目　錄

Jan 9-10
2021 (Sat) (Sun)

壹、台灣腦下垂體學會第二屆第一次會員大會
暨學術研討會議程

日期：9. January.2021
地點：台中林酒店 6 樓 奇緣廳
主辦單位：台灣腦下垂體學會

Time	Topic	Speaker	Moderator
	報到		
13:25-13:30	Opening	張承能理事長 台灣腦下垂體學會	
13:30-13:50	Management of recurrent Cushing disease	林亮羽醫師 內分泌新陳代謝科 台北榮總	陳涵栩醫師 內分泌新陳代謝科 台北榮總
13:50-14:10	Pre-surgical classification for strategic treatment of the pituitary tumor	顏君霖醫師 神經外科 基隆長庚	馬辛一醫師 神經外科 三軍總醫院
14:10-14:30	Hypothalamic pituitary gonadal (HPG): perspective from urology	黃世聰醫師 泌尿外科 林口長庚	鍾文裕醫師 神經外科 高雄榮總
14:30-14:50	Somatotroph adenomas: histological subtypes and predicted response to treatment	葉乃誠 醫師 內分泌新陳代謝科 奇美醫院	宋育民醫師 內分泌新陳代謝科 台中慈濟
14:50-15:10	Challenges in Prolactinomas Management	沈炯祺醫師 神經外科 台中榮總	蘇泉發醫師 神經外科 花蓮慈濟
15:10-15:30	WHO 2017 Classification of Pituitary Adenomas	何明德醫師 病理檢驗部 振興醫院	顏玉樹醫師 神經外科 台北榮總
15:30-15:50	Coffee Break		
15:50-16:10	Satellite symposium(1): IPSEN Clinical Experience and Strategies of Acromegaly Treatment: Present and Future	沈峰志醫師 內分泌新陳代謝科 高雄長庚	鄭文郁醫師 神經外科 台中榮總
16:10-16:30	Satellite symposium(2): NOVARTIS Optimizing Medical Treatment of Acromegaly	張宏猷 內分泌新陳代謝科 林口長庚	蕭璧容 內分泌新陳代謝科 義大醫院
16:30-17:10	中國肢端肥大症診治指南 _2020 版	王海軍醫師 神經外科 中山大學附屬 第一醫院	張承能理事長 神經外科 林口長庚
17:10-17:50	SSA 治療肢端肥大症進展	朱惠娟醫師 內分泌新陳代謝科 北京協和醫院	王任直教授 神經外科 北京協和醫院
17:50-18:00	Closing remark	高明見教授 神經外科 台大醫院	
18:00-19:00	會員大會及選舉	張承能理事長 台灣腦下垂體學會	
19:00-	Dinner		

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現職

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經歷

2008/9- 臺北榮民總醫院內分泌新陳代謝科主治醫師

2020/2- 國立陽明大學醫學系 內科學科 副教授

2020/8- Assistant editor, Journal of the Chinese Medical Association

2016/8-2017/7 美國加州大學洛杉磯分校心臟科研究員

2015/2-2020/1 國立陽明大學醫學系 內科學科 助理教授

2014/7-2016/7 臨床醫學月刊副主編

2013/3-2016/3 中華民國內分泌學會副秘書長

2009/8-2011/7 銓敘部因公撫卹疑義案件審查小組委員

2007/8-2015/1 國立陽明大學醫學系 內科學科 講師

2007/8-2008/9 臺北榮民總醫院員山分院內科師 (三) 級主治醫師

2003/7-2007/6 臺北榮民總醫院新陳代謝科資深住院醫師

2000/7-2003/6 臺北榮民總醫院內科部住院醫師

學歷

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臺北醫學大學 醫學系醫學士

專長

糖尿病及併發症、內分泌疾病、高血脂症、老年醫學

證照

國立陽明大學部定副教授 (副字第 146885 號)

中華民國內分泌暨糖尿病專科醫師 (中內糖專醫字第 411 號)

台灣內科醫學會專科醫師 (內專醫字第 6618 號)

台灣老年醫學專科醫師 (台老醫專字第 97538 號)

中華民國糖尿病衛教學會糖尿病衛教師 (糖衛證字第 3081 號)

美國內分泌醫學會會員 (會員編號 :234779)

美國臨床內分泌醫學會會員 (會員編號 :22140)

國立陽明大學醫學系 Problem-based learning 合格導師

中華民國醫用超音波學會專業醫師 (中超專業證字第 eEM-000087 號)

國際臨床骨密檢測學會 (ISCD) 認證醫師

獎勵

2020 年 108 年度健保署糖尿病照護品質卓越獎

2020 年 臺北榮民總醫院 109 年度臨床教學績優醫師獎

2019 年 107 年度健保署糖尿病照護品質進步獎

2018 年 American Association of Clinical Endocrinologists 27th Annual Scientific & Clinical Congress—International Physician AACE Travel Grant

2018 年 陽明大學醫學系 106 學年第二學期學生網路教學評量之優良教師

2018 年 陽明大學醫學系 106 學年第一學期及第二學期 PBL 之優良教師

2015 年 中華民國內分泌暨糖尿病學會年會默沙東優秀論文獎

2014 年 臺北榮民總醫院 103 年度臨床教學績優醫師獎

2012 年 中華民國糖尿病學會優秀論文獎

2009 年 臺北榮民總醫院 98 年度優良醫師臨床教學績優醫師獎

代表著作 **#Co-first author *Corresponding author**

1. Liu YH, Wu TH, Chu CH, Lin YC, *Lin LY. Metabolic effects of cross-sex hormone therapy in transgender individuals in Taiwan. J Chin Med Assoc 2020 Oct (accepted)
2. Chang LH, Hwu CM, Lin YC, Huang CC, Won JG, Chen HS, *Lin LY. Soluble tumor necrosis factor receptor 1 levels exhibit the better association with renal outcomes than traditional risk factors in Chinese subjects with type 2 diabetes mellitus. Endocr Pract 2020 Oct;26(10):1115-1124.
3. *Huang CC, Chung CM, Leu HB, Huang PH, Wu TC, Lin LY, Lin SJ, Pan WH, Chen JW. Sex Difference in Sympathetic Nervous System Activity and Blood Pressure in Hypertensive Patients. J Clin Hypertens 2020 Nov. 15 (online published)
4. Liao CK, Tsai JS, Lin LY, Lee SC, Liao IC, Lai CF, Chen CP, Ho TW, Lai F. Characteristics of harmonic indexes of the arterial blood pressure waveform in type 2 diabetes mellitus. Front Bioeng Biotechnol 2020 Jul 8;8:638.
5. Kuo CS, Chen JS, Lin LY, Schimid-Schönbein GW, Chien S, Chen JS, Lin SJ. Inhibition

of Serine Protease Activity Against High Fat Diet-Induced Inflammation and Insulin Resistance. Sci Rep 2020 Feb 3;10(1):1725.

6. Chang LH, Hwu CM, Chu CH, Won JG, Chen HS, *Lin LY. Upstroke Time per Cardiac Cycle is Associated with Cardiovascular Prognosis in Type 2 Diabetes. Endocr Pract 2019 Nov;25(11):1109-1116.
7. Lin LY, Hwu CM, Chu CH, Won JG, Chen HS, *Chang LH. The ankle brachial index exhibits better association with cardiovascular outcomes than inter-arm systolic blood pressure difference in patients with type 2 diabetes. Medicine (Baltimore) 2019 May;98(19):e15556.
8. Chang TT, Lin LY, Chen JW. Inhibition of macrophage inflammatory protein-1β improves endothelial progenitor cell function and ischemia-induced angiogenesis in diabetes. Angiogenesis 2019 Feb;22(1):53-65.
9. Lin LY, Chun-Chang S, Seldin M, Gupta P, Bondar G, Deng M, Jauhiainen R, Kuusisto J, Laakso M, Sinsheimer JS, Deb A, Rau C, Ren S, Wang Y, Lusis AJ, *Wang J, *Huertas-Vazquez A. Systems Genetics Approach to Biomarker Discovery: GPNMB and Heart Failure. G3 (Bethesda) 2018;8(11):3499-3506.
10. Chiu HY, Lin LY, Chou WC, Fang WL, Shyr YM, Yeh YC, Chang MH, Chen MH, Hung YP, Chao Y, Chien SH, *Chen MH. Toxicities, safeties and clinical response of dacarbazine-based chemotherapy on neuroendocrine tumors in Taiwan population. J Chin Med Assoc 2018 May;81(5):423-428.
11. Chu CH, Chiou SR, Wang MC, Shiao AS, Tu TY, Lin LY, Huang CY, Liao WH. The Efficacy of Concurrent or Sequential Intravenous and Intratympanic Steroid for Idiopathic Sudden Sensorineural Hearing Loss. Audio Neurootol 2018 Dec. 11;23(5):277-284.
12. Lin LY. Fixed-ratio combination (FRC) of basal insulin and glucagon-like peptide 1 receptor agonist for the management of type 2 diabetes mellitus. Formos J Endocrinol Metab 2018;9:S1-S14.
13. Lin LY, Yeh YC, Chu CH, Won JG, Shyr YM, Chao Y, Li CP, Wang SE, *Chen MH. Endocan expression is correlated with poor progression-free survival in patients with pancreatic neuroendocrine tumors. Medicine (Baltimore) 2017 Oct;96(41):e8262.
14. Huang CJ, Tseng CL, Chu CH, Huang DF, Huang CC, *Lin LY: Adherence to guidelines in monitoring amiodarone-induced thyroid dysfunction. J Eva Clin Pract 2017;23:108-113.
15. Yang TL, Lin LY, Huang CC, Huang PH, Lin SJ, Chen JW, Chan WL, *Leu HB: Response to Comment on Yang et al. Association of statin use and reduced risk of lower-extremity amputation among patients with diabetes: a nationwide population-based cohort observation. Diabetes Care 2016 Sep;39(9):e161-2.
16. Chang LH, Hwu CM, Chu CH, Won JG, Kwok CF, Lin HD, Chen HS, Lin YC, *Lin LY: The Ankle Brachial Index Exhibits Better Association of Cardiovascular Prognosis than Non-High-Density Lipoprotein Cholesterol in Type 2 Diabetes. Am J Med Sci 2016;351(5):492-498.
17. Yang TL, Lin LY, Huang CC, Huang PH, Lin SJ, Chen JW, Chan WL, *Leu HB: Association of statin use and reduced risk of lower-extremity amputation among patients with diabetes: a nationwide population-based cohort observation. Diabetes Care 2016 Apr;39(4):e54-5.
18. Chang LH, Lin LY, Tsai MT, How CK, Chiang JH, Hsieh VC, Hu SY, Hsieh MS. Association

between hyperglycemic crisis and long-term major adverse cardiovascular events: a nationwide population-based, propensity score-matched, cohort study. BMJ Open 2016 Aug 23;6(8):e012233.

19. Huang CC, Leu HB, Huang PH, Lin LY, Wu TC, Lin SJ, *Chen JW. Hypertension subtypes modify metabolic response to thiazide diuretics. Eur J Clin Invest 2016 Jan;46(1):80-91.
20. Chang TT, Wu TC, Huang PH, Chen JS, Lin LY, Lin SJ, *Chen JW. Aliskiren directly improves endothelial progenitor cell function from type II diabetic patients. Eur J Clin Invest 2016 Jun;46(6):544-54.
21. Guo YW, Hwu CM, Won JG, Chu CH, *Lin LY. A case of adrenal Cushing syndrome with bilateral adrenal masses. Endocrinol Diabetes Metab Case Rep 2016;2016:150118.
22. Chang LH, Chu CH, Lin HD, Kwok CF, Won JG, Chen HS, *Lin LY: The ankle brachial index is associated with prognosis in patients with diabetic kidney disease. Diabetes Res Clin Pract 2015;108(2):316-322.
23. Guo YW, Chiu CY, Liu CL, Jap TS, *Lin LY: Novel mutation of RUNX2 gene in a patient with cleidocranial dysplasia. Int J Clin Exp Pathol 2015;8(1):1057-1062.
24. Chu CH, Liu CJ, Lin LY, Chen TJ, Wang SJ: Migraine is associated with an increased risk for benign paroxysmal positional vertigo: a nationwide population-based study. J Headache Pain 2015 Dec; 16:62.
25. Chang TT, Wu TC, Huang PH, Lin CP, Chen JS, Lin LY, Lin SJ, *Chen JW. Direct Renin Inhibition with Aliskiren Improves Ischemia-Induced Neovasculogenesis in Diabetic Animals via the SDF-1 Related Mechanism. PLoS One 2015 Aug 25;10(8): e0136627.
26. Huang CC, Chung CM, Hung SI, Pan WH, Leu HB, Huang PH, Chiu CC, Lin LY, Lin CC, Yang CY, Li SY, Chen YC, Wu TC, Lin SJ, *Chen JW. Clinical and Genetic Factors Associated With Thiazide-Induced Hyponatremia. Medicine (Baltimore) 2015 Aug; 94(34): e1422.
27. Lin LY, Huang CC, Chen JS, Wu TC, Leu HB, Huang PH, Chang TT, Lin SJ, *Chen JW. Effects of pitavastatin versus atorvastatin on the peripheral endothelial progenitor cells and vascular endothelial growth factor in high-risk patients: A pilot prospective, double-blinded, randomized study. Cardiovasc Diabetol 2014;13(1):111.
28. Chang LH, Lin HD, Kwok CF, Won JG, Chen HS, Chu CH, Hwu CM, Kuo CS, Jap TS, Shih KC, *Lin LY: The Combination of Ankle Brachial Index and Brachial Ankle Pulse Wave Velocity Exhibits a Superior Association With Outcomes in Diabetic Patients. Intern Med 2014;53:2425-2431.
29. Huang CJ, Chen PJ, Chang JW, Huang DF, Chang SL, Chen SA, Jap TS, *Lin LY: Amiodarone-induced Thyroid Dysfunction in Taiwan: a retrospective cohort study. Int J Clin Pharm 2014;36(2):405-11.
30. Chu CH , Wang MC, Lin LY, Tu TY, Huang CY, Liao WH, Ho CY, *Shiao SA: High-Dose Amoxicillin with Clavulanate for the Treatment of Acute Otitis Media in Children. The Scientific World Journal, vol. 2014, Article ID 965096, 6 pages, 2014. doi:10.1155/2014/965096.
31. Huang CC, Chung CM, Leu HB, Lin LY, Chiu CC, Hsu CY, Chiang CH, Huang PH, Chen TJ, Lin SJ, Chen JW, Chan WL. Diabetes mellitus and the risk of Alzheimer’s disease: a

nationwide population-based study. PLoS One. 2014 Jan 29;9(1):e87095.

32. Huang CC, Chung CM, Hung SI, Leu HB, Lin LY, Huang PH, Wu TC, Lin SJ, Pan WH, *Chen JW. Genetic predictors of thiazide-induced serum potassium changes in nondiabetic hypertensive patients. Hypertens Res. 2014; 37:759-764.
33. Liu PY, #Lin LY, Lin HJ, Hsia CH, Hung YR, Yeh HI, Wu TC, Chen JY, *Chien KL, *Chen JW: Pitavastatin and Atorvastatin Double-Blind Randomized ComPArative Study among HiGh-Risk Patients, Including ThOse with Type 2 Diabetes Mellitus, in Taiwan (PAPAGO-T Study). PLoS One. 2013 Oct 1;8(10):e76298.
34. Lin YC, Lin YC, Lin HD, *Lin LY: Risk factors of renal failure and severe complications in patients with emphysematous pyelonephritis- A Single Center 15-Year Experience. Am J Med Sci 2012;343(3): 186-191.
35. Chu CH, Wang MC, Lin LY, *Shiao SA: Physicians are not adherent to clinical practice guidelines for acute otitis media. Int J Pediatr Otorhinolaryngol 2011;75:955-9.
36. Lin YC, Lin LY, Wang HF, *Lin HD: Fasting plasma lactate concentrations in ambulatory, elderly patients with type 2 diabetes receiving metformin therapy: a retrospective cross-sectional study. J Chin Med Assoc 2010; 73(12):617-22.
37. Lin LY, Lin HC, Lee PC, Ma WY, *Lin HD: Hyperglycemia correlates with outcomes in patients receiving total parental nutrition. Am J Med Sci 2007;333(5):261-5.
38. Lin LY, Teng MH, Huang CI, Wang KL, Lin HD, *Won JG. Assessment of bilateral inferior petrosal sinus sampling (BIPSS) in the diagnosis of Cushing' s disease. J Chin Med Assoc 2007; 70(1):4-10.
39. Ma WY, Yang AH, Chang YH, Lin LY, *Lin HD: Coexistence of adrenal Cushing' s syndrome and pheochromocytoma in a rare case of corticomedullary adenoma. Endocrinologist 2007;17(6):341-5.
40. Lin LY, *Kwok CF, Tang KT, Ho LT, Lin HD: Diffuse soft tissue emphysema in anorexia nervosa: a case report. Int J Eat Disorder. 2005;38(3):277-280.
41. Wang KL, Lin LY, Chen PM, *Lin HD: Chronic myeloid leukemia after treatment with 131I for thyroid carcinoma. J Chin Med Assoc 2005; 68(5):230-3.

Management of Recurrent Cushing Disease

庫欣氏病復發之治療

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Cushing disease is caused by pituitary adenomas, most common form of endogenous Cushing syndrome, that secrete adrenocorticotrophic hormone (ACTH). Transsphenoidal surgery is the treatment of choice in patients with these tumors because of reported remission rates of 69–93%. A therapeutic challenging for neurosurgeons and endocrinologists, however, is management of the remaining patients whose Cushing disease is refractory to initial transsphenoidal surgery or recurs after initial remission. Findings in recent published reports on the treatment of recurrent ACTH–secreting tumors suggest that repeat resection, radiation-based therapies such as Gamma Knife surgery and proton-beam radiosurgery, pharmacotherapy, and bilateral adrenalectomy all have important roles in the treatment of recurrent CD.

Each of these interventions has inherent risks and benefits that should be presented to the patient during counseling on retreatment options. Radiation-based therapies increasingly appear to have efficacies similar to those of repeat resection in achieving biochemical remission and tumor control. In addition, an expanding retinue of medication-based therapies, several of which are currently being evaluated in clinical trials, has shown some promise as tertiary adjunctive therapies. Lastly, bilateral adrenalectomy may offer durable control of refractory recurrent CD. An increasing number of published studies with long-term patient outcomes highlight the evolving treatment patterns in the management of recurrent CD.

