫病理生物學研究所
510	73	Porcine reproductive and respiratory syndrome (PRRS)	pig	國立中興大學獸醫病理生物學研究所
542	78	Feline infectious peritonitis (FIP)	Cat	國立台灣大學獸醫專業學院分子暨比較病理生物學研究所
543	78	Porcine epidemic diarrhea (PED)	Pig	國立中興大學獸醫系

黴菌

病例編號	會議場次	診　　斷	動物別	提　供　單　位
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
	15	Eumycotic mycetoma	Human	花蓮佛教慈濟綜合醫院
	17	1. Aspergillus spp. encephalitis and myocarditis 2. Demyelinating canine distemper encephalitis	Dog	台灣大學獸醫學系
	43	Systemic Candidiasis	Tortoise	中興大學獸醫學院
	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
441	63	Protothecosis	Dog	國家實驗動物繁殖及研究中心
449	65	Porcine epidemic diarrhea (PED)	Pig	國立台灣大學分子暨比較病理生物學研究所
519	75	Chicken infectious anemia in chicken	Chicken	國立中興大學獸醫學院
536	77	Skin infection of Orf virus	Human	佛教慈濟醫療財團法人花蓮慈濟醫院
545	78	Candida endocarditis	Human	佛教慈濟醫療財團法人花蓮慈濟醫院

寄生蟲（含原蟲）

病例編號	會議場次	診　　斷	動物別	提　供　單　位
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
	13	Parasitic meningoencephalitis, caused by Toxocara canis larvae migration	Dog	臺灣養豬科學研究所
	17	Disseminated strongyloidiasis	Human	花蓮佛教慈濟綜合醫院
	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
	19	Capillaria hepatica,	Norway Rat	行政院農業委員會

		Angiostongylus cantonensis		農業藥物毒物試驗所
	29	Colnorchiasis	Human	高雄醫學院附設醫院
	29	Trichuriasis	Human	彰化基督教醫院
	29	Psoroptes cuniculi infection (Ear mite)	Rabbit	農業藥物毒物試驗所
	29	Pulmonary dirofilariasis	Human	和信治癌中心醫院
	29	Capillaries philippinesis	Human	和信治癌中心醫院
	29	Adenocarcinoma with schistosomiasis	Human	花蓮佛教慈濟綜合醫院
	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
	63	Liver milk spots in pig	Pig	中興大學獸醫病理生物學研究所
453	66	Liver fluke infection	Buffalo	中興大學獸醫病理生物學研究所
471	68	Haemosporidian parasite infection	pigeon	國立台灣大學分子暨比較病理生物學研究所
540	77	Systemic toxoplasmosis	Ring-tailed lemur	國立台灣大學分子暨比較病理生物學研究所
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
443	65	Brain toxoplasmosis in a man	Human	佛教慈濟綜合醫院病理科
462	67	Toxoplasmosis	Human	佛教慈濟綜合醫院病理科
470	68	Leucocytozoonosis	chickens	中興大學獸醫病理生物學研究所

立克次體

病例編號	會議場次	診　　斷	動物別	提　供　單　位
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

其他

病例編號	會議場次	診　　斷	動物別	提　供　單　位
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
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 Benign hypertension	SHR rat	國防醫學院 & 國家實驗動物繁殖及研究中心
83.	10	Phagolysosome-overload nephropathy	SD rats	國家實驗動物繁殖及中心
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
	14	Cystic endometrical hyperplasia	Dog	臺灣養豬科學研究所
	14	Cystic subsurface epithelial structure (SES)	Dog	國科會實驗動物中心
	15	Superficial necrolytic dermatitis	Dog	美國紐約動物醫學中心
	15	Solitary congenital self-healing histiocytosis	Human	羅東博愛醫院
	15	Alopecia areata	Mouse	國家實驗動物繁殖及研究中心
	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
	20	Hypertrophic cardiomyopathy	Pig	台灣大學獸醫學系
	21	Chinese herb nephropathy	Human	三軍總醫院病理部及腎臟科
	21	Acute pancreatitis with rhabdomyolysis	Human	慈濟醫院病理科
	21	Malakoplakia	Human	彰化基督教醫院
	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
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
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 in a man	Human	羅東博愛醫院病理科
432	62	Congenital pulmonary airways malformation, type 2 in a women	Human	高雄醫學大學附設醫院
437	63	Large solitary luteinized follicular cyst of pregnancy and puerperium	Human	羅東博愛醫院病理科
454	66	Eosinophilic granuloma	Human	佛教慈濟綜合醫院暨慈濟大學病理科
461	67	Intestinal emphysema	Pig	中興大學獸醫病理生物學研究所
466	67	Nodular goiter	Human	彰化秀傳醫院病理科
474	68	Parastrongyliaisis (Previously called Angiostrongyliasis)	squirrel	中興大學獸醫病理生物學研究所
475	69	Bronchogenic cyst	Dog	國立臺灣大學獸醫專業學院
480	69	Toxic pneumonitis caused by inhalation of waterproofing spray	Dog	中興大學獸醫學病理學研究所
486	70	IgG4-related sclerosing cholangitis (ISC)	Human	天主教耕莘醫療財團法人耕莘醫院

488	70	Crohn's disease	Human	彰化基督教醫院病理部
Gross	64	Hydronephrosis	Pig	中興大學獸醫病理生物學研究所
Gross	65	1. Traumatic pericarditis, severe, chronic progressive, diffuse, heart. 2. Hardware disease	Cattle	中興大學獸醫病理生物學研究所
497	72	Combined central and peripheral demyelination (CCPD)	Dog	國立臺灣大學獸醫專業學院
498	72	Inflammatory demyelinating pseudotumour	Human	佛教慈濟綜合醫院暨慈濟大學病理科
500	72	Ischemic stroke in a dog	Dog	中興大學獸醫病理生物學研究所
504	73	Autoimmune pancreatitis (IgG4 related pancreatitis)	Human	羅東博愛醫院病理科
505	73	Thrombotic microangiopathy with hemorrhagic infarct of brain, acute myocardial ischemia and acute kidney injury	Human	佛教慈濟綜合醫院暨慈濟大學病理科
507	73	The most likely diagnosis is erythema multiforme (EM).	Dog	國立臺灣大學獸醫專業學院
509	73	Doxorubicin-induced diseases	Chicken	中興大學獸醫病理生物學研究所
518	74	Idiopathic multicentric Castleman disease with abundant IgG4-positive cells	Human	佛教慈濟綜合醫院暨慈濟大學病理科
527	75	Coryneform hyperkeratosis in NOG mice	Mice	中興大學獸醫病理生物學研究所
534	76	Multiple Cartilaginous Exostoses Causing Spinal Cord Compression in a Dog	Dog	中興大學獸醫病理生物學研究所
535	76	Chondrodysplasia, diffuse, severe, chronic, growth plate, femur.	Rat	中興大學獸醫病理生物學研究所
539	77	Epitheliotropic mastocytic conjunctivitis	Cat	臺灣動藥國際股份有限公司

541	77	Protothecosis	Dog	國立臺灣大學獸醫專業學院
546	78	Ascites syndrome in broilers	Avian	國立中興大學動物疾病診斷中心

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

張惠雯 助理教授
cscptaiwan@gmail.com
02-33661296
106 台北市羅斯福路四段一號 國立台灣大學 獸醫專業學院

----------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：一般會員新台幣壹仟元，學生會員壹佰元。

【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 張惠雯老師收。地址：106 台北市羅斯福路四段一號 國立台灣大學 獸醫專業學院

電話：02-33661296

中華民國比較病理學會入會申請及會員卡

會電腦編號

<table>
<tr><td rowspan="3">姓名</td><td>中文</td><td></td><td rowspan="2">姓別</td><td>□ 男
□ 女</td><td>出生</td><td>民國　年　月　日</td><td rowspan="3">出生地</td><td rowspan="3"></td></tr>
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<tr><td rowspan="4">學歷</td><td colspan="3">(1)</td><td colspan="4">稱謂(圈選) 先生 小姐 醫師 獸醫師 教授 博士
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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