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CURRENT POSITION

2019~ 長庚大學助理教授

2017~ 基隆長庚醫院神經外科助理教授級主治醫師

2017~2018 台灣神經腫瘤學會副秘書長

CLINICAL EXPERIENCE

2013—2017 長庚醫院神經外科講師級主治醫師

2012—2013 林口長庚醫院神經外科住院總醫師

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2008—2009 林口長庚醫院外科住院醫師

2007—2008 台大醫院外科住院醫師

EDUCATION

10/2014—11/2017 博士 , 英國劍橋大學臨床神經科學研究所

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AWARDS & HONORS

2019 最佳優良服務 , 基隆長庚醫院

2018 優良臨床教師 , 基隆長庚醫院

2017 2017 年世界神經外科大會優秀青年神經外科醫師獎

2016 劍橋大學傑出研究獎 (Santander PhD Award for outstanding Research)

2016 劍橋大學漢莫頓學院研究獎學金 (PhD research grant)

2015 2015 年英國神經腫瘤學會獎學金

2013 2013 年台灣神經外科學會優秀論文獎

2013 第 13 屆福建神經外科學會及第八屆閩台神經外科醫學會特別論文獎

2012 優良神經外科住院醫師

2009 優良臨床教師 , 林口長庚醫院

2006 杜師棉獎學金

2006 花蓮慈濟醫院最佳實習醫師

SELECTIVE PUBLICATIONS

翻譯書籍 :

"Neurology and Neurosurgery Illustrated" by KW Lindsay, I Bone & G Fuller. 5th edition, Elsevier Chinese translation 2013

SCI Journal Article: 20 篇

期刊論文

1. Yan JL, Li C, Hoorn AV, Boonzaier NR, Matys T, Price SJ. (2020, Jun). A Neural Network Approach to Identify the Peritumoral Invasive Areas in Glioblastoma Patients by Using MR Radiomics. Scientific Reports, 2020 Jun 16;10(1):9748.. (SCI, 17/71 Multidisciplinary Sciences).
2. Chien CY, Yan JL, Han ST, Chen JT, Huang TS, Chen YH, Wang CY, Lee YL, Chen KF (2019, Dec). Inferior Vena Cava Volume Is an Independent Predictor of Massive Transfusion in Patients With Trauma. JOURNAL OF INTENSIVE CARE MEDICINE, 2019 Dec 13;885066619894556. (Accepted). (SCI, 13/36 Critical Care Medicine).
3. Li C, Wang S, Serra A, Torheim T, Yan JL, Boonzaier NR, Huang Y, Matys T, McLean MA, Markowetz F, Price SJ. (2019, Sep). Multi-parametric and Multi-Regional Histogram Analysis of MRI: Modality Integration Reveals Imaging Phenotypes of Glioblastoma. EUROPEAN RADIOLOGY, 2019 Sep;29(9):4718-4729.. (SCI, 21/133 Radiology, Nuclear Medicine & Medical Imaging).
4. Deng WC, Yan JL, Chuang CC, Wei KC, Chang CN, Wu CT, Chen HC, Wang CC, Tseng CK, Hsu PW. (2019, Aug). Adjuvant Radiation Therapy Compared With Observation Alone for Postoperative Residual Nonfunctional Pituitary Adenomas. World Neurosurgery, 2019 Aug;128:e1024-e1033. (SCI, 114/210 Surgery).
5. Li C, Yan JL, Torheim T, McLean MA, Boonzaier NR, Zou J, Huang Y, Yuan J, van Dijken BRJ, Matys T, Markowetz F, Price SJ. (2019, May). Low Perfusion Compartments in Glioblastoma Quantified by Advanced Magnetic Resonance Imaging and Correlated With Patient Survival. RADIOTHERAPY AND ONCOLOGY, 2019 May;134:17-24. (SCI, 17/133 Radiology, Nuclear Medicine & Medical Imaging).
6. Yan JL, Li C, Boonzaier NR, Fountain DM, Larkin TJ, Matys T, van der Hoorn A, Price SJ (2019, May). Multimodal MRI Characteristics of the Glioblastoma Infiltration Beyond Contrast Enhancement. Therapeutic Advances in Neurological Disorders, 2019 May 14;12:1756286419844664.. (SCI, 28/204 Clinical Neurology).
7. Li C, Wang S, Yan JL, Torheim T, Boonzaier NR, Sinha R, Matys T, Markowetz F, Price SJ. (2019, Apr). Characterizing Tumor Invasiveness of Glioblastoma Using Multiparametric Magnetic Resonance Imaging. JOURNAL OF NEUROSURGERY, 2019 Apr 26:1-8.. (SCI, 27/210 Surgery).
8. van Dijken BRJ, Jan van Laar P, Li C, Yan JL, Boonzaier NR, Price SJ; FCRS, van der Hoorn A. (2018, Oct). Ventricle Contact Is Associated With Lower Survival and Increased

Peritumoral Perfusion in Glioblastoma. Journal of Neurosurgery, 2018 Oct 19;131(3):717-723. (SCI, 27/210 Surgery).

9. Chao Li, Shuo Wang, Jiun-Lin Yan, Rory J Piper, Hongxiang Liu, Turid Torheim, Hyunjin Kim, Jingjing Zou, Natalie R Boonzaier, Rohitashwa Sinha, Tomasz Matys, Florian Markowetz, Stephen J Price (2018, Sep). Intratumoral Heterogeneity of Glioblastoma Infiltration Revealed by Joint Histogram Analysis of Diffusion Tensor Imaging. Neurosurgery.
10. Matthew G Stovell, Marius O Mada, T Adrian Carpenter, Jiun-Lin Yan, Mathew R Guilfoyle, Ibrahim Jalloh, Karen E Welsh, Adel Helmy, Duncan J Howe, Peter Grice, Andrew Mason, Susan Giorgi-Coll, Clare N Gallagher, Michael P Murphy, David K Menon, Peter J Hutchinson, Keri LH Carpenter (2018, Sep). Phosphorus spectroscopy in acute TBI demonstrates metabolic changes that relate to outcome in the presence of normal structural MRI. The Journal of Cerebral Blood Flow & Metabolism.
11. Rory J Piper, Keerthi K Senthil, Jiun-Lin Yan, Stephen J Price (2018, Aug). Neuroimaging Classification of Progression Patterns in Glioblastoma: A Systematic Review. JOURNAL OF NEURO-ONCOLOGY, 2018 Aug;139(1):77-88. (SCI, 69/204 Clinical Neurology).
12. Matthew G. Stovell*, Marius O. Mada, Adel Helmy, T. Adrian Carpenter, Eric P. Thelin, Jiun-Lin Yan, Mathew R. Guilfoyle, Ibrahim Jalloh, Duncan J. Howe, Peter Grice, Andrew Mason, Susan Giorgi-Coll, Clare N. Gallagher, Michael P. Murphy, David K. Menon, Peter J. Hutchinson, Keri L. H. Carpenter (2018, Jul). The effect of succinate on brain NADH/NAD+ redox state and high energy phosphate metabolism in acute traumatic brain injury. Scientific Reports, 8(1):11140.
13. Bart R.J.van Dijken, Jiun-LinYan, Natalie R.Boonzaier, Chao Li, Peter Janvan Laar, Anoukvan der Hoorn, Stephen J.Price (2017, Sep). Subventricular Zone Involvement Characterized by Diffusion Tensor Imaging in Glioblastoma. World Neurosurgery, 105:697-701.
14. Matthew G. Stovell, Jiun-Lin Yan, Alison Sleigh, Marius O. Mada, T. Adrian Carpenter, Peter J. A. Hutchinson, and Keri L. H. Carpenter (2017, Sep). Assessing Metabolism and Injury in Acute Human Traumatic Brain Injury with Magnetic Resonance Spectroscopy: Current and Future Applications. Frontiers in Neurology, 2017; 8: 426.
15. Natalie R. Boonzaier, Timothy J. Larkin, Tomasz Matys, Anouk van der Hoorn, Jiun-Lin Yan, Stephen J. Price (2017, Jul). Multiparametric MR Imaging of Diffusion and Perfusion in Contrast-enhancing and Nonenhancing Components in Patients with Glioblastoma. Radiology, 284(1):180-190.
16. Stephen J. Price, Kieren Allinson, Hongxiang Liu, Natalie R. Boonzaier, Jiun-Lin Yan, ictoria C. Lupson, Timothy J. Larkin (2017, Apr). Less Invasive Phenotype Found in Isocitrate Dehydrogenase-mutated Glioblastomas than in Isocitrate Dehydrogenase Wild-Type Glioblastomas: A Diffusion-Tensor Imaging Study. Radiology, 2017 Apr;283(1):215-221. (SCI, 2/124; Radiologu, Nuclear medicine & Medical imaging).
17. Chi-Cheng Chuang, Shinn-Yn Lin, Ping-Ching Pai, Jiun-Lin Yan, Cheng-Hong Toh, Shih-Tseng Lee, Kuo-Chen Wei, Zhuo-Hao Liu, Chung-Ming Chen, Yu-Chi Wang, Cheng-Chi Lee (2017, Jan). Different Volumetric Measurement Methods for Pituitary Adenomas and Their Crucial Clinical Significance. Scientific Reports, 7: 40792..

18. Jiun-Lin Yan*, Anouk van der Hoorn, Timothy J. Larkin, Natalie R. Boonzaire, Tomasz Matys, Stephen J. Price. (2017, Jan). Extent of resection of peritumoural DTI abnormality as a predictor of survival in adult glioblastoma patients . Journal of Neurosurgery, 2017 Jan;126(1):234-241. (SCI, 22/200. Surgery).

19. Anouk van der Hoorn*, Jiun-Lin Yan, Timothy J. Larkin, Natalie R. Boonzaire, Tomasz Matys, Stephen J. Price. (2016, Aug). Posttreatment Apparent Diffusion Coefficient Changes in the Periresectional Area in Patients with Glioblastoma. World Neurosurgery, 92: 159-165. (SCI, 48/200, Surgery).

20. Anouk van der Hoorn, Jiun-Lin Yan*, Timothy J. Larkin, Natalie R. Boonzaire, Tomasz Matys, Stephen J. Price (2016, Jul). Validation of a semi-automatic co-registration of MRI scans in patients with brain tumors during treatment follow up. NMR in Biomedicine, 29(7):882-9. (SCI, 26/124, Radiology, Nuclear medicine & Medical imaging).

21. Jiun-Lin Yan, Jyi-Fen Chen, Shih-Tseng Lee, Chen-Nen Chang, Cheng-Chih Liao (2014, Aug). Surgical Outcomes of Cervios ChronOS Cage Implantation for Degenerative Cervical Intervertebral Disk Disorder. Neurosurgery Quarterly, 24(3): 161-166. (SCI, 195/199, Surgery).

22. Jiun-Lin Yan, Kou-Chen Wei (2013, Oct). Tubercular temporalis abscess with skull and dural invasion.. Surgical infections, 14(5):473-475. (SCI, 80/204, Surgery).

23. Jiun-Lin Yan, Chen-Nen, Chi-Cheng Chuang, Peng-Wei Hsu, Jen-Der Lin, Kuo-Chen Wei, Shi-Tseng Lee, Jen-Kan Tseng, Ping-Ching Pai, Yao-Liang Chen (2013, Jul). Long-term Follow-up of Patients with Surgical Intractable Acromegaly after Linear Accelerator Radiosurgery . Journal of the Formasan Medical Association , 112(7):416-420. (SCI, 46/155, Medicine, General & Internal).

24. Jiun-Lin Yan, Chi-Cheng Chuang (2011, Nov). Management of Large Sella Diaphragm Herniation During Transsphenoid Pituitary Adenectomy. Neurosurgery Quarterly , 21(4):277-279. (SCI, 194/198, Surgery).

25. Hsiu-Ling Tsai; Jiun-Lin Yan; Shang-Ming Wang; Sue-Joan Chang (2009, May). Neuroprotection against hyperhomocysteinemia-induced selective oxidative stress in brain regions of rats with folic acid or Dioscorea alata supplementation. Current Topics in Nutraceutical Research, 7(2):73-79. (SCI, 63/66, Nutrition & Dietetics).

26. Jiun-Lin Yan, Sue-Joan, Chang（2000 年 06 月 ）。Effect of Raw Versus Boiled Garlic, Onion and Ginger Extracts on Platelet Aggregation。台灣營養學會雜誌，25(2): 124-131。（TSSCI）。

Pre-surgical classification for strategic treatment of the pituitary tumor

腦下垂體腫瘤手術的術前策略性評估與分類

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Surgical treatment of the pituitary tumor had been widely explored, including endoscopic, microscopic, or transcranial approach. Among these, the endoscopic endo-nasal approach had marked development from mono-nostril, to bi-nostril, and extended endonasal skull base surgery. However, surgical planning for the pituitary surgery has not been systemically reviewed. Therefore, our study aim to develop a strategic pre-surgical classification system for the surgical planning.

We retrospective reviewed 150 endoscopic pituitary surgery. Several risk factor contributed to subtotal resection were found, included, tumor size > 3cm, paracavernous invasion with Knop grade>= 3, and previous RT or surgery. In addition, we found a worse biochemical remission on those received single surgeon mono-nostril approach. Therefore, we proposed a strategic pre-surgical planning system with tumor size (score 0-2, 0= microadenoma, 1 = 1-3cm, 2 = > 3 cm), cavernous sinus invasion (0= Knops <3, 1= Knops >=3), functional tumor (0= non-functional), and previous surgery/ radiation therapy (0= no previous treatment) for the planning of the surgical approach.

By using this new classification we found 11 out of 23 patients who had subtotal resection may be potentially reach a gross total resection by switching the method of surgical approach.

In conclusion, a thorough presurgical investigation is effective to achieve a better surgical outcome in endoscopic surgery.

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HYPOTHALAMIC PITUITARY GONADAL (HPG): PERSPECT FROM UROLOGY

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ABSTRACT

Prostate disease, hypogonadism and sexual disorder are 3 common urological conditions among adult male aged > 50 years. Testosterone plays an important key role in their pathogenesis. The secretion of testosterone is controlled and monitored via luteinizing hormone releasing hormone (LH-RH) and LH biofeedback pathway in hypothalamus-pituitary gland-testis axis. Testosterone is reduced by 5-alpha reductase (5-AR) into more potent 5 alpha-dihydrotestosterone (DHT), which acts as a potent stimulant for prostate growth and enlargement. Inhibition of 5-AR activity can be resulted in prostate tissue shrinkage and reduction of prostate size. Two 5-AR inhibitors, finasteride and dutasteride, are used to treat patients with moderate to severe benign prostatic hyperplasia with lower urinary tract symptoms (LUTS).

The beneficial finding of orchiectomy for prostate cancer patients by Dr. Charles Huggins in 1944 has led to the use periodic LH-RH analogue or antagonist injection therapy to achieve the castration level (testosterone < 50ng/dL) as standard prostate cancer treatment. LH-RH analogue or antagonist injection can also be used for patients with endometriosis, uterine myoma or precocious puberty in clinical practice.

Hypogonadotropic hypogonadism is another common hormonal disturbance from pituitary disease. A typical genetic cause of male infertility is Kallmann syndrome, which is also characterized by hypogonadism with delayed or absent puberty and an impaired sense of smell (anosmia) due to deficiency of gonadotropin-releasing hormone (GnRH) from hypothalamus. Acquired hypogonadotropic hypogonadism can be caused by drugs, infections, hyperprolactinemia, encephalic trauma, pituitary radiation or surgery, exhausting exercise and systemic inflammatory diseases such as hemochromatosis, sarcoidosis. Klinefelter syndrome (47, XXY) is another genetic cause of hypogonadism characterized by small, firm testis, gynecomastia, azoospermia and hypergonadotropic hypogonadism. Patients are usually diagnosed with loss of secondary male characteristics after puberty or due to

male infertility. Besides infertility, loss of libido, reduced ejaculate and erectile dysfunction are common among men with hypogonadotropic hypogonadism. Testosterone replacement therapy can improve sexual desire, increase semen amount and improved erectile function and health-related quality of life. But the chance of fertility restoration depends on the response to human chorionic gonadotropin hormone (hCG) or clomiphene, and the spermatogenesis reserve within testes.

Besides hypogonadism, human sexual dysfunction may be attributed to disturbance of prolactin, estrogen, thyroid hormones production. Hyperprolactinemia in men may resulted in gynecomastia, loss of libido, erection dysfunction, ejaculation disorders or anorgasm. Hyperthyroidism had also been linked to hypoactive sexual desire, erectile dysfunction and premature ejaculation. In the contrast, patients with hypothyroidism are also prone to have hypoactive sexual desire, retarded ejaculation and erectile dysfunction. These thyroid hormone-related sexual dysfunctions can be ameliorated after treatment to euthyroid status.

Andropause or late-onset hypogonadism (LOH) is a low testosterone level. syndrome in aged men associated with a reduced libido, erectile dysfunction, reduced ejaculatory power and sexual satisfaction, and a decline in a feeling of well- being such as malaise, fatigue, emotional irritability, insomnia…etc. Testosterone replacement therapy (TRT) can partially restore these constitutional and sexual dysfunction symptoms, but these symptoms may also be resulted from underlying comorbidities and individual physical conditions. TRT is contraindicated in patients with polycythemia (hematocrit> 54%), untreated prostate cancer or breast cancer, and should be relative contraindicated in patients with uncontrolled heart failure, severe benign prostatic hyperplasia (BPH) with LUTS, desire for fertility or suspected prostatic lesions. The management of symptomatic hypogonadism patients should be individualized, and multi-modalities depended on patients' conditions and expectations.

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Somatotroph adenomas: histological subtypes and predicted response to treatment

Pituitary adenomas are now described as pituitary neuroendocrine tumors (PitNets) . A large proportion, approximately 22–54%, is clinically defined as nonfunctioning pituitary adenomas and will present with signs and symptoms of mass effect, rather than excessive hormone secretion.

Somatotropic tumors are growth hormone (GH) producing tumors. These account for approximately 20% of surgically treated pituitary tumors and more than 95% of cases of acromegaly.

Growth hormone excess can be due to pure somatotroph adenomas and these can be densely granulated (DGSA) or sparsely granulated (SGSA). DGSA are present in 30–50% of acromegaly cases. The cells are eosinophilic and are strongly as well as diffusely positive for GH and α-subunits. DGSA is usually present in older patients and are slow-growing lesions. Patients have typical features of acromegaly and high levels of GH and IGF-1 and imaging demonstrates characteristic bone changes of acromegaly and is associated with low intensity tumors on T2-weighted MRI scans. The disease shows an excellent response to somatostatin analogs (SSAs).

SGSA accounts for 15–35% of patients with acromegaly. The cells are lightly eosinophilic or chromophobic. The tumors identified usually demonstrate focal or weak GH expression and no α-subunit expression. SGSAs have characteristic fibrous bodies. A variant of somatotroph tumors may have occasional fibrous bodies. This is classified as an intermediate type but behaves like a DGSA.

The various histopathological tumors resulting in acromegaly provide an explanation for the different clinical, biochemical and radiological characteristics of these patients and may provide valuable information to both researchers and clinicians as to why there is such varied response rate to different therapeutic approaches.

The classification of the granular pattern on histological subtypes has clinical relevance because it can be used as a predictor of somatoroph adenoma response to medical therapies.

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Challenges in Prolactinomas Management

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Clinically relevant pituitary adenomas, prolactinomas are by far the most common clinical subtype. Usually prolactinomas affect premenopausal women and present with typical symptoms of menstrual disturbance and/or galactorrhea. They are generally managed with dopamine agonists to restore fertility and to control symptoms and tumor size. In a subset of prolactinomas, however, management remains challenging. Studies in recent years have identified the factors related to dopamine agonist resistance, such as male sex, genetic features, and aggressive tumor behavior. Certain other patient groups represent particular challenges for management, such as pediatric patients and pregnant women.

Given the effectiveness and tolerance of the DA, this pharmacologic group, mainly Cabergoline, also constitutes the initial therapy of choice in children and adolescents with macroprolactinomas. These drugs achieve the normoprolactinemia, the restoration of the gonadotropic axis function and the reduction in the tumor size in the majority of patients.

Treatment with dopamine agonists is usually safe and effective, and adverse effects such as clinically relevant cardiac valvular complications and impulse control disorders may occur in isolated instances. A number of important disease characteristics of prolactinomas remain to be explained, such as the difference in sex prevalence before and after menopause, the higher prevalence of macroadenomas in older males, and the biochemical mechanisms of resistance to dopaminergic agonists.

Surgical treatment of macroprolactinoma is currently considered as second-line therapy after medical treatment with DA. The main surgical treatment indications include resistance, intolerance or lack of adherence to medical treatment, cerebrospinal fistulas secondary to a reduction of tumor size after therapy with DA, neuro-ophthalmologic defects such as rapid loss of vision or cranial pars paralysis due to intratumoral hemorrhage or pituitary apoplexy.

Today the use of external radiotherapy should be reserved for cases of resistance to medical treatment and poor response to surgery and to malignant tumors. Although the addition of radiotherapy to medical treatment and surgery helps to control the tumor size, hyperprolactinemia often persists. The maximum therapeutic effect of radiotherapy requires long time, sometimes 10–20 years. Due to the

stimulating effect of placental estrogens on the lactotrope cells, macroprolactinomas can grow during pregnancy and therefore be accompanied by local complications (headache and/or visual disturbances). The possibility of growth of macroprolactinoma during pregnancy varies according to whether patients have been or not previously treated with surgery and/or radiotherapy. In the case of symptomatic growth of the macroprolactinoma, one can choose changing treatment from Bromocriptine to Carbergoline and, in the absence of response, consider transesphenoidal surgery in the second trimester of pregnancy.

Keyword: Cabergoline Prolactinoma Transsphenoidal

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WHO 2017 Classification of Pituitary Adenomas

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WHO Classification of Tumours of Endocrine Organs, 4th ed., 2017

1. Classification based on cell lineage
2. "Atypical adenoma"
3. Identify tumors with aggressive potential
4. Null cell adenoma
5. Plurihormonal adenoma
6. Pituitary carcinoma
7. Treatment & predictive factors

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Classification based on cell lineage -- Immunohistochemistry (IHC)

- pituitary specific hormones
  - first line of investigation
  - GH, PRL, TSH-beta, ACTH, FSH-beta, LH-beta, & alpha subunit
- pituitary specific transcription factors
  - PIT1, SF1, and TPIT
  - may be useful for further classification
  - validity still under investigation

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Adenohypophysial cell lineage and transcription factors

- Pituitary transcription factor (PIT1)
  - differentiation of somatotroph, lactototroph, mammosomatotroph, thyrotroph
- Steroidogenic factor 1 (SF1)
  - differentiation of gonadotroph cells
- T-box pituitary transcription factor, TBX19 (TPIT)
  - transcription of proopiomelanocortin (POMC) -- precursor polypeptide to adrenocorticotrophic hormone (ACTH)

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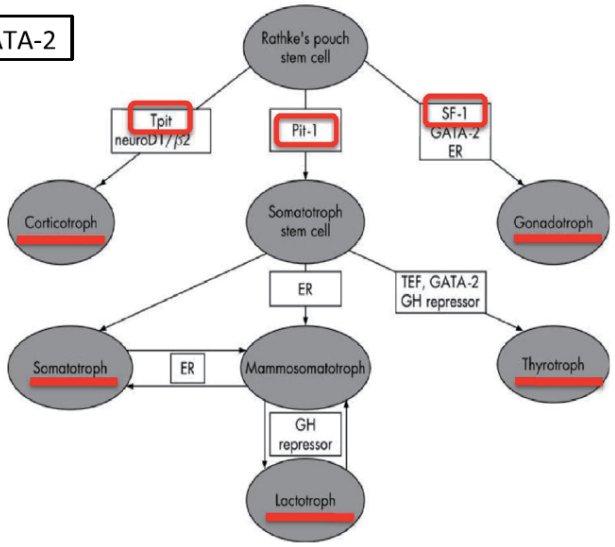
Adenohypophysial cell lineage and transcription factors

Corticotroph: Tpit, neuroD1

Gonadotroph: SF-1, ER, GATA-2

Somatotroph, Lactotroph, Thyrotroph : Pit-1



Nishioka H, et al., Brain Tumor Pathology 2018; 35:57-61.

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"Atypical adenoma"

- introduced in 2004 classification
- removed
- failed to identify aggressive tumors

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Identify tumors w/ aggressive potential

- proliferative potential
  - Ki-67/MIB-1 labeling index (>3%)
- clinical parameters, e.g. tumor invasion
- histological subtypes
  - sparsely granulated somatotroph adenoma
  - lactotroph adenoma in men
  - Crooke's cell adenoma
  - silent corticotroph adenoma
  - plurihormonal PIT1 positive adenoma

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MIB-1 labeling index correlated with magnetic resonance imaging detected tumor volume doubling time in pituitary adenoma

Chih-Yi Hsu[1,3], Wan-Yuo Guo[2,4], Chen-Ping Chien[2] and Donald Ming-Tak Ho[1,3]

Departments of [1]Pathology and Laboratory Medicine and [2]Radiology, Taipei Veterans General Hospital, 201 Shih-Pai Road, Section 2, Taipei 11217, Taiwan, ROC and Departments of [3]Pathology and [4]Radiology, National Yang-Ming University School of Medicine, Taipei 11221, Taiwan, ROC

European Journal of Endocrinology 2010; 162:1027-1033

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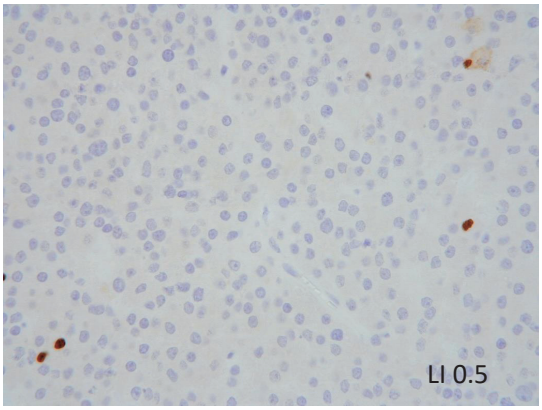
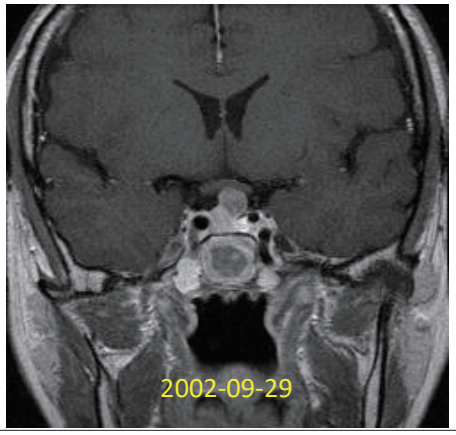
46/F

Gonadotroph adenoma

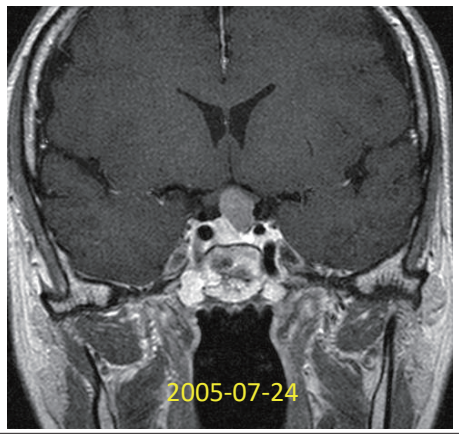
MIB-1 LI: 0.5

TVDT: 1044 days (2.87 yr)





34.2 mo.



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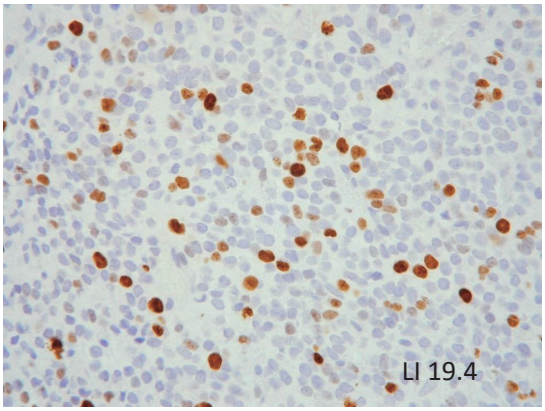
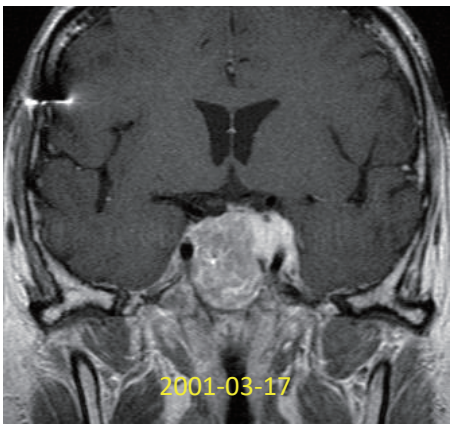
42/F

Null cell adenoma

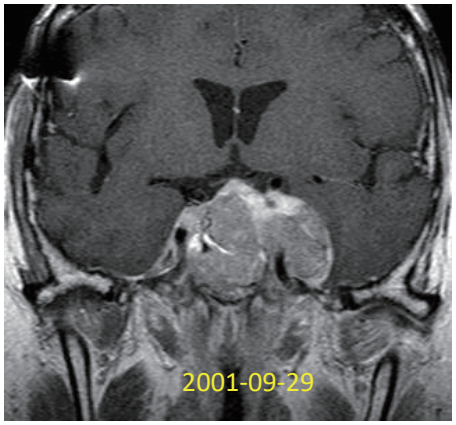
MIB-1 LI: 19.4

TVDT: 154 days (5.1 mo)





6.4 mo.



Null cell adenoma

- no cell-type differentiation
- hormones & transcription factors: (-)ve
- most data discussed refer to previous definition as a hormone-immunonegative adenoma
- data on null cell adenoma as it is currently defined are limited

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Other IHC stains

- cytokeratin [low-molecular weight, CK7/8 (CAM5.2) or CK18
  - SGSA: fibrous bodies, dot-like or globular
  - corticotrophs: Crooke hyaline, ring-like
- synaptophysin & chromogranin A
- Ki-67/MIB-1: proliferative index (>3%)
- p53: for predicting behavior still controversial
- somatostatin receptors SSTR2-5
  - can be tested in somatotroph, corticotroph, & thyrotroph adenomas

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Plurihormonal adenoma

- adenohypophyseal tumors that produce more than one hormone
- can be monomorphous, consisting of a single cell type producing two (or rarely more) hormones, or
- plurimorphous, consisting of two or more different cell lineages
- not considered plurihormonal adenomas
  - synchronous GH and PRL
  - synchronous β-follicle-stimulating hormone (β-FSH) and β-luteinizing hormone (β-LH)

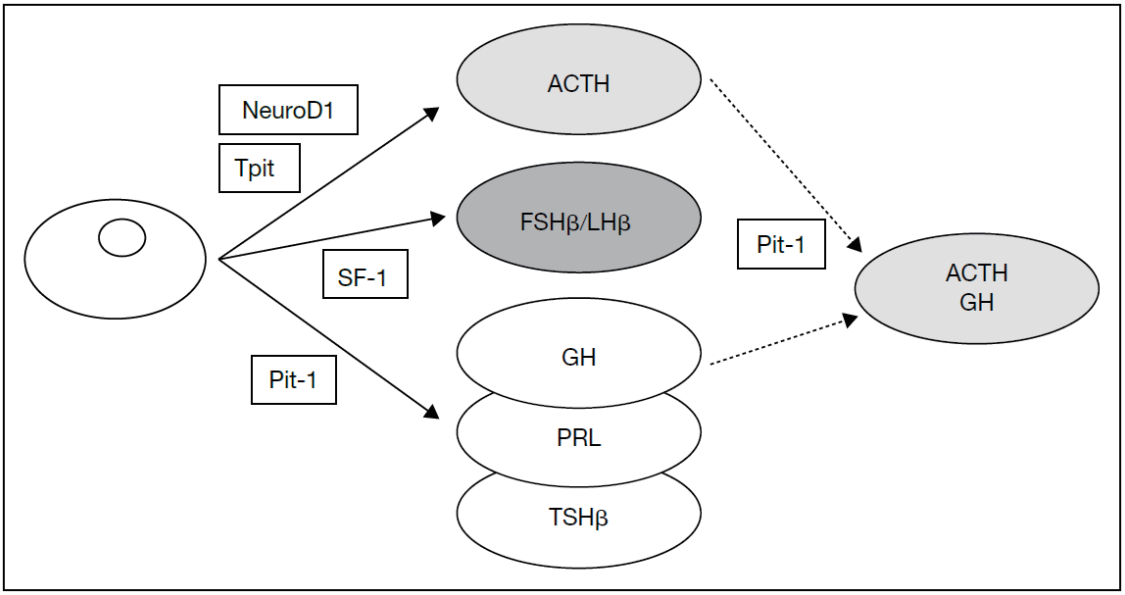
WHO Classification of Tumors of Endocrine Organs, 4th ed., 2017, p.39 DH 2021-01-09

Plurihormonal adenoma

- plurihormonal PIT1-positive adenoma is estimated to account for 0.9% of all adenomas
- other plurihormonal adenomas with unusual combinations are also rare

WHO Classification of Tumors of Endocrine Organs, 4th ed., 2017, p.39 DH 2021-01-09

Human pituitary adenomas with "Trans-Cell Lineage" differentiation, GH and ACTH



Osamura RY, et al., Molecular Pathology of the Pituitary, Kontogeorgos G, Kovacs K (eds), 2004, vol 32, pp20-33. DH 2021-01-09

Table 2. Immunohistochemical subtypes of 167 plurihormonal adenomas, their immunostaining patterns, incidence, and related clinical symptoms

Immunohistochemical subtype		*n*	%	Hormonal symptoms							
				One symptom					Two symptoms		
				acm	a/g	i/d	cuh	het	acm + a/g	acm + i/d	NS
1	GP_ _ _ _	24	14.4	13	5	2	0	0	3	0	12
2	GPA_ _ _	4	2.4	1	0	0	1	0	2	0	0
3	GPA_T_	3	1.8	3	0	0	0	0	0	0	1
4	GPAF_ _	1	0.6	1	0	0	0	0	0	0	0
5	GPAF_α	4	2.4	3	0	0	0	0	0	0	2
6	GPAFTα	11	6.6	8	0	0	0	1	0	0	6
7	GP_F_ _	1	0.6	1	0	0	0	0	0	0	1
8	GP_F_α	13	7.8	10	1	0	0	0	0	1	7
9	GP_FTα	18	10.8	14	0	0	0	0	2	0	7
10	GP_ _T_	2	1.2	0	1	0	0	0	1	0	1
11	GP_ _Tα	4	2.4	2	0	0	0	1	0	0	4
12	G_AFTα	3	1.8	2	0	0	0	0	0	0	2
13	G_ _FT_	2	1.2	1	0	0	0	0	0	0	1
14	G_ _FTα	10	6.0	6	1	0	0	1	0	1	3
15	G_ _F_α	8	4.8	6	0	0	0	0	1	0	3

Ho et al., *Histopathology* 2001, 39, 310-319 DH 2021-01-09

Table 2. *(Continued)*

Immunohistochemical subtype		*n*	%	Hormonal symptoms: One symptom acm	a/g	i/d	cuh	het	Two symptoms: acm + a/g	acm + i/d	NS
16	G_ _ _T_	2	1.2	1	1	0	0	0	0	0	1
17	_PA_ _ _	3	1.8	0	1	0	0	0	0	0	2
18	_PAFT_	1	0.6	0	0	0	0	0	0	0	1
19	_P_F_ _	3	1.8	0	3	0	0	0	0	0	1
20	_P_F_α	7	4.2	0	5	0	0	0	0	0	4
21	_P_FTα	5	3.0	0	0	1	0	0	0	0	5
22	_P_ _Tα	3	1.8	0	1	0	0	0	0	0	3
23	_P_ _ _α	1	0.6	0	1	0	0	0	0	0	0
24	_ _AF_ _	1	0.6	0	0	0	0	0	0	0	1
25	_ _AF_α	4	2.4	0	0	0	0	0	0	0	4
26	_ _AFTα	7	4.2	0	0	0	4	0	0	0	5
27	_ _A_T_	2	1.2	0	0	0	0	0	0	0	2
28	_ _A_Tα	1	0.6	0	0	0	1	0	0	0	0
29	_ _ _FT_	7	4.2	0	1	0	0	0	0	0	7
30	_ _ _FTα	12	7.2	0	1	0	0	0	0	0	12
Total		167	100	72	22	3	6	3	9	2	98

Ho et al., *Histopathology* 2001, 39, 310-319 DH 2021-01-09

Pituitary Adenomas
(1035 surgical cases, *TPE-VGH*)

Mammotroph (PRL) adenoma	180	*(17.4)*
Sommatotroph (GH) adenoma	37	*(3.6)*
Corticotroph adenoma	70	*(6.8)*
Gonadotroph adenoma	374	*(36.1)*
Thyrotroph adenoma	1	*(0.1)*
Plurihormonal adenoma	288	*(27.8)*
Null cell adenoma	71	*(6.9)*
Unclassified	14	*(1.4)*

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Pituitary carcinoma

- craniospinal or systemic metastasis
- independent of histological appearance
- most pituitary carcinomas -- hormonally active
  - lactotroph adenomas with hyperprolactinemia - most common
  - corticotroph adenomas with Cushing disease – second common

WHO Classification of Tumors of Endocrine Organs, 4th ed., 2017, p.41 DH 2021-01-09

Treatment & predictive factors

- Goal
  - reduction of tumor volume
  - against excessive hormone production in functioning adenomas
- Tumors localized to sella or only mildly invasive
  - surgery
    - exception: lactotroph adenoma – dopamine agonist
- Invasive or aggressive adenomas
  - pharmacotherapies
  - various modalities of radiotherapy

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Treatment & predictive factors

- Surgery
  - mainstream option
  - endoscopic approach – first choice
  - indication
    - functioning tumors with acromegaly, Cushing disease, & thyrotroph adenoma
    - mass effect
    - ineffective prior treatment, e.g., pharmacotherapy
- Radiation therapy
  - LINAC radiotherapy, stereotactic radiotherapy or radio surgery
  - for residual or recurrent adenomas

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Pharmacotherapy (1/2)

- Dopamine agonists
  - e.g, bromocriptine & carbergoline
  - lactotroph adenomas: first choice
    - suppression of hormone secretion
    - decreasing tumor size
- Somatostatin analogues
  - octreotide & lanreotide
    - somatotroph & thyrotroph adenomas
    - expression of SSTR2 on cell membrane -- essential

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Pharmacotherapy (2/2)

- Somatostatin analogues (cont.)
  - pasireotide
    - has been used for corticotroph adenomas that express SSTR5
- Temozolomide
  - aggressive adenoma & carcinoma
  - may or may not correlate with decreased MGMT expression

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Thank you for your kind attention!!

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Employment Record

2003-2006	高雄長庚醫院內科部住院醫師
2006-2008	高雄長庚醫院新陳代謝科訓練員
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Society

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- 中華民國糖尿病學會會員 , 專科醫師
- 中華民國糖尿病衛教學會會員
- 台灣腦下垂體學會員
- 台灣腫瘤消融醫學會會員

Publications

1. Shen FC, Chen CY, Su SC, Liu RT*. The Prevalence and Risk Factors of Diabetic Nephropathy in Taiwanese Type 2 Diabetes-A Hospital-Based Study. Acta Nephrologica 2009; 23: 90-95
2. Chung NS, Lee JJ, Lee CT, Shen FC, Kuo HK, Huang ST, Chiou TY, Sun CK, Yang KD, Liu RT*. Prevalence and Risk Factors of Taiwanese Microalbuminuric Type 2 Diabetic Mellitus with and without Diabetic Retinopathy. Acta Nephrologica 2011; 25: 43-49.
3. Shen FC, Lee CT, Sun CK, Chung MS, Lee JJ, Chang HW, Hsieh CJ, Yang KD, Liu RT*. Prevalence of haematuria positively associated with urine albumin excretion in Type 2 diabetes. Diabet Med. 2012 Sep; 29(9):1178-1183
4. Tsai CJ, Hsieh CJ, Tung SC, Kuo MC, and Shen FC. Acute Blood Glucose Fluctuations Can Decrease Blood Glutathione and Adiponectin Levels in Patients with Type 2 Diabetes. Diabetes Res Clin Pract. 2012 Nov; 98 (2):257-63
5. Shen FC and Hsieh CJ. Severity of hearing impairment is positively associated with urine albumin excretion rate in patients with Type 2 diabetes. J Diabetes Investig. 2014 Nov;

5(6): 743-7.

6. Hsieh CJ and Shen FC. The durability of sitagliptin in elderly patients with type 2 diabetes. Clin Interv Aging. 2014 Nov 7; 9: 1905-11.
7. Tseng PT, Wang HY, Cheng YS, Shen FC, Lin PY, Wu CK. The metabolic syndrome and risk of coronary artery disease in patients with chronic schizophrenia or schizoaffective disorder in a chronic mental institute. Kaohsiung J Med Sci. 2014 Nov; 30(11): 579-86.
8. Tsai TC, Lee CH, Cheng BC, Kung CT, Chen FC, Shen FC, Lee CJ, Chen YC. Body mass index-mortality relationship in severe hypoglycemic patients with type 2 diabetes. Am J Med Sci. 2015 Mar; 349(3): 192-8.
9. Shen FC, Hsieh CJ, Huang IC, Chang YS, Wang PW. Dynamic risk estimates of outcome in Chinese patients with well-differentiated thyroid cancer after total thyroidectomy and radioactive iodine remnant ablation. Thyroid. 2017 Apr;27(4):531-536
10. Lin HY, Weng SW, Chang YH, Su YJ, Chang CM, Tsai CJ, Shen FC, Chuang JH, Lin TK, Liou CW, Lin CY, Wang PW. The Causal Role of Mitochondrial Dynamics in Regulating Insulin Resistance in Diabetes: Link through Mitochondrial Reactive Oxygen Species. Oxid Med Cell Longev. 2018 Sep 30; 2018:7514383.
11. Shen FC, Weng SW, Tsao CF, Lin HY, Chang CS, Lin CY, Lian WS, Chuang JH, Lin TK, Liou CW, Wang PW. Early intervention of N-acetylcysteine better improves insulin resistance in diet-induced obesity mice. Free Radic Res. 2018 Dec;52(11-12):1296-1310.
12. Chen SM, Shen FC, Chen JF, Chang WD, Chang NJ. Effects of Resistance Exercise on Glycated Hemoglobin and Functional Performance in Older Patients With Comorbid Diabetes Mellitus and Knee Osteoarthritis: A Randomized Trial. Int J Environ Res Public Health. 2019 Dec 27;17(1):224. doi: 10.3390/ijerph17010224.
13. Chen YN, Wang PW, Tung SC, Kuo MC, Weng SW, Chou CK, Chang CM, Tsa CJ, Taso CF, Shen FC, Chen JF. Association Between Pro12Ala Polymorphism and Albuminuria in Type 2 Diabetic Nephropathy. J Diabetes Investig. 2020 Jan 7. doi: 10.1111/jdi.13208.
14. Lin HY, Weng SW, Shen FC, Chang YH, Lian WS, Hsieh CH, Chuang JH, Lin TK, Liou CW, Chang CS, Lin CY, Su YJ, Wang PW. Abrogation of Toll-Like Receptor 4 Mitigates Obesity-Induced Oxidative Stress, Proinflammation, and Insulin Resistance Through Metabolic Reprogramming of Mitochondria in Adipose Tissue. Antioxid Redox Signal. 2020 Feb 18. doi: 10.1089/ars.2019.7737.
15. Yang YT, Chen JF, Tung SC, Kuo MC, Weng SW, Chou CK, Shen FC, Chang CM, Tsai CJ, Taso CF, Wang PW. Long-term Outcome and Prognostic Factors of Single-Dose Radioiodine Therapy in Patients With Graves' Disease. J Formos Med Assoc. 2020 May;119(5):925-932. doi: 10.1016/j.jfma.2020.01.014.

Clinical Experience and Strategies of Acromegaly Treatment: Present and Future

This talk will review several clinical cases of acromegalic patients including their diagnosis, treatment and outcome alongside with literature review. The worldwide prevalence of acromegaly ranges from 2.8 to 13.7 per 100,000 in different reports, and the median age at diagnosis is around 41 to 47 years old. The median duration of symptoms until diagnosis is around 5 years. A registry of acromegalic patients in Taiwan has been published showing that 70.3% of the patients are with macroadenoma, and that there was a time lag of 6.9 +/- 8.1 years between the onset of symptoms and the diagnosis. Defined by the criteria that random GH level been suppressed to below 2 mg/L, the clinical remission rate of acromegaly patients at enrollment to this registry, the visit 2, and the final visit was 59.5%, 61.0%, and 63.8%, respectively. The remission rate defined by IGF-1 normalization at baseline visit, the visit 2, and the final visit was 35.4%, 39.9%, and 42.2%, respectively. The first clinical case received trans-sphenoidal adenectomy, with postoperative IGF-1 level at 90 ng/ml and GH level at 0.9 mg/ml. MRI at 3 months after surgery showed no evidence of recurrence. The second clinical case had GH level at 6.05 mg/ml after surgery and received somatostatin analogs (SSAs) subsequently. Withdrawal of SSA has led to a drastic increase in GH and IGF-1 levels in this patient. In an article published by Vilar et al., 80% of total SSA withdrawal patients relapsed biochemically within 9 months. The third clinical case presented with macroadenoma which was inoperable. The patient started octreotide LAR 20 mg every 4 weeks as initial treatment with a decrease in IGF-1 level, however with a relapse after one year. The treatment was then switched to octreotide LAR 20 mg every 3 weeks and further to lanreotide autogel 120 mg every 4 weeks. We will also review the published data of LEAD and PRIMARY studies which demonstrated the efficacy of lanreotide 120 mg every 6 to 8 weeks postoperatively, or lanreotide 120 mg every 4 weeks as a frontline therapy. Through reviewing both the literature data and clinical cases, we hope to identify the optimal treatment algorithm for individualized acromegalic patients.

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- 內分泌學會祕書長 (2001-2007)

教職

- 長庚大學醫學系助理教授

Optimizing Medical Treatment of Acromegaly

張宏猷

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經蝶竇腦下垂體腺瘤切除術通常是肢端肥大症的第一線治療。成功的手術可立即降低生長激素 (GH) 值。治療的首要目標是先實現生化控制，定義為 GH 值降至 1μg/L 以下和 IGF-1 值達到不同年齡層的正常範圍，減少或消除腫瘤塊，從而降低死亡率及合併症的風險。但是，並非所有患者在手術後和肢端肥大症後都能緩解。因此後續輔助治療常是必須的。

第一代 SSA，octreotide 和 lanreotide，一直是藥物治療的第一線及主軸。抑制 GH 的分泌與腺瘤細胞的 SST2 受器 (SSTR2) 的表現最為相關。目前並不建議為改善術後的生化控制而在手術前常規使用藥物治療。但建議對於重度咽部粗厚，睡眠呼吸暫止或高輸出心衰竭的患者，可於術前用 SSA 進行治療以減少手術嚴重合併症發生的風險。第一代 SSA 治療肢端肥大症，包括曾手術或放射治療及未曾接受任何治療的患者，以 GH 值降至 2.5μg/L 以下且 IGF-1 值達到正常範圍為標準，可達到 25–45% 的生化控制。在統合分析各研究報告中 SSA 對各生化指標緩解率的評估，GH 的總體療效緩解率為 56%，IGF-1 值正常化緩解率為 55%。研究顯示，對標準劑量 SSA 治療有反應但未達標的患者轉至更高劑量的 Octreitide LAR（每 28 天 60mg）以及更高劑量（每 28 天 180mg）或更頻繁劑量的長效劑型 Lanreotide（每 21 天 120mg）可改善病人生化控制率不足。

Pasireotide 是獲准用於治療無法通過手術治癒或無法選擇手術治癒的肢端肥大症的第二代 SRL。Pasireotide 的長效劑型在台灣也取得肢端肥大症的適應症，Pasireoitide 與第一代 -SRL 一樣，通過與 SST 受體結合而起作用，包括 SSTR1，SSTR2，SSTR3 和 SSTR5，但具有不同的親和力。具體來說，它具有更高的對 SSTR2 和 SSTR5 的親和力。人體研究也發現由第一代 -SRL 無法控制的病患，其腫瘤 SSTR5 表現是患者對 pasireotide 的治療反應的生物標記。在一項直接比較 pasireotide LAR 及 octreotide LAR 的臨床試驗，共有 358 位未接受過藥物治療的肢端肥大症患者，接受為期 12 個月 pasireotide LAR 40-60mg/28d 或 octreotide LAR 20-30mg/28d 治療。以 GH <2.5 μg/L 且 IGF-1 正常而言，pasireotide LAR 優於 octreotide LAR(31.3% vs 19.2%)。另一項研究共 130 位對第一代 SRL 有抗藥性的患者隨機分配給 Pasireotide LAR 40mg/28d 或 60mg/28d 治療 24 週後，分別有 15%和 20%的患者達到完全的生化控制，明顯優於繼續使用第一代 SRL 的患者。一般建議將 pasireotide LAR 作為二線治療用藥。

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王海军，男，出生于 1964 年，获“中山大学名医”称号。1986 年毕业于安徽医科大学。1989-1992 年攻读中山医科大学硕士学位，毕业后留校在中山医科大学附属第一医院神经外科工作。2004 被聘为教授职称，2006 年聘为博士生导师。现任中山大学附属第一医院神经外科主任、垂体瘤诊治中心主任、广东省医学重点实验—垂体肿瘤研究实验室主任。担任中国垂体腺瘤协作组第三届专家委员会组长，参与编写垂体腺瘤诊治指南和专家共识 8 部；担任中国医师协会神经外科分会常务委员、广东省医学会神经外科学分会主任委员、广东省医师协会神经外科医师分会名誉主任委员、中华医学会神经外科分会委员等职。现任《中华神经外科杂志》、《中华显微外科杂志》、《中华神经医学杂志》、《中国微侵袭神经外科杂志》、《中国神经精神疾病杂志》、《中山大学学报（医学版)》、《国际神经病学神经外科学杂志》等 8 家杂志编委。精通神经外科疾病的治疗，主攻垂体肿瘤等鞍区肿瘤发病机制、生物学特点及治疗研究，对鞍区病变的手术治疗有很深造诣，有关“垂体肿瘤的临床和基础研究”获教育部提名国家科技进步二等奖。主持包括国家自然科学基金 2 项、广东省科技计划 - 国际科技合作领域 1 项、广东省自然科学基金 1 项、广东省科技计划产学研结合项目 1 项、教育部高等学校博士点专项科研基金 1 项。 以第一作者及通信作者在 Small，J Clin Endocrinol Metab，Clinical Nuclear Medicine 等 SCI 收录期刊和国内核心期刊发表论著 70 余篇。 培养硕士研究生 18 名，博士研究生 16 名。

2020 版肢大指南摘要

肢端肥大症是起病隐匿的慢性进展性内分泌疾病，超过 95% 的肢大患者是由分泌 GH 的垂体腺瘤所致，而我国肢大临床流行病学数据不详。中国垂体腺瘤协作组牵头编写了《中国肢端肥大症诊治指南（2020 版）》。本指南结合国内外垂体腺瘤研究进展、肢大诊治的循证证据和我国国情，制定了肢端肥大症诊断、治疗和随诊的规范流程。

在新版指南中，我们强调了多学科合作（MDT）诊疗模式及垂体瘤卓越诊疗中心（PTCOE）的功能价值;同时，我们修订了诊断界值和治疗后生化缓解标准，强调早筛查，早诊断，早治疗;此外，指南提出了遗传学检测在肢大患者中的临床应用。在疾病治疗过程中，突出手术治疗、药物治疗、放射治疗的相互结合与支持；同时，该指南规范了长效生长抑素受体配体（SRLs）的治疗，明确现代精确放疗技术和放射外科治疗的地位，并强调了肢大患者规范全面的长期随访。对于特殊类型肢大患者如难治性垂体 GH 腺瘤、垂体 GH 腺癌、肢大合并妊娠的诊治原则进行了明确。

总的来说，肢端肥大症作为一种复杂的内分泌代谢疾病，需要神经外科、内分泌科、放疗科、放射影像科、眼科、病理科和妇产科等多学科共同参与，从而制定高效规范的诊疗及随访策略。

朱惠娟

北京協和醫院
內分泌新陳代謝科
shengxin2004@163.com

朱惠娟，主任医师，教授，博士生导师。1995 年起北京协和医院内分泌科工作至今，主要从事下丘脑 - 垂体疾病、儿童生长发育相关的临床和基础研究。作为项目负责人主持国家自然科学基金等科研项目。研究成果发表在 JCEM， Journal of Endocrinology，Gene 等期刊。现任《中华内分泌代谢杂志》等期刊编委。现任中国垂体瘤协作组委员兼秘书，中国医师协会内分泌代谢医师分会青委会副主任委员、中国医师协会青春期医学专业委员会副主任委员、北京医师协会内分泌代谢学专业委员会副会长。

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很常見的不良反應(發生率>10%)	鼻咽炎、嗜睡及頭痛
常見不良反應(發生率介於1%至10%)	無力感/倦怠、焦慮、易怒等

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英文產品名稱	Keppra film-coated Tablet 500mg	劑量與投藥方式	**單獨治療：** 成人及十六歲以上的青少年 使用建議以每天兩次，每次250mg開始，兩星期後增加劑量到每天兩次，每次500mg達起始治療劑量。視病人的臨床反應，劑量可再調高，以每兩星期增量500mg為一階段進行。最高劑量為每日3000mg(分兩次，每次1500mg) **輔助治療：** 成人(十八歲以上)及體重五十公斤以上的青少年(十二至十七歲) 初始劑量為每日1000mg(每日兩次，每次500mg)。此劑量可始於治療的第一天。視病人的臨床反應及耐受性，每日劑量可增加到最高每日3000mg。 孩童(四至十一歲)及體重五十公斤以下的青少年(十二至十七歲) 初始劑量為每天兩次，每次10mg/kg。視病人的臨床反應及耐受性，劑量可增加到最高每次30mg/kg，每日兩次。 腎功能障礙患者 請依腎功能障礙患者之Creatinine Clearance做劑量調整。
中文產品名稱	優閒膜衣錠500mg		
活性成份學名	Levetiracetam		
適應症或用途	● 4 歲以上孩童或成人病患之局部癲癇發作(併有或不併有次發性全身發作）。 ● 12 歲以上青少年與成人病患之肌抽躍性癲癇發作。 ● 16 歲以上青少年與成人患有體質性泛發性癲癇的原發性泛發性強直陣攣發作之輔助治療。 ● 16 歲以上病患之局部癲癇發作(併有或不併有次發性全身發作)之單獨治療。		
禁忌症、注意事項與副作用	對主成分過敏或對其他pyrrolidone衍生物或本藥其他賦形劑敏感者，請勿使用本藥。最常通報的不良反應為鼻咽炎、睏倦、頭痛、疲勞與暈眩。		
不良事件通報程序	若有不良事件可通報至葛蘭素史克藥廠； 通報電話：(02)-2312-6836 通報網址：oax40892@gsk.com； 公司地址：100台北市忠孝西路一段66號24樓	聲明	詳細處方資訊備索

使用前請詳閱說明書警語及注意事項　本藥限由醫師處方使用　北市衛藥廣字號第 109100020 號

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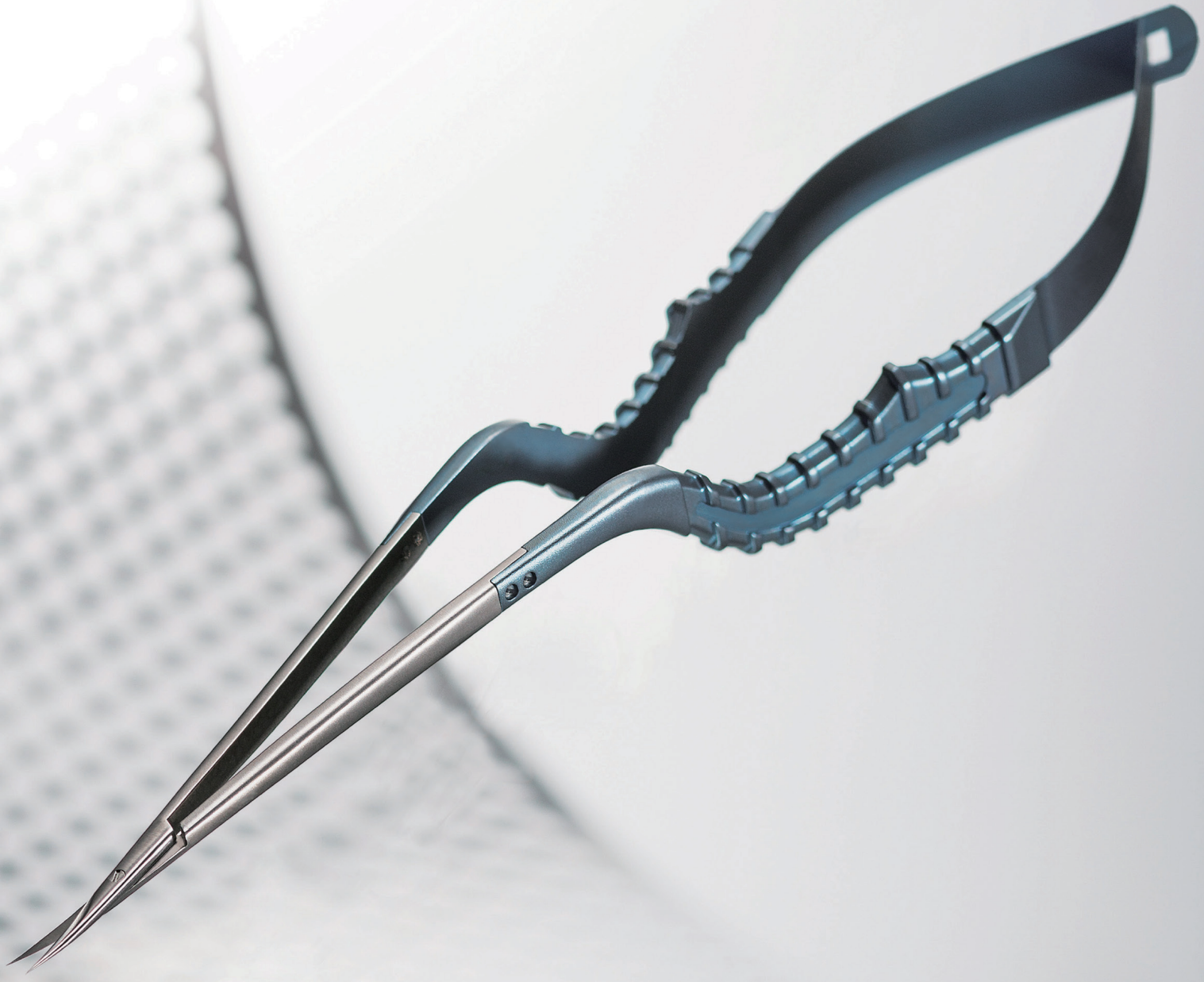

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參、台灣腦下垂體學會第二屆第一次會員大會議程

一、主席致詞

二、台灣腦下垂體學會第一屆職員名單

三、台灣腦下垂體學會章程

四、工作報告

(一) 年度工作報告：一〇六年度至一〇九年度

(二) 工作計畫：一一〇年度

(三) 年度收支決算及預算報告

五、頒發感謝狀

六、討論提案

七、臨時動議

八、第二屆理監事選舉

九、散會

一、理事長致詞

各位貴賓、理事、監事、及所有會員大家好！

感謝各位蒞臨參加本會 109 年度的年度會員大會。過去一年來學會運作順利，各項會務蒸蒸日上，會員人數也持續穩定成長中。本學會會員人數不算多，但是有關的各項會務及財務相當健全，會員們的向心力也相當高，因此每次舉辦的學術討論會均受到會員們的熱烈支持。也感謝各理事、監事對會務的付出及努力。最後，要感謝中華民國內分泌學會、神經外科醫學會、台灣顱底外科醫學會以及台中榮民總醫院，尤其是中華民國內分泌學會曾芬郁理事長以及台中榮民總醫院院長許惠恒院長是不遺餘力的協助及扶持，我們才能成長，而且更加茁壯。

本學會的會員至今已有一百一十五位會員。過去一年，我們努力事項可包括：(一)、以學會 平台，共同 台灣腦下垂疾病努力，這包括了學術教育研討會、建立共同臨床觀察性資料。(二)、維護學會網站、新增會議資訊及照片。(三)、積極爭取年輕醫師成 會員。未來，我們還要召開台灣腦下垂體疾病共識營，完成台灣腦下垂體各種疾病治療指引等。

近年來，腦下垂體疾病日漸被學術界及國人所重視，本學會有責任扮演更積極的推手。各位豐富的專業知識與向心力將是本學會最重要的資源，也誠盼諸位能繼續參與本學會的活動以及給予我們更多的建議。

最後，祝各位萬事如意，心想事成！

台灣腦下垂體學會

理事長 張承能

二、台灣腦下垂體會第一屆職員名單

理事長：

張承能 (林口長庚醫院 腦神經外科)

常務理事：

曾芬郁 (台東基督教醫院 內分泌暨新陳代謝科)

陳涵栩 (台北榮總 內分泌暨新陳代謝科)

沈炯祺 (台中榮總 腦神經外科)

蕭璧容 (義大醫院 內分泌暨新陳代謝科)

理事：

施翔蓉 (台大醫院 內分泌暨新陳代謝科)

顏玉樹 (台北榮總 腦神經外科)

林宏達 (台北榮總 內分泌暨新陳代謝科)

徐鵬偉 (林口長庚 腦神經外科)

陳思達 (林口長庚 內分泌暨新陳代謝科)

宋育民 (台中慈濟 內分泌暨新陳代謝科)

謝明家 (彰化基督教醫院 內分泌暨新陳代謝科)

張進宏 (奇美醫院 腦神經外科)

陳榮福 (高雄長庚 內分泌暨新陳代謝科)

何治軍 (高雄長庚 腦神經外科)

常務監事：

張慶忠 (中國附醫 內分泌暨新陳代謝科)

監事：

黃天祥 (台北國泰醫院內 分泌暨新陳代謝科)

鍾文裕 (高雄榮總 腦神經外科)

王佩文 (高雄長庚 內分泌暨新陳代謝科)

蘇泉發 (花蓮慈濟 腦神經外科)

秘書長：

鄭文郁 醫師 (台中榮總 腦神經外科)

三、台灣腦下垂體學會章程

106/03/25 第一次籌備會議修訂
106/04/15 第二次籌備會議修訂
106/06/24 台灣腦下垂體會員大會修訂

第一章　總　　則

第　一　條　本會名稱為台灣腦下垂體學會（以下簡稱本會）。

第　二　條　本會為依法設立、非以營利為目的之社會團體，以提高腦下垂體疾病診斷與治療之水準，促進全民健康，對腦下垂體疾病之研究，互相交換心得，聯絡會員間友誼及建立具國際性水準之腦下垂體疾病研究、治療及教育團體為宗旨。

第　三　條　本會以全國行政區域為組織區域。

第　四　條　本會會址設於主管機關所在地區，並得報經主管機關核准設分支機構。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函報主管機關核備。

第　五　條　本會之任務如下：

（一）關於舉行腦下垂體醫學學術講座及其他討論會事項。

（二）關於發刊腦下垂體醫學學術雜誌及其他刊物事項。

（三）關於促進腦下垂體疾病之研究及發展。

（四）關於處理其他腦下垂體醫學有關事項

以上各項任務皆遵守醫療相關法規之規定。

第　六　條　本會之主管機關為內政部。本會之目的事業主管機關為衛生福利部，其目的事業應受各該事業主管機關之指導、監督。

第二章　會　　員

第　七　條　本會會員申請資格並分為下列四種會員：

一、準會員：認同本會宗旨且年滿 20 歲，並從事腦下垂體相關之醫療專業人員或是與腦下垂體相關研究、教育或工作之個人或團體。經由本會會員二位之介紹推薦得填具入會申請書，並繳納會費後，得申請加入本會之準會員。

二、創始會員：本會成立之一年內所加入之會員為創始會員，其權益義務與個人會員相同。

三、個人會員：本會之準會員，參加過本會之年度會員大會後，經理監事會審查通過者，得成為個人會員。

四、榮譽會員：需在腦下垂體上有相關卓越貢獻者，經由理監事提名表決通過後邀請加入，並為其保留會員編號 1-10 使用。榮譽會員為本會所邀請加入，但權利及義務不包括投票、表決、選舉及被選舉權。

五、贊助會員及團體會員：認同本會並贊助本會工作之團體、法人或個人。申請時應填具入會申請書，經理事會通過，並繳納會費。

第　八　條　本會個人會員應享權利如下：

一、發言權及表決權。

二、選舉權及被選舉權。

三、享有參加本會所舉辦各種活動之權益。

四、共同參與決定會務方針。

本會準會員、贊助會員及團體會員應有之義務如下：

一、遵守本會章程及決議案。

二、擔任本會所指派之職務。

三、繳納會費。

四、出席會員大會。

第 九 條　會員有遵守本會章程、決議及繳納會費之義務。會員未繳納會費者，不得享有會員權利，連續二年未繳納會費者，視為自動退會。會員經出會、退會或停權處分，如欲申請復會或復權時，除有正當理由經理事會審核通過者外，應繳清前所積欠之會費。

第 十 條　會員（會員代表）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（會員代表）大會決議予以除名。

第 十一 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 十二 條　會員得以書面敘明理由向本會聲明退會。

第三章　組織及職權

第 十三 條　本會以會員大會為最高權力機構。會員 (會員代表) 人數超過三百人以上時得分區比例選出會員代表，再召開會員代表大會，行使會員大會職權。 會員代表任期參年，其名額及選舉辦法由理事會擬訂，報請主管機關核備後行之。

第 十四 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數額及方式。

四、議決年度工作計畫、報告及預算、決算。

五、議決會員（會員代表）之除名處分。

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定之。

第 十五 條　本會置理事十五人、監事五人，由會員（會員代表）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三人，候補監事一人，遇理事、監事出缺時，分別依序遞補之。本屆理事會得提出下屆理事、監事候選人參考名單。理事、監事得採用通訊選舉，但不得連續辦理。通訊選舉辦法由理事會通過，報請主管機關核備後行之。

第 十六 條　理事會之職權如下：

一、審定會員（會員代表）之資格。

二、選舉及罷免常務理事、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、報告及預算、決算。

六、其他應執行事項。

第 十七 條　理事會置常務理事五人，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

督導會務，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、常務理事出缺時，應於一個月內補選之。

第 十八 條　監事會之職權如下：

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 十九 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。

第二十 條　理事、監事均為無給職，任期三年，得連選連任。理事長任期三年，不得連任。理事、監事之任期自召開本屆第一次理事會之日起計算。

第二十一條　理事、監事有下列情事之一者，應即解任：

一、喪失會員（會員代表）資格者。

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。

第二十二條　本會置秘書長一人，承理事長之命處理本會事務，其他工作人員若干人，由理事長提名經理事會通過聘免之，並報主管機關備查。前項工作人員不得由選任之職員擔任。工作人員權責及分層負責事項由理事會另定之。

第二十三條　本會得設各種委員會、小組或其他內部作業組織，其組織簡則經理事會通過後施行，變更時亦同。

第二十四條　本會得由理事會聘請名譽理事長一人，名譽理事、顧問各若干人，其聘期與理事、監事之任期同。

第四章　會　　議

第二十五條　會員 (會員代表) 大會分定期會議與臨時會議二種，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，臨時會議於理事會認為必要，或經會員（會員代表）五分之一以上之請求，或監事會函請召集時召開之。

本會辦理法人登記後，臨時會議經會員（會員代表）十分之一以上之請求召開之。

第二十六條　正式會員（會員代表）不能親自出席會員大會時，得以書面委託其他會員（會員代表）代理，每一會員（會員代表）以代理一人為限。

第二十七條　會員（會員代表）大會之決議，以會員（會員代表）過半數之出席，出席人數較多數之同意行之。一、章程之訂定與變更。二、會員 (會員代表) 之除名。三、理事、監事之罷免。四、財產之處分。五、本會之解散。六、其他與會員權利義務有關之重大事項。本會辦理法人登記後，章程之變更以出席人數四分之三以上同意或全體會員三分之二以上書面同意行之。本會之解散，得隨時以全體會員三分之二以上之可決議解散之。

第二十八條　理事會、監事會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，應於七日前以書面通知，會議之決 議，各以理事、監事過半數之出席，出席人數較多數之同意行之。

第二十九條　理事應出席理事會議，監事應出席監事會議，理事會、監事會不得委託出席；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 三十 條　本會經費來源如下：

一、入會費

1、準會員：新台幣 1,500 元。

2、創始會員：新台幣 1,000 元。

3、團體會員：新台幣 10,000 元。

二、常年會費

1、準會員：新台幣 1,000 元。

2、個人會員：新台幣 1,000 元。

3、團體會員：新台幣 10,000 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。

第三十一條　本會會計年度以西曆年為準，自每年一月一日起至十二月三十一日止。

第三十二條　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畫、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，先報主管機關。）

第三十三條　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。

第六章　附　　則

第三十四條　本章程未規定事項，悉依有關法令規定辦理。

第三十五條　本章程經中華民國一〇六年六月二十四日會員（會員代表）大會通過，報經主管機關核備後施行，變更時亦同。

第三十六條　本章程報經內政部 106 年 06 月 24 日台內團字第 1060051150 號函准予設立備查。

四、工作報告

(一)年度工作報告：一〇六年度至一〇九年度

日期	台灣腦下垂體學會 學術活動項目	地點
106.06.24	台灣腦下垂體學會成立大會第一屆第一次會員大會第一屆第一次理、監事會暨腦下垂體腫瘤學術論壇	台北市艾麗酒店
106.09.09	台灣腦下垂體學會第一屆第二次理、監事會	台北喜來登飯店
106.09.29 - 106.10.01	2017 海峽兩岸華夏腦下垂體學術論壇	台中林酒店
106.11.25	北區垂體瘤學術論壇	台北萬豪酒店
107.01.20	台灣腦下垂體學會第一屆第三次理、監事會	台北喜來登飯店
107.02.25	小組成員共同擬定多院區研究會議	台北市仁愛路二段 99 號 13F
107.06.09	台灣腦下垂體學會第一屆第四次理、監事會	台北君品酒店
107.06.30	台灣腦下垂體學會學術研討會	台北老爺酒店
107.07.21-107.07.22	台灣腦下垂體學會夏季學術研討會	新竹老爺酒店
107.09.21-107.09.23	台灣腦下垂體學會第一屆第二次會員大會第一屆第五次理、監事會暨秋季學術研討會	台中林酒店
107.10.11-107.10.15	第七屆華夏腦下垂體疾病多學科高峰論壇暨第五屆華南垂體疾病論壇	中國 - 廣州
107.12.08-107.12.09	台灣腦下垂體學會冬季學術研討會	高雄國賓飯店
108.02.16	第一屆第六次理、監事會	台北老爺酒店
108.03.30	台灣腦下垂體學會春季學術研討會	台北老爺酒店
108.06.22	台灣腦下垂體學會學術研討營	台中日月千禧酒店
108.06.29	協辦台灣肢端肥大症關懷協會護理夏季教育訓練	台中榮民總醫院

日期	台灣腦下垂體學會 學術活動項目	地點
108.07.13	第一屆第七次理、監事會	台北喜來登飯店
108.08.24	夏季專家論壇 -- 因颱風影響取消	台南大億麗緻飯店
108.10.25- 108.10.26	海峽兩岸醫藥衛生交流協會神經外科專業委員會第四次學術年會暨第五次台灣神經血管外科與介入治療醫學會 台灣腦下垂體學會第一屆第三次會員大會暨第一屆第八次理、監事會	台中裕元花園酒店
108.12.18	肢端肥大症 - 醫護人員講座	台中榮民總醫院
108.12.21- 108.12.22	台灣腦下垂體學會冬季學術論壇	台南大員皇冠假日酒店
109.07.18	腦下垂體疾病護理人員教育訓練講座	台中榮民總醫院
109.08.29	台灣腦下垂體學會夏季學術研討會	新北市立土城醫院
109.10.24	第一屆第九次理、監事會	台北老爺酒店
109.12.12	台灣腦下垂體學會冬季學術會議暨中、南部台灣神經外科聯誼會學術討論會	台中林酒店
110.01.09- 110.01.10	台灣腦下垂體學會第二屆第一次會員大會暨學術研討會及”擁垂不朽”擂台交流賽	台中林酒店

◎ 維護本會網站。

◎ 定期召開理事與監事聯席會議。

◎ 繼續徵求新會員。

◎ 積極與其他專科合作。

(二)工作計畫：一一〇年度

日期	台灣腦下垂體學會 學術活動項目	地點
110.01.09	第二屆第一次理、監事會	台中林酒店
110.04	春季學術研討會	未定
110.07	夏季學術研討會	未定
110.10	秋季學術研討會 第二屆第二次理、監事會	未定
110.12	冬季學術研討會	未定
超前佈署預定台閩腦下垂體論壇 (解禁之後，預定下半年度 7-12 月)		
超前佈署預定華夏腦下垂體論壇 (解禁之後，預定下半年度 7-12 月)		

(三)年度收支決算及預算報告

收入支出決算表

109.01.01-109.11.30

會計科目	決算數	預算數	決算與預算比較數	
			增加	減少
收入	1,537,214	2,925,400		
利息收入	214	400		186
捐助收入	1,500,000	2,800,000		1,300,000
會費收入	37,000	125,000		88,000
其他收入	0	0		
支出	1,098,426	2,665,000		1,566,574
人事費	116,000	150,000		34,000
薪資支出	116,000			
辦公費	24,294	25,000		706
文具用品	2,991			
印刷費	0			
旅運費	1,811			
郵電費	19,492			
業務費	660,518	2,000,000		1,339,482
會議費	241,664			
聯誼活動費	4,030			
業務推展費	414,824			
講師鐘點費	50,000	200,000		150,000
其他費用	247,614	290,000		42,386
本期餘絀	438,788			

團體負責人：張承欽

製表：郭立言

現金出納表 109.01.01-109.11.30

收入		支出	
科目名稱	金　額	科目名稱	金　額
上期結存	549,251	本期支出	1,159,066
本期收入	1,379,645	本期結存	769,830
合　計	1,928,896	合　計	1,928,896

團體負責人：張承能　　製表：郭立言

資產負債表 109 年 11 月 30 日

資　產		負債、基金暨餘絀	
科目	金　額	科目	合計
流動資產	1,225,269	流動負債	0
現金	3,258		
銀行存款	1,222,011	餘絀	1,225,269
		累積餘絀	786,481
		本期餘絀	438,788
合　計	1,225,269	合　計	1,225,269

團體負責人：張承能　　製表：郭立言

六、討論提案

109 年 10 月 24 日第一屆第九次理監事會議，理事決議通過，為促進本會會務更長期紮根及發揚光大，擬修改理事長任期，以便本會會務發展穩定及更具有延續性，提請大會決議修改章程。

原章程 :

第二十 條　理事、監事均為無給職，任期三年，得連選連任。理事長任期三年，不得連任。理事、監事之任期自召開本屆第一次理事會之日起計算。

修改章程 : 理事長連選得連任一次。

(109.10.24 第一屆第九次理、監事會 理事同意票 10 票通過)

將於會員大會當日進行投票決議，應有過半數會員之出席，且有出席人數三分之二以上同意。(此項投票將於會員大會同時進行舉手決議)

七、臨時動議

八、第二屆理監事選舉

九、散會

肆、會員名冊

(至 109 年 12 月 27 日)

姓名	現職單位	科別
王佩文	高雄長庚醫院	新陳代謝科及核醫科
何治軍	高雄長庚醫院	神經外科
宋育民	台中慈濟醫院	內分泌科
林仁德	林口長庚醫院	新陳代謝科
沈炯祺	台中榮總	微創神經外科
張承能	林口長庚醫院	神經外科
張慶忠	台大醫院 / 中國附醫	內分泌新陳代謝科
陳涵栩	台北榮總	新陳代謝科
顏玉樹	台北榮總	神經外科
蕭璧容	義大醫院	內分泌科
方文貴	嘉義基督教醫院	神經外科
王宏振	高雄長庚醫院	神經外科
王浩洸	義大醫院	神經外科
王緯歆	台北榮總	神經外科
田凱仁	奇美醫院	內分泌科
何正	嘉義長庚醫院	內分泌科
吳婉禎	台大醫院	新陳代謝科
呂金盈	台大醫院	新陳代謝科
李丞騏	林口長庚醫院	神經外科
李旭東	台中榮總	神經外科
李明學	嘉義長庚醫院	神經外科
李奕彥	台北榮總	新陳代謝科
李政家	台北榮總	神經外科
李美月	高雄醫學大學附設醫院	內分泌科
李晏榮	林口長庚醫院	新陳代謝科
杜業豐	成大醫院	內分泌科
沈宜靜	台中榮總	新陳代謝科
辛明泰	彰化基督教醫院	神經外科
林右才	高雄長庚醫院	耳鼻喉科
林玉怡	振興醫院	新陳代謝科
林宏達	台北榮總	新陳代謝科
林怡君	台北榮總	新陳代謝科
林建和	台北醫學大學附設醫院	神經外科
姜和均	高雄醫學大學附設醫院	內分泌科
施翔蓉	台大醫院	新陳代謝科
洪翊傑	奇美醫院	神經外科
孫銘輝	林口長庚醫院	眼科

姓名	現職單位	科別
孫瑞明	嘉義基督教醫院	神經外科
孫瑞鴻	林口長庚醫院	新陳代謝科
徐鵬偉	林口長庚醫院	神經外科
袁俊文	高雄長庚醫院	神經外科
馬辛一	三軍總醫院	神經外科
張宏猷	林口長庚醫院	新陳代謝科
張進宏	奇美醫院	神經外科
莊啟政	林口長庚醫院	神經外科
許永信	亞洲大學附屬醫院	神經外科
陳元皓	三軍總醫院	神經外科
陳文政	嘉義長庚醫院	放射腫瘤科
陳正友	林口長庚醫院	新陳代謝科
陳旭照	台北馬偕紀念醫院	神經外科
陳志偉	奇美醫院	神經外科
陳思達	林口長庚醫院	新陳代謝科
陳淑美	台北市立萬芳醫院	神經外科
陳榮福	高雄長庚醫院	新陳代謝科
曾芬郁	台東基督教醫院	內分泌新陳代謝科
湯其暾	三軍總醫院	神經外科
黃大維	成大醫院	神經外科
黃天祥	台大醫院	內分泌新陳代謝科
黃君睿	台北榮總	新陳代謝科
黃盈誠	林口長庚醫院	神經外科
楊士弘	台大醫院 (雲林分院)	神經外科
楊仁宗	嘉義長庚醫院	神經外科
楊智全	台北馬偕紀念醫院	神經外科
詹雲凱	台北馬偕紀念醫院	神經外科
劉妙真	林口長庚醫院	新陳代謝科
歐弘毅	成大醫院	內分泌科
潘宏基	台北雙和醫院	神經外科
蔡育敦	義大醫院	神經外科
鄭文郁	台中榮總	微創神經外科
鄭均洹	彰化基督教醫院	神經外科
鄭敏雄	高雄長庚醫院	神經外科
謝明家	彰化基督教醫院	新陳代謝科
謝政達	汐止國泰醫院	神經外科
鐘子超	三軍總醫院	神經外科
鍾文裕	高雄榮總	神經外科
顏君霖	基隆長庚醫院	神經外科
蘇泉發	花蓮慈濟醫院	神經外科

姓名	現職單位	科別
蘇郁文	台北榮總	新陳代謝科
蘇裕峰	高雄醫學大學附設醫院	神經外科
蘇鈺凱	台北雙和醫院	神經外科
高明見	台大醫院	神經外科
黃博浩	台大醫院	神經外科
李靜怡	台北馬偕紀念醫院	神經外科
葉振聲	台北榮總	新陳代謝科
蔡宏杰	林口長庚醫院	神經外科
曾士婷	光田綜合醫院	內分泌新陳代謝科
李宜堅	成大醫院	神經外科
楊純宜	奇美醫院	內分泌科
劉安祥	高雄醫學大學附設醫院	神經外科
黃書恒	高雄醫學大學附設醫院	內分泌科
盧康	義大醫院	神經外科
林慶齡	國泰綜合醫院	內分泌新陳代謝科
陳郁華	高雄榮民總醫院	內分泌新陳代謝科
張伯宏	林口長庚醫院	耳鼻喉科
林鈺翔	中國附醫	神經外科
許瑋麟	中國附醫	神經外科
郭俊亨	輔仁大學附設醫院	內分泌新陳代謝科
簡銘男	台北馬偕紀念醫院	內分泌科
曾逸宏	台北馬偕紀念醫院	內分泌科
何禮如	三軍總醫院	新陳代謝科
謝博全	新北市立土城醫院	神經外科
林修竹	嘉義長庚醫院	神經外科
沈峰志	高雄長庚醫院	新陳代謝科
李振豪	亞東醫院	神經外科
廖維專	高雄榮總	神經外科
陳惠珍	壢新醫院	新陳代謝科
林亮羽	台北榮總醫院	內分泌新陳代謝科
林英超	台中慈濟醫院	神經外科
林文玉	大里仁愛醫院	內分泌 / 核子醫學科
鄭澄懋	台中榮總	神經外科
唐健綸	台中榮總 嘉義分院	神經外科
孫強	雙和醫院	耳鼻喉科
賴志明	台中榮總	神經外科
王奐之	台大醫院新竹分院	神經外科
鄭宇文	高雄榮民總醫院	神經外科
楊孟寅	台中榮總	神經外科
林冠宇	台大醫院	內分泌新陳代謝科

致謝

伍、台灣腦下垂體學會"擁垂不朽"擂台交流賽議程

日期：10th. January. 2021
地點：台中林酒店 6 樓 奇緣廳
評審：張承能，林宏達，張慶忠，黃天祥，曾芬郁，何治軍，沈炯祺

Time	Topic	Speaker	Moderator
	報到		
08:55-09:00	Opening	沈炯祺醫師 神經外科 台中榮總	
09:00-09:10	Optimal Strategy to Minimize Pituitary Tumors and Mimics	湯其暾 神經外科 三軍總醫院	施翔蓉醫師 內分泌新陳代謝科 台大醫院 湯其暾醫師 神經外科 三軍總醫院
09:10-09:20	Whole brain radiotherapy for refractory lymphocytic hypophysitis :Case Report and Literature Review	賴昆佑 內分泌新陳代謝科 林口長庚醫院	
09:20-09:30	Early Prediction of Newly Onset Secondary Adrenal Insufficiency after Transsphenoidal Pituitary Tumor Resection	王奐之 神經外科 台大醫院新竹分院	
09:30-09:40	Characteristics of Pituitary Tumors in Patients with Multiple Endocrine Neoplasia Type 1 – Case Series from National Taiwan University Hospital	林冠宇 內分泌新陳代謝科 臺大醫院	
09:40-09:50	Endoscopic extracapsular dissection for resection of pituitary tumor: early experience in TCVGH	唐健綸 神經外科 台中榮民總醫院	
09:50-10:00	Rathke's Cleft Cyst Presenting with Amenorrhea, Central hypothyrodism and Bitemporal Hemianopsia: Clinical Outcome and Prognosis	吳如臻 內分泌新陳代謝科 台北市立聯合醫院	
10:00-10:10	The Surgical decision and extension of pituitary surgery in the elderly – the experience at a southern Taiwan Hospital	蘇裕峯 神經外科 高雄醫學大學附設醫院	
10:10-10:20	A Case Series of Immune-Related Adverse Events Induced Hypophysitis	陳冠樺 內分泌新陳代謝科 義大醫院	
10:20-10:30	Tea Break		

Time	Topic	Speaker	Moderator
10:30-10:40	Pituitary tumor management in CGH	黃志達 神經外科 國泰綜合醫院	施翔蓉醫師 內分泌新陳代謝科 台大醫院 湯其暾醫師 神經外科 三軍總醫院
10:40-10:50	Thyroid-stimulating hormone-secreting pituitary adenomas – Case series and Statistical Analysis of Treatment Experience in National Taiwan University Hospitals in the Past Ten Years (2010-2020)	林均賢 內分泌新陳代謝科 台大醫院	
10:50-11:00	Pituitary Bacterial and Fungal Abscess: case report and literature review	鄭宇文 神經外科 高雄榮民總醫院	
11:00-11:10	Comparison between endoscopic binostril transseptal approach and endoscopic transnasal approach for pituitary surgery	林怡岑 耳鼻喉部 台大醫院	
11:10-11:20	Visual field defect in pregnancy: An unique case of microprolactinoma developed to pregnancy-induced macroadenoma	黃柏勛 內分泌新陳代謝科 台北仁愛醫院	
11:20-11:30	Pushing the boundaries: Edoscopic endonasal surgery for pituitary tumor with cavernous sinus invasion	王緯歆 神經外科 台北榮民總醫院	
11:30-11:40	以武俠小說與迪士尼卡通為基礎輔助腦下垂體影像判讀教學	林慶齡 內分泌新陳代謝科 國泰綜合醫院	
11:50-12:00	頒獎及 Closing	張承能理事長 林口長庚神經外科 台灣腦下垂體學會	

湯其暾
Chi-tun, Tang

三軍總醫院
神經外科
omeprazon8@hotmail.com

Position / Department

- Leader, endoscopic and skull base team, TSGH
- Leader, O-arm navigated spine team, TSGH
- Leader, 3D VR Medical and Surgical Education
- Program Director, Skull Base Lab, NDMC
- Pointed director, Neurological Care ward
- Vice-director, Stereotactic Radiosurgical Center
- Councilor, Taiwan Society of Skull Base Surgery
- Councilor, I.C.S.- Taiwan Sec.
- Pointed instructed mentor, TAES
- Pointed instructed mentor, TSCCM
- International member, CNS and EAES

Institute

- Tri-service General Hospital/
- National Defense Medical Center

Education Background

- MD, National Defense Medical Center,
- PhD candidate, Graduate School of medical Science, NDMC

Professional Interest

1. Micro/endoanatomic research and comparative study
2. Endoscopic and minimal invasive neurosurgery
3. Integrated image modality (AVR/3D) guiding neurosurgery (C.A.M.P. Project)
4. Intracranial vascular surgery and Stereotactic radiosurgery
5. Navigated MIS/PED/MED/scoliosis spine surgery
6. Novel marker screening of CNS metastasis (lnc RNA, Serpin)
7. Cross-filed project of Artificial Intelligence in Medical Education (A.I.M.E).

8. Medical and Surgical illustration
9. Artificial Intelligence in Medical (A.I.M.) Application Project

Academic Training

1. Dardinger microsurgical Lab, OSUMC, Columbus, OHIO (2011)
2. Skullbase program, Brigham and Women’ s hospital, Boston, MA (2012)
3. Summer endoscopic training program, Harvard medical school, Boston, MA
4. Navigated spine surgical training, MITI, Nevada (2013)
5. Hemostatic animal training, Methodist hospital, Houston, Texas (2014)
6. CyberKnife Radiosurgery course, Standford medical center, CA (2016)
7. Endoscopic transthoracic fusion program, Rosenthal Clinic, Germany (2017)
8. VR cadaveric dissection course, program director, with HTC (2017)
9. SNQ-National Innovation Award winner (2018), 3D-Navigated Neurospinal Surgical Team (2016-2017)
10. Discovery, Asia channel for HMD and VR Neurosurgery (2017-2019)
11. Project Co-instructor, A.I.M.E. and C.A.M.P. (2017-2019)

Specific Experiences

- 國防醫學院 3D 虛擬教學解剖及手術訓練計畫 負責主持人
- 台灣顱底外科醫學會 第七 , 八屆理事秘書長暨現任理事
- 國際外科學院台灣總會 理事暨院士
- 台灣內視鏡外科醫學會 專聘指導老師
- 中華民國重症醫學會 臨床訓練指導醫師
- 國防醫學院顯微顱底實驗室 計畫主持人
- 國軍教育訓練計畫內視鏡工作坊 總負責人
- 秀傳亞洲遠距微創手術中心 特聘指導醫師
- 中央健保局專聘 醫藥專家審查委員
- 衛福部醫療糾紛 委任鑑定醫師
- 三軍總醫院神經外科部 專科病房主任
- 三軍總醫院重症醫學部 神經外科加護中心主任
- 三軍總醫院澎湖院區神經外科主任醫師
- 衛福部雙和醫院神經外科 特聘內視鏡教學醫師
- 美國俄亥俄州立大學附設醫學中心 (OSUMC) 進修醫師
- 美國 OSU-Dardinger 顯微顱底實驗室研究醫師
- 美國麻州布里格姆與婦女醫院 (BWH) 顱底外科研究員
- 美國哈佛大學暨醫學院及公衛學院進修醫師
- 美國哈佛醫學院暑期解剖課程 內視鏡課程指導醫師

- 美國休士頓 Methodist 醫學中心 精準止血課程進修
- 美國內滑達州 MITI 脊椎導航精準課程進修結業
- 美國史丹佛醫學中心立體定位電腦刀中心 進修醫師
- 德國貝特洪堡 Rosenthal Clinic 進修 Thoracoscopic Spinal Fusion program
- 英國劍橋大學生物工程學系 3D 生物列印研究訪問學者
- 美國神經外科學會 (CNS) 國際會員 歐洲內視鏡外科 (EAES) 國際會員
- 104 年 105 年 108 年國家生技品質標章及 107, 109 年國家新創獎獲獎人

Publications (recent 5years)

1. Tang CT, Baidya NB, Ammirati M; Endoscope-assisted supraorbital approach to the retroinfundibular area: a cadaveric study Neurosurg Rev.2013 Apr. 36(2):249-57
2. Tang CT, Baidya NB, Ammirati M; Endoscope-assisted supraorbital approach to the retroinfundibular area: a cadaveric study Neurosurg Rev.2013 Apr. 36(2):249-57
3. Tang CT, Baidya NB, Ammirati M; Endoscopic-assisted neurovascular decompression of the trigeminal nerve: a cadaveric study. Neurosurg Rev.2013 Jul. 36(3):403-10
4. Tang CT, Kurozumi K, Pillai P, Filipce V, Chiocca EA, Ammirati M; Quantitative analysis of surgical exposure and maneuverability associated with the endoscope and the microscope in the retrosigmoid and various posterior petrosectomy approaches to the petroclival region using computer tomograpy-based frameless stereotaxy. A cadaveric study.Clin Neurol neurosurg. 2013 Jul. 115(7): 1058-62
5. Baidya NB, Tang CT, Ammirati M; ntradural endoscope-assisted anterior clinoidectomy: A cadaveric study. Clin Neurol neurosurg. 2013 Feb. 115(7): 1058-62
6. Dunn IF, Bi WL, Erkmen K, Kadri PA, Hasan D, Tang CT, Pravdenkova S, Al-Mefty O. Medial acoustic neuromas: clinical and surgical implications. J Neurosurg. 2014 May. 120(5):1095-104.
7. Chi-Tun Tang, Nishanta B. Baidya, Kuan-Yin Tseng, Hsin-I. Ma; Posterior clinoid process in current endoscopicassisted neurosurgical approaches Formosan Journal of Surgery. 2012 Feb.04:1-6
8. Tzu-tsao Chung, Bon-Jour Lin, Chi-tun Tang, Dueng-yuan Hueng, Da-tong Ju. CyberKnife stereotactic radiosurgery for intracranial cavernous malformations: the preliminary result of one center.2012 Feb. 32(1):17-25
9. Cheng-mao Cheng, Han-kyu Kim, Chi-tun Tang, Shih-wei Hsu, Yuahn-sieh Huang, Akio Noguchi, Aclan Dogan, Sean McMenomey, Johnny B. Delashaw. Stepwise dissection using the extradural transcavernous approach (Dolenc's approach) via a modified Orbitozygomatic craniotomy.2013 Feb. 33(1):01-10
10. Tung-han Tsai, Da-tong Ju, Yi-lin Yu, Chi-tun Tang, Yu-ching Chou, Yung-hsiao Chiang, Shinn–zong Lin, Yuan-hao Chen. Frame-based stereotactic deep brain stimulation for Parkinson's disease: 12 months outcomes for patients in cross hair versus non-cross hair application groups.2014 Aug. 34(4):166-174
11. Cheng YS, Lin C, Cheng YP, Yu YL, Tang CT, Hueng DY.Epithelial cell transformation sequence 2 is a potential biomarker of unfavorable survival in human gliomas. 2014 Aug.

62(4):406-409

12. Li CZ, Li CC, Lin MC, Chih-Chuan H, Chen NF, Chen CL, Tang CT. A Clinical Pitfall: Optimal Management of Single Dural-based Metastatic Carcinoma of the Breast Mimicking Meningioma.Neurologist. 2015 Nov;20(5):93-5
13. Bon-Jour Lin, Chi-Tun Tang*. Quantitative analysis of anatomical relationship between cavernous segment internal carotid artery and pituitary macroadenoma, Medicine, 2016 Oct 95(41)
14. Yang CJ, Cheng SY, Cheng CC, Tang CT, Tsai SH. Vertebral artery ruptures manifesting as hoarseness. Braz J Otorhinolaryngol. 2016 Dec 13. pii: S1808-8694(16)30237-3.
15. Yu YL, Yang YJ, Lin C, Hsieh CC, Li CZ, Feng SW, Tang CT, Chung TT, Ma HI, Chen YH, Ju DT, Hueng DY. Analysis of volumetric response of pituitary adenomas receiving adjuvant CyberKnife stereotactic radiosurgery with the application of an exponential fitting model. Medicine (Baltimore). 2017 Jan;96(4):e4662.
16. Li CZ, Liu FC, Li CC, Lin MC, Hsieh CC, Lin BJ, Chen NF, Chen CL, Chung TT, Tang CT, Hueng DY, Ju DT, Ma HI, Liu MY, Lu CH, Chen YH. The Efficacy of Therapeutic Plasma Exchange in Antiphospholipid Antibody-positive Patients With Spontaneous Intracerebral Hemorrhage and High D-dimer Levels. Neurologist. 2018 Jan;23(1):7-11.
17. Lin BJ, Hong KT, Lin C, Chung TT, Tang CT, Hueng DY, Hsia CC, Ju DT, Ma HI, Liu MY, Chen YH Impact of global spine balance and cervical regional alignment on determination of postoperative cervical alignment after laminoplasty. Medicine (Baltimore). 2018 Nov;97(45):e13111
18. Lin MC, Li CZ, Hsieh CC, Hong KT, Lin BJ, Lin C, Tsai WC, Lee CH, Lee MG, Chung TT, Tang CT, Ju DT, Ma HI, Liu MY, Chen YH, Hueng DY. Preoperative grading of intracranial meningioma by magnetic resonance spectroscopy (1H-MRS). PLoS One. 2018 Nov 19;13(11):e0207612
19. Lin BJ, Hong KT, Chung TT, Liu WH, Hueng DY, Chen YH, Ju DT, Ma HI, Liu MY, Hung HC, Tang CT*. Endoscopic transorbital transtentorial approach to middle incisural space: preclinical cadaveric study. Acta Neurochir (Wien). 2019, 161(4):831-839.
20. Lin BJ, Ju DT, Hsu TH, Chung TT, Liu WH, Hueng DY, Chen YH, Hsia CC, Ma HI, Liu MY, Hung HC, Tang CT*. Endoscopic transorbital approach to anterolateral skull base through inferior orbital fissure: a cadaveric study. Acta Neurochir (Wien). 2019, 161(9): 1919 -1929
21. Bon-Jour Lin, Da-Tong Ju, Tzu-Hsien Hsu, Yi-An Chen, Tzu-Tsao Chung, Wei-Hsiu Liu, Dueng-Yuan Hueng, Yuan-Hao Chen, Chung-Ching Hsia, Hsin-I Ma, Ming-Ying Liu, Chi-Tun Tang*; Quantitative comparison of endoscopically-assisted endonasal, sublabial, and transorbital transmaxillary approaches to the anterolateral skull base. Clinical Otolaryngology, 2020, April 29.
22. Lin BJ, Ju DT, Wu YC, Kao HW, Tseng KY, Chung TT, Liu WH, Hueng DY, Chen YH, Hsia CC, Ma HI, Liu MY, Tang CT*. Endoscopic transcanal transpetrosal approach to the petroclival region: a cadaveric study with comparison to the Kawase approach. Neurosurg Rev. 2020 Sep 16. doi: 10.1007/s10143-020-01389-x

Academic Achievements/ contributions

1. First pioneer of "smart VR interactive outpatient clinic for Shared Decision Making (SDM)" as to the top application of intelligent technology, press by CTITV & GTV (2017-2018);
2. "First Taiwan doctor 's Honor" with the medical illustration published on Top international high impact Journal of Neurosurgery and The original artwork hanging on the Glory wall of Brigham & Women's Hospital (2014);
3. Top Award of excellent paper for I.C.S. Taiwan section and Den-Mei Brain Tumor Education Foundation, dedicate to develop the targeting therapy of small-molecule drug against the Glioblastoma Multiforme(2016);
4. Award of excellent paper of Education Foundation of C.C. Wen "dedicate to develop precision surgical solution against the difficult spine and skullbase disease" (2016);
5. CNS annual meeting "Top Poster" award of pain section- Congress of Neurological Surgeons, "the only Taiwan doctor of the year" contributing to study the Trigeminal neuralgia (TN) treatment (2011);
6. "Outstanding Paper Achievement Award" from Taiwan Society of Stereotactic Functional Neurosurgery and Radiosurgery/Cerebrovascular Disease Prevention Foundation, dedicate to develop the CyberKnife treatment against refractory TN (2012);
7. Outstanding paper award of Formosan Journal Surgery as the "Annual Best paper" in Taiwan Surgical Association, also in Taiwan Society of Critical Care Medicine, dedicate to study the comparative microanatomy of cadaveric research (2012);
8. Outstanding and the pioneer endoscopic surgical technique against the subdural hematoma, pineal region tumor and deep-seated meningioma (2012-2013);
9. "Excellent Research contribution" of Virtual Reality in real surgical Application, as the first doctor introducing VR in medical practice in Asia, listed "National Innovative Award" and press by Discovery Asia channel (2017-2018).
10. Excellent contributor "Who's Who in Biotechnology and Medicine in Taiwan" enrollment, 2020

Special Honors

雜誌	發表文章題目	領域排名	特殊榮譽
Journal of Neurosurgery	Medial acoustic neuromas: clinical and surgical implications.	4.318 (11/200, Q1)	獲選雜誌封面及原稿留存BWH 名人牆
Neurosurgical Review	Endoscopic-assisted neurovascular decompression of the trigeminal nerve: a cadaveric study.	2.532 (38/200,Q1)	美國CNS: Pain Section首獎
Neurosurgical Review	Endoscopic-assisted supraorbital approach to the retroinfundibular area: a cadaveric study.	2.532 (38/200,Q1)	財團法人登美腦瘤教育基金會最佳論文首獎
Medicine	Quantitative analysis of anatomical relationship between cavernous segment internal carotid artery and pituitary macroadenom	3.9(17/155, Q1)	獲頒國際外科學會105年度會員大會暨學術演講會優秀學術論文獎
Plos One	Preoperative grading of intracranial meningioma by magnetic resonance spectroscopy (1H-MRS)	3.057 (22/155. Q1)	使用VR分析預測腫瘤影像 獲頒神經外科學會107年度會員大會暨學術演講會優秀學術論文獎
Medicine	Analysis of volumetric response of pituitary adenomas receiving adjuvant CyberKnife stereotactic radiosurgery with the application of an exponential fitting model.	3.9(17/155, Q1)	利用AI模式分析放射手術後腫瘤的體積反應
World Neurosurgery	Endoscopic supracerebellar infratentorial retropineal approach for tumor resection.	3.508 (18/200. Q1)	國內第一篇發表應用內視鏡進行松果體區手術

特色	演講題目	邀請/主辦單位	日期
神經外科年會口頭優秀論文	C.A.M.P. 科技在神外手術的整合應用	高雄醫學大學	107.11.3
東京齒科大學參訪	SDM診間教學/VR手術室應用展示	國防醫學院	107.3.27
14th Asian-Oceanian International Congress on Skull Base Surgery (AOICSBS)	Virtual 3D technology in skull base surgery: simulation versus head-mounted display	亞澳顱底外科醫學會	107.9.21-23
TIMMF參訪（德國,美國）	Surgical VR in Taiwan's experience	軍醫局	107.8.14
台灣兒童神經外科醫學會暨神經外科醫學R5訓練醫師訓練課程	虛擬實境技術在兒童神經手術及教學的應用	台北榮總神經外科	107.6.23
海外媒體台灣醫療觀摩團採訪	虛擬實戰-神經導航腦微創手術	衛福部	107.11.28
國內記者會	電腦輔助腦微創手術-虛擬神經智慧化	三軍總醫院	107.3.22
醫療科技展	醫療科技展: 虛實境導航神經手術	財團法人醫院評鑑暨醫療品質策進會	107.11.29-12.2
嘉義大林慈濟醫院	第五屆醫療數位學習研討會 智慧醫療與虛擬科技: 虛擬實戰 與神同行	慈濟醫院體系	107.12.8
醫學中心交流	智慧醫療與虛擬科技: 虛擬實戰應用	台大醫院神經外科	107.05
台北國際會議中心	虛擬實戰與神同行 Virtual Neuro-Navigation in Reality Surgery	台北榮總/ 中華醫學會/台灣醫學教育學會	108.6.22
國際外科醫學會優秀論文獎	Virtual 3D technology in skull base surgery: simulation study	國際外科醫學會	108.3.16
台灣醫療服務與相關產業參訪暨媒合交流會AR/VR及3D列印應用參訪與介紹	亞洲第一個VR智慧外科診間應用經驗分享	財團法人醫院評鑑暨醫療品質策進會	108.09.06
亞洲急重症年會優秀論文銀獎	脊術救援-技昇上流 5D Minimal Invasive Neuro-spinal Surgery	中華民國重症醫學會	109.09.13
國際外科醫學會優秀論文金牌獎	應用內視鏡經鼻,經唇下,經眼眶內及經上頷竇到前外側顱底之多樣手術解剖分析	國際外科醫學會	109.11.28

醫"瘤"團隊的"瘤"滅策略

Optimal Strategy to Minimize Pituitary Tumors and Mimics

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Purpose:

Following the introduction of the neurosurgical endoscope in our institution and innovation of radiosurgical machinery (CyberKnife), the clinical outcomes in pituitary tumors (Nonfunctional and functional) and mimics (Rathke cleft cyst, craniophayngioma, meningiom) were dramatically improved. Since our team managed these tumor as one continuous pipeline through diagnosis, surgery, pathology and eventual adjuvant radiosurgery. We retrospectively reviewed the strategy of these add-on features all performed by neurosurgeons to optimize the pros and cons of dilemma. We also exerted our bench lab and dedicated the effort to sprout the output of research fruits.

Materials and Methods:

From Jan. 2009 to Dec. 2019, a total 517 out of 1128 patients with pituitary tumors underwent Nasoendoscopic transsphenoidal surgery (NTSS) and as-need to treat by adjuvant radiosurgery (planned and dosimetry by same operator) at the Tri-service General Hospital. We present the final results of NTSS and analyze the resection rates, visual outcomes, and associated complications. The pathologists have the specimens validated for PDL1 and PDL2 stains to elucidate the potential application of immunotherapy in the precision era. Assessment of anterior pituitary function was carried out preoperatively as well as 1 and 6 months postoperatively by the teamed endocrinologist. Basal hormonal measurements were obtained for all patients, and in 86% of the patients, complete the ophthalmologic survey including visual acuity (BCVA), slit-lamp microscopy, intraocular pressure, dilated fundus examination, and visual field (perimetry) test before and 6 months after surgery. Differences in demographics between the adenoma groups were analyzed by an ANOVA followed

by post-hoc Scheffe’ s test. To analyze the relationship between two qualitative variables, a table of contingence was constructed. Radiosurgical arm and associated research works are aslo presented to demonstrate the completeness and fullness of our pipeline management.

Results:

381 patients presented with primary non-functional macroadenomas, whereas 17 were previously treated elsewhere. Their mean age was 53.8 years (range 35–75 years), and most patients presented with visual loss (85.3%) and trivial symptoms (headache, nausea and dizziness). Tumors spread the suprasellar space (77.2%), tuberculum sellae (20.7%) and planum sphenoidale (10.1%), with extension into the optic canals in 6.7% , the cavernous sinus in 34% (Knosp-grading varies) and sphenoidal sinus in 8.5%. Gross-total tumor resection was achieved in 76.4% of the cases in the whole cohort and in 87.4% of the patients have the optimal volume reduction (31.2 ml to 4.2ml in MRI). Tumor location and extension was not a limitation for total resection except tumor size, consistency, and vascular encasement significantly hindered the degree of resection ($p<0.0001$). Visions were improved or normalized in 88.2% of the cases. Visual deterioration following NTSS occurred in one patients (1.8%).

Complications included postoperative CSF leaks (3.8% overall) and no patients developed postoperative cerebral infections, catastrophic hemorrhage, or seizures. During a mean follow-up period of 67 months (range 18–126 months), 33% patients who had the residual volumes > 10ml were referred to cyberknife treatment under our treatment protocol. Only 2 patients have shown local unpredictable recurrence necessitating repeated NTSS.

Conclusions:

With the goal of optimally reduction of tumor burden and achievement of gross-total resection and, NTSS has comparable results to microscopic results with regard to the treatment of pituitary tumors and mimics. Avoidance of brain retraction, well preservation of the vascular supply of the optic apparatus, and extensive decompression of the skullbase compartments are the main advantages of NTSS for the treatment. Lab works established the milestone of further clinical translation whereas we output our cadaveric effort into the SCI articles (exceeding 20 papers).

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研究領域

- Thyroid disease
- Pituitary disease
- Diabetic foot disease

Whole brain radiotherapy for refractory lymphocytic hypophysitis :Case Report and Literature Review.

全腦放射線治療用於反覆性淋巴細胞性腦下垂體炎：病例報告以及文獻回顧

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Hypophysitis is a relatively uncommon autoimmune inflammatory disorder affecting the pituitary gland, several forms of hypophysitis are recognized histologically, including lymphocytic, granulomatous, plasmacytic, and xanthomatous. Lymphocytic hypophysitis is the most common form of hypophysitis, characterized by lymphocytic T and B cells infiltration in histological finding and enlargement of the pituitary in image. It most frequently occurs in women of child-bearing age, presenting with headaches, visual defect, nausea, vomiting and fatigue, involving endocrine symptoms due to pituitary dysfunction including central diabetes insipidus, anterior pituitary hormone deficiencies and abnormal serum prolactin.

First-line treatment of lymphocytic hypophysitis with high-dose glucocorticoids is suggested. Goals of treatment include improvement in symptoms, correction of hormonal insufficiencies, reduction in lesion size and prevention of recurrence. There is lack of data for treatment of refractory lymphocytic hypophysitis. Some case reports showed beneficial with immunosuppressive agents and stereotactic radiotherapy when the disease is recurrent after surgery or resistant to corticosteroid medications.

In this 35-year-old woman who was previously healthy with obstetric History G2P2A0 presented with amenorrhea at first, accompanied with progressively drowsiness, personality change and unintentional weight loss. Brain MRI revealed chronic meningoencephalitis and a marked enhancing soft tissue mass 1.5x1.0x1.8cm was founded in the proximal pituitary stalk. She underwent partial excision of pituitary tumor by transsphenoidal surgery with histopathological analysis confirmed the diagnosis of lymphocytic hypophysitis.

This patient's disease refractory to resection, and corticosteroid therapy, tumor size was increased and resulted in hypopituitarism and hyperprolactinemia.

After consulted Radiation Oncologist, whole brain radiotherapy total 1000cGy and focal boost to total 2000cGy was arranged, tumor size was in regression grossly, however, clinical symptoms with con's disturbance, personality change and hypopituitarism was still noted.

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研究領域

- Neuro-oncology
- Artificial intelligence in medical imaging
- Functional neurosurgery and intraoperative neuromonitoring

論文 (5 important publications – latest sequence)

1. Bioinspired self-assembling peptide hydrogel with proteoglycan-assisted growth factor delivery for therapeutic angiogenesis. Theranostics. 2019 Sep 21;9(23):7072-87. Huang LC, Wang HC, Chen LH, Ho CY, Hsieh PH, Huang MY, Wu HC, Wang TW.
2. Weakly-supervised learning for attention-guided skull fracture classification in computed tomography imaging. IEEE International Conference on Image Processing (ICIP), 2019. Yang CY, Lo CH, Wang HC, Chou JH, Wang YC.
3. Glycosaminoglycan-based hybrid hydrogel encapsulated with polyelectrolyte complex nanoparticles for endogenous stem cell regulation in central nervous system regeneration. Biomaterials. 2018 Aug;174:17-30. Jian WH, Wang HC, Kuan CH, Chen MH, Wu HC, Sun JS, Wang TW.
4. Direct visualization of microcirculation impairment after acute subdural hemorrhage in a novel animal model. J Neurosurg. 2017 Dec 8:1-11 [Epub ahead of print]. Wang HC, Tsai JC, Lee JE, Po-Hao Huang A, Lin WC, Hsieh ST, Wang KC.
5. Hypofractionated stereotactic radiotherapy for large arteriovenous malformations. Surg Neurol Int. 2012;3(Suppl 2):S105-10. Wang HC, Chang RJ, Xiao F.

Early Prediction of Newly Onset Secondary Adrenal Insufficiency after Transsphenoidal Pituitary Tumor Resection

經蝶竇腦下垂體腫瘤切除術後新發生次發性腎上腺功能不全之早期預測

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Newly onset hypopituitarism is well recognized as a major risk after transsphenoidal pituitary tumor resection. Adrenal insufficiency, amongst the spectrum of hypopituitarism, occurs in about 10-20% of patients receiving transsphenoidal surgery. Patients with newly onset secondary adrenal insufficiency after transsphenoidal surgery usually require supplements, while patients with other deficiencies depend on various clinical circumstances for hormone supplement. However, it usually takes 2 to 6 weeks to confirm whether adrenal insufficiency exists, which makes it sometimes difficult to determine the patient's condition since they are usually not hospitalized during this period. Some surgeons would have prophylactically prescribed supplemental corticosteroid as their standard protocol to avoid rehospitalization due to unrecognized adrenal insufficiency, many patients would have taken unnecessary corticosteroids by this approach. We have hypothesized that prolactin and growth hormone on postoperative day 1, which are not stress hormones, would have the predictive power to assess the hypothalamus-pituitary-adrenal axis much earlier. Through the statistical analysis from our series of 187 patients with non-somatotroph non-lactotroph pituitary adenomas, we have generated a regression model that utilized growth hormone levels, post-operative diabetes insipidus, CSF leakage and tumor size with good performance (area-under-curve: 0.938) shown in our cohort. Further clinical application would help to minimize the use of unnecessary corticosteroid and improve the care of pituitary tumor patients.

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研究領域

・ 內分泌與新陳代謝

Characteristics of Pituitary Tumors in Patients with Multiple Endocrine Neoplasia Type 1 – Case Series from National Taiwan University Hospital

多發性內分泌腫瘤症候群第一型病患併腦下垂體腫瘤之臨床表現—臺大醫院病例系列報告

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Multiple endocrine neoplasia type 1 (MEN1) is characterized by the combined development of parathyroid, pituitary and entero-pancreatic tumors. Other associated tumors include adrenal, thymic and bronchopulmonary tumors. The disease is an autosomal dominant disorder caused by mutations in the tumor suppressor gene MEN1. Pituitary tumors occurred in 15-50% of patients with MEN1, less commonly than parathyroid and entero-pancreatic tumors.

We retrospectively enrolled 16 MEN1 patients with radiologically confirmed pituitary tumors. Mean age at diagnosis of MEN1 was 58.8 ± 15.0 years, with female predominance (n=12, 75%). Nine patients were diagnosed by confirmed MEN1 gene mutation, while the remaining seven patients were diagnosed by clinical criteria. Five patients (31%) had documented family history of MEN1. Hyperparathyroidism was the most common initial presentation (n=9, 56.2%), followed by entero-pancreatic tumors (n=6, 37.5%). A significant proportion of patients (n=6, 37.5%) was diagnosed with adrenal adenoma during tumor survey. Only one patient presented with dizziness and diplopia and was diagnosed with invasive pituitary macroadenoma later. He died from metastatic pancreatic neuroendocrine tumor 11 years after initial diagnosis.

Among these 16 patients with pituitary tumors, 5 (31.3%) were macroadenoma. Two patients were diagnosed with invasive pituitary tumors. One patient had a 3.8 cm pituitary tumor involving cavernous and sphenoid sinus, while another patient had a 3 cm pituitary tumor invading suprasellar space with sphenoid sinus extension. Both patients received transsphenoidal surgery, with stationary residual tumor size during 10- and 3.5-years follow-

up, respectively. Although the pathology of the second patient revealed sparsely granulated corticotroph adenoma, there was no clinically hormonal secretion. Only three patients displayed functional pituitary tumors: one had elevated prolactin and ACTH levels, one had elevated prolactin and IGF-1 levels, and the other one had an elevated IGF-1 level. Most patients (n=9, 56.2%) harbored non-functioning microadenoma, which remained stationary in size during follow-up period ranging from 2 to 6 years. One patient demonstrated a pituitary tumor shrank from 0.7 cm to 0.3 cm without any treatment 4 years after initial diagnosis.

In conclusion, most pituitary tumors in MEN1 patients in our series were diagnosed during pituitary MRI screening rather than as initial presentations. In contrast with previous literature which reported larger and more aggressive pituitary tumors in MEN1 versus non-MEN1 patients, most cases in our series exhibited clinically silent and more indolent courses.

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研究領域

- endoscopic and open skull base surgery
- endoscopic spinal surgery

論文 (5 important publications – latest sequence)

1. Endoscope-assisted trans-sphenoidal puncture of the cavernous sinus for embolization of carotid-cavernous fistula in a neurosurgical hybrid operating suite.
   Chien-Lun Tang, Chih-Hsiang Liao, and Yuang-Seng Tsuei
   J neurosurg August 5, 2016 DOI: 10.3171/2016.5.JNS16493.
2. Metallosis after traumatic loosening of Bryan cervical disc arthroplasty: a case report and literature review.
   Chih‐Chan Yang, Chien‐Lun Tang, Chung‐Yuh Tzeng, Hsi‐Kai Tsou
   Eur Spine J Nov 21, 2017 DOI: 10.1007/s00586-017-5397-8
3. Glycaemic control for painful diabetic peripheral neuropathy is more than fasting plasma glucose and glycated haemoglobin
   Y-W Pai, C-L Tang, C-H Lin , S-Y Lin , I-T Lee , M-H Chang
   Diabetes Metab. 2020 May 12;S1262-3636(20)30060-4. doi: 10.1016/j.diabet.2020.04.004.
4. Anastomotic aneurysm formation after superficial temporal artery - middle cerebral artery bypass surgery in 5 months - case report.
   Chien-Lun Tang , Chiung-Chyi Shen
   Formosan Journal of Surgery (2016) 49, 149e153

Endoscopic extracapsular dissection for resection of pituitary tumor: early experience in TCVGH

內視鏡下腦下垂體腫瘤假包膜外切除技術：台中榮民總醫院經驗分享

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Since a pseudocapsule associated with a pituitary adenoma was initially described in the 1900s, there have been many reports about pituitary pseudocapsules. These are thought to develop in response to pressure within the pituitary gland itself and become thin multiple layers of compressed pituitary gland tissue containing a reticulin network. It is found in about 50 % of patients with a pituitary adenoma and tends to be more frequent in larger tumors. Histopathology has revealed that tumor tissue is frequently present within the pseudocapsule, which justifies the aggressive resection especially in endocrine-active pituitary tumors. Thus, in recent years, many authors have adopted so-called extracapsular resection and emphasized the importance of a pituitary pseudocapsule as a surgical plane for more radical resection of the tumor. Moreover, it is critical for endocrinological remission in functional pituitary tumor.

It has been our surgical strategy to perform intensive resection of pseudocapsules as we also found they could be a source of tumor recurrence. Tumor dissection was performed outside the pseudocapsule whenever possible. When extracapsular resection was not possible, tumors were removed in a piecemeal fashion. We grouped our patients based on the resection techniques and evaluated surgical and endocrinological outcomes and complications. The advantages and disadvantages of extracapsular resection are discussed below with a description of our surgical techniques.

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Rathke's Cleft Cyst Presenting with Amenorrhea, Central hypothyrodism and Bitemporal Hemianopsia: Clinical Outcome and Prognosis

以無月經、甲狀腺功能低下，以及雙側視野缺損表現的 Rathke's Cleft Cyst: 臨床症狀以及術後追蹤結果

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Rathke's cleft cysts (RCC) account for approximately 3% of pituitary mass lesions. However, the natural course and surgical outcomes is not yet to be fully understood because of the insidious nature and rarity of documented cases. To have more comprehensively understanding of RCC, we present a case with amenorrhea, central hypothyroidism and bitemporal hemianopsia as initial manifestations and the clinical features and outcomes after surgery.

A 32-year-old woman presented to our neurosurgery clinic on September 2018 with complaints of secondary amenorrhea and bilateral visual field defect for 2 weeks. At that time, laboratory studies revealed high prolactin (61 ng/ml), higher FSH(8.0mIU/ml) than LH (4.74IU/ml), relative low estradiol (14.6 pg/mL), normal ACTH (8am:11.6 pg/mL) and cortisol (8am:12.92 μg/dL), and low free T4 (0.68 ng/dl) with normal TSH (2.41 IU/ml). Sella MRI revealed a 26x22x13 mm mass lesion from sellar-suprasellar region with optic chiasm compression. Trans-sphenoid surgery was performed then. Darken green fluid was removed and histological examination confirmed RCC. Patient reported improvement of visual field defect days after the surgery. Anterior pituitary functions were investigated postoperatively and showed improved hyperprolactinemia (61 to 35 ng/ml) and normal thyroid function (TSH:3.92 IU/ml, free T4:1.01 ng/dl). However, she still suffered from amenorrhea after surgery. Clomiphen stimulation test performed on March 2019 reveled poor response (before LH:6.14, FSH:9.2; after LH:6.14, FSH:10.8). In addition, sellar MRI in May 2020 disclosed a recurrent 20x15x13 mm cystic lesion in pituitary fossa. Repeated trans-sphenoid surgery was performed, but central hypogonadism still did not improve after the surgery.

Cure of RCC by surgery is expecting but not promising. Generally, the prognosis after surgery seems to be good even through the cyst recurs in some cases. We presented a RCC case presenting with amenorrhea, central hypothyroidism and bitemporal hemianopsia. Her symptoms of visual field defect and hypothyroidism got quite an improvement after the surgery but amenorrhea not. Furthermore, her RCC recurred in 20 months. A long-term follow-up study in Oxford also showed in patients with RCC, surgical intervention is of major importance for the restoration of visual field defects, but it does not improve endocrine function. High recurrence rate was also noted. It reminds us to arrange comprehensive and attentive survey during follow up for RCC patients.

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研究領域

- Endoscopic Skull base and Brain tumor surgery/ Pituitary diseases
- Subarachnoid hemorrhage and Brain injury
- Spinal Cord Injury
- Spine Robotics and Osteoporosis

論文 (5 important publications – latest sequence)

1. 3D printed bioceramics fabricated using negative thermoresponsive hydrogels and silicone oil sealing to promote bone formation in calvarial defects
   CW Lin*, YF Su*, CY Lee, Lin Kang, YH Wang, SY Lin, CK Wang
   Ceramics International, 2020 (In Press)
2. Surgical treatment of intraspinal tumors in Southern Taiwan: The 30-year experience of a single institution
   CY Tsai, TH Tsai, YF Su*
   Journal of Clinical Neuroscience, 2020
3. Meningeal melanocytoma associated with nevus of Ota: analysis of twelve reported cases
   KL Kuo, CL Lin, CH Wu, CH Chang, HP Tsai, JK Loh, AS Lieu, YF Su*
   World neurosurgery 127, e311-e320 (2019)
4. Assessing the intraoperative accuracy of pedicle screw placement by using a bone-mounted miniature robot system through secondary registration

KL Kuo*, YF Su*, CH Wu, CY Tsai, CH Chang, CL Lin, TH Tsai
PloS one 11 (4), e0153235 (2016)

5. A modified compression model of spinal cord injury in rats: functional assessment and the expression of nitric oxide synthases
YF Su*, CL Lin, KS Lee, TH Tsai, SC Wu, SL Hwang, SC Chen, AL Kwan
Spinal cord 53 (6), 432-435 (2015)

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The Surgical decision and extension of pituitary surgery in the elderly – the experience at a southern Taiwan Hospital

老年人腦下垂體手術的手術決策與腫瘤切除 – 高醫的經驗

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The safety and effectiveness of transsphenoidal surgery have been well established during past decades. A further improvement of pituitary surgery also has been demonstrated after the introduction of endoscopic endoscopic approach. However, the results of surgery appeared diverse and controversial in the patients with elder age.

The trend in population ageing has shown that the population aged over 65 is growing faster than all other age groups globally. That means physicians and surgeons will face more and more challenges on the surgical decision and extension of pituitary surgery.

We conduct a retrospective study at Kaohsiung Medical University Hospital. Patients received transsphenoidal surgery during 2009 to 2020 are recruited. The periopoperative parameters are collected and analyzed. The results are compared the data from literature review and discussion is made.

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研究領域

- Thyroid
- Adrenal
- Pituitary

論文 (5 important publications – latest sequence)

1. Lin CH, Chen KH, Chen KY, Shih SR, Lu JY. Immune checkpoint inhibitor therapy-induced hypophysitis ~ a case series of Taiwanese patients. J Formos Med Assoc. 2018 Aug 10. pii: S0929-6646(18)30190-6. doi: 10.1016/j.jfma.2018.07.014. [Epub ahead of print]
2. Chen KH, Doi K, Wu VC, Chu TS, Shiao CC; NSARF (National Taiwan University Hospital Study Group on Acute Renal Failure). Using 'temporal parameters' to define the timing of renal replacement therapy in acute kidney injury? There are other better choices. Nephrology (Carlton). 2018 May;23(5):385-388. doi: 10.1111/nep.13172.

A Case Series of Immune-Related Adverse Events Induced Hypophysitis

免疫治療引發腦下垂體炎之案例系列報告

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Background

Immune checkpoint blockade-based therapy is one of the latest modalities of cancer treatment. Carrying fair therapeutic effects, immunotherapy has gained increased numbers of indication and applied to multiple types of cancer patients. However, immune-related adverse events (irAEs) emerge as a new entity of diseases involving one or multiple organ systems. irAEs could result in interruption of immunotherapy, morbidities of patients or even death. Among various manifestations of irAEs, immunotherapy-induced hypophysitis is a rare but important disease requiring prompt diagnosis and treatment to avoid life-threatening conditions.

Methods:

Here we report new hypophysitis occurred after receiving immune-checkpoint inhibitor treatment. The diagnosis of immunotherapy-induced hypophysitis was defined by one or more pituitary dysfunctions were identified, and/or typical findings of infundibular-hypophysitis-like image were shown on pituitary MRI. All patients included received immunotherapy for cancer in National Taiwan University Hospital between 2016 and 2018. Immunotherapies were prescribed to selected subjects by oncologists.

Results:

Six patients suffered from various types of advanced cancer and received different regimens of immune checkpoint inhibitors. The time of onset after initiation of immunotherapy ranged from 5 to 36 weeks. All subjects were diagnosed of central adrenal insufficiency, while four of them had primary hypothyroidism. There was no typical finding of infiltrative hypophysitis on the pituitary MRI in all patients. There was no documented hormone recovery after diagnosis of hypophysitis, and the tumor responses to immunotherapy were variable in these six patients.

Conclusion

We reported our experience in diagnosis and management of hypophysitis in a single medical center in Taiwan. Although most cases of irAE endocrinopathy reported did not recovered from the dysfunction, long-term follow up of clinical course in more patient is necessary to unveil the outcome of these patients.

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論文發表：

1. Yew-Weng Fong, Szu-Kai Hsu, Chih-Ta Huang, Cheng-Ta Hsieh, Ming-Hong Chen, Jing-Shan Huang1,Chih-Ju Chang, I-Chang Su
   Impact of Intraoperative 3-Dimensional Volume-Rendering Rotational Angiography on Clip Repositioning Rates in Aneurysmal Surgery
   WORLD NEUROSURGERY 114: 573-580, JUNE 2018
2. Hsiao-Lun Sun, Jui-Ming Sun, Chih-Ta Huang, Cheng-Ta Hsieh*
   Cortical bone trajectory with bone cement: An alternative fixation option for treating patients with previously augmented osteoporotic vertebrae.
   Fu-Jen Journal of Medicine 2018; 16(4): 183-189
3. Chih-Ta Huang, Szu-Kai Hsu, I-Chang Su
   Accurate Localization of Aneurysm Neck Margins in Clipping of a Carotid Cave Aneurysm Using Intraoperative Dual-Volume 3-Dimensional Volume-Rendering Rotational Angiography
   WORLD NEUROSURGERY. http://dx.doi.org/10.1016/ j.wneu.2017.03.080
4. Chih-Ta Huang, Szu-Kai Hsu, I-Chang Su
   Regression of Moyamoya-associated Weak Spots on the Distal Anterior Choroidal Artery Following Surgical Revascularization: a Case Report Journal of Surgical Case Reports((2016) 2016 (2): rjw005.)
5. Szu-Kai Hsu1 Ming-Yuan Chang1 Ying Kao1 Cheng-Ta Hsieh1 Chih-Ta Huang1 Jing-Shan Huang1 Chih-Ju Chang1*
   Vertebroplasty: analysis of clinical outcomes and predictors of prognoses Fu-Jen Journal of Medicine Vol.11 No.1 2013 P11-20

6. 黃志達 (Chih-Ta Huang); 張坤權 (Kun-Chuan Chang)Large Epidural Hematoma after Intracranial Pressure Monitor Insertion: A case Report 重症醫學雜誌 (11 卷 1 期)

7. Chih-Ta Huang M.D., Ming-Yuan Chang M.D., Shih-Hung Huang M.D.: Lumbar Sparganosis Presenting as Neurogenic Bladder and Radiculopathy: A Case Report and Review of the Literature.
Neurology India; 2012(60): P102-103(sci)

8. Chang-Chih Liu, Chih-Ta Huang, Chih-Ming Lin, Kan-Nan Liu : Intradural disc herniation at L5 level mimicking an intradural spinal tumor.Eur Spine J. 2011 Jul;20 Suppl 2:S326-9. Epub 2011 Mar 23(sci).

9. Jun-Yeen Chan, Chih-Ta Huang, Yuan-Kai Liu, Chien-Pang Lin, Jing-Shan Huang: Chronic Subdural Hematoma Associated with Arachnoid Cyst in Young Adults-A Case ReportThe Kaohsiung Journal of Medical sciences 2008. vol 24, No.1

10. Chih-Ju Chang, Chih-Ta Huang, Yih-Yiing Wu, Chou-Li Chiang: Inflammatory Myofibroblastic Tumor of Cervical Spine: Report of a Case; Formosan Journal of Surgery;43 卷 6 期 (2010/12): 321-326

11. Chang-Chih Liu, Chih-Ta Huang, Chih-Ju Chang: Non-operative Treatment of Acute Subdural Hematoma in Cirrhotic Patients with Thrombocytopenia; Clinical Molecular Medicine 3(1):99-99, 2011

12. Jun-Yeen Chan, Kun-Chuan Chang, Ming-Yuan Chang, Chih-Ta Huang, Yuan-Kai Liu, Chien-Pang Lin, Jing-Shan HuangTraumatic spinal fracture dislocation with neurological deficit in a 14-year-old boy:management by spine decompression, posterior fusion, and continued-short-segment instrumentaion Taiwan Crit. Care Med. 2009;10:P80-P85

Pituitary tumor management in CGH

腦下垂體腫瘤治療－國泰醫院之經驗

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Abstract

Pituitary tumors are the 10~15% of intracranial tumor. Most were diagnosed on 30~40 years old. The 1/3 pituitary tumor was non-functional tumor.

The treatment for pituitary tumor were surgery, radiation therapy and medical therapy. The method of surgery including microscopic (transcranial , translabia , transnasal approach) and endoscopic.

I introduced the surgical treatment for pituitary tumor in our hospital. I collect the patient’ s data from 2011 to 2019 that 112 patients were enrolled (46 male; 66 female). The mean age: 3.5+ 13.3 yrs. The presented symptoms most were blurred vision, headache and dizziness. The pituitary tumors most were macroadenoma (79/5%) and non-functional adenoma(74.1%). The complication rate is 6.3%.

The endoscopic method for pituitary tumors is a safe , minimal invasive procedure. In our hospital, endoscopic transsphenoidal approach also is a trend. But it need learning curve for practice.

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研究領域

- Metabolism and endocrinology

論文 (5 important publications – latest sequence)

1. Commentary on risk factors for first and subsequent cardiovascular disease events in type 1 diabetes: The Diabetes Control and Complications Trial/Epidemiology of Diabetes Interventions and Complications study - J Diabetes Investig
. 2020 Sep 30

Thyroid-stimulating hormone-secreting pituitary adenomas – Case series and Statistical Analysis of Treatment Experience in National Taiwan University Hospitals in the Past Ten Years (2010-2020)

分泌促甲狀腺激素腦垂體腺瘤－系列案例報告與近十年臺大醫院治療經驗統計分析（2010–2020 年）

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The 67-year-old female had hypertension without regular control, presented to our ward with intermittent vertigo in the morning when she woke up. The patient stated that the situation never happened before. No aggravated factors were mentioned. The patient denied fever, chills, dysphagia, dysarthria, ipsilateral weakness nor slurred speech.

She had been to NTUH Hsin-Chu branch where vital signs at the Emergency Department revealed: Body temperature: 36.3 ° C; Heart rate: 76 bpm; Respiratory rate: 20/min; Blood pressure: 198/81mmHg. Hypertensive urgency was impressed and symptoms subsided after medication administered. However, the same episode took place in the next 2 days. Brain computer tomography revealed mild brain atrophy otherwise no significant finding. Therefore, she was referred to NTUH Hsin-Chu Neurologist outpatient clinic for further evaluation where abnormal thyroid function was found (TSH: 4.96 μIU/mL; Free T4: 2.15(ng/dL). Therefore, she visited NTUH Hsin-Chu Endocrinologist for suggestions.

Tracing back to her clinical manifestation, she mentioned that she had palpitation while stress and denied heat intolerance, watery diarrhea nor hand tremor. Due to abnormal thyroid function mentioned above, secondary hyperthyroidism was impressed. Brain MRI revealed a 1.2 cm pituitary tumor. Moreover, the symptoms progressed not only palpitation, but heat intolerance, hand tremor and sweating. Therefore, she was admitted to NTUH Taipei for further evaluation.

Due to abnormal thyroid function (EIA: TSH: 4.96 μIU/mL; Free T4: 2.15(ng/dL)) and brain MRI in 2019/04 disclosed 1.2 cm in size pituitary tumor. We recheck thyroid function by

RAI method (TSH: 5.68 μIU/mL; Free T4:2.89 ng/dL). TRH stimulation test revealed blunted response. Octreotide suppression test revealed TSH was suppressed. I-131 scan revealed 2 hour uptake = 35.34% (normal 5-23%), 24 hour uptake = 53.83% (normal 16-50%). Elevated radioactive iodine uptake (RAIU). Endoscopic Transnasal transsphenoidal adenomectomy was arranged. Preoperative octreotide 100 μg q8h was administered for thyroid function suppression. After operation, Pathology reported thyrotroph adenoma. The patient recovers well after surgery without CSF-leakage, polyuria or visual field defect. Follow-up thyroid function revealed TSH:0.0678μIU/mL, Free T4: 0.61(ng/dL). Eltroxin had been prescribed for 6 months after surgery. Currently, the patient is in good health, euthyroid status without clinical symptoms, no medication is required.

Recently, we have diagnosed a number of Thyroid-stimulating hormone-secreting pituitary adenomas (TSHoma) patients in a row in National Taiwan University Hospital. We try to collect statistics and analyze the patients in National Taiwan University Hospital in the past ten years (2010-2020).

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研究領域

- 內視鏡顱底腫瘤手術
- 腦瘤基因基礎研究

論文 (5 important publications – latest sequence)

1. Cheng YW, Chang PY, Wu JC, Chang CC, Fay LY, Tu TH, Huang WC, Cheng H. Letter to the Editor: Pedicle screw-based dynamic stabilization and adjacent-segment disease. J Neurosurgery Spine. 2017 Mar;26(3):405-406
2. Yu-Wen Cheng, MD, Chun-Yu Cheng, MD, Zeeshan Qazi, Laligam N. Sekhar, MD, FACS, FAANS.
   Retrosigmoid craniotomy for the removal of left sided tentorial and posterior fossa meningioma combined with microvascular decompression for hemifacial spasm:2-Dimensional Operative Video Journal of Neurological Surgery Part B: Skull Base 2019 Jun;80(Suppl 3):S294-S295

Pituitary Bacterial and Fungal Abscess: case report and literature review

細菌及黴菌感染併發垂體膿瘍 ：病例報告以及文獻回顧

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Introduction

The pituitary abscess is a rare disease with potentially high disability and mortality. The diagnosis of a pituitary abscess is usually difficult due to the rarity of the condition and the nonspecific presentation, mimicking other pituitary lesions. The optimal treatment strategies are transsphenoidal surgery, antibiotics and hormonal replacement.

Case Report

A 30-year-old woman presented with nasal stuffiness, followed by progressive headache, and reduced visual acuity for three weeks. She had undergone an endoscopic endonasal approach (EEA) for pituitary spindle cell oncocytoma 13 months prior to this admission. She lived in the suburbs in the vicinity of a farmland and had a medical history of sick sinus syndrome and mitral valve prolapse. Hormonal examination showed no abnormalities. Brain magnetic resonance imaging (MRI) revealed a well circumscribed intrasellar cystic lesion (2.1 x 1.5 x 1 cm in size) with suprasellar extension as homogeneously isointense and enhanced capsule on T1-weighted image with contrast (Fig. A&B). Under EEA, the thick capsule of the abscess was stripped without CSF leakage. The abscess was drained with yellowish pus, then removed totally. The cavity was cleaned and irrigated with antibiotics and saline. Histopathologic examination showed a cystic inflammatory lesion. Microscopy revealed the presence of mites and fungal hyphae (Fig. C). Aspergillus spp, Stenotrophomonas maltophilia, and Staphylococcus hyicus were isolated from abscess cultures. The patient was treated with antibiotics for six weeks, resulting in the complete resolution of clinical symptom. No further headaches have been noticed or other symptoms.

Discussion

The secondary pituitary abscess usually rises from within and existing pituitary lesion. It

can be caused by previous surgery or direct spread from distant lesions such as meningitis or sinusitis. Most patients presented with complaints and physical findings consistent with a pituitary mass, but rarely with evidence of a serious infection. Headache, endocrine abnormalities, and visual changes were the most common clinical indicators; fever, peripheral leukocytosis, and meningitis were present in 33% or fewer in this kind of the patients.Imaging findings, by MRI and computerized tomography, presented no features evident between pituitary abscess and other common intrasellar lesions as following: adenoma, Rathke’ s cleft cyst, lymphoma and craniopharyngioma.

The majority organism, isolated from pituitary abscesses, were Gram-positive cocci (mainly Streptococcus and Staphylococcus), Gram-negative organisms such as Escherichia coli and Neisseria. Heary et al. reported a case of intrasellar Candida albicans abscess, who was suffering from immunocompromised with a T-cell dysfunction.

Transsphenoidal approach for the evacuation of a pituitary abscess is the standard treatment. The craniotomy is preferred to the abscess presented with exclusively suprasellar or difficult to decompression via transsphenoidal route. Third-generation cephalosporin was recommended until a specific organism is identified in cultures. Accurate antibiotic therapy should be initiated as soon as the pathogen of the pituitary abscess was proved.

Conclusion

In patients with headache and visual impairment, the rare possibility of pituitary abscess should be considered. Adequate surgical drainage with microbiology-guided antibiotic therapy is the first choice for treatment.

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研究領域

- 內視鏡顱底手術
- 鼻整形與重建
- 鼻竇炎之免疫

論文 (5 important publications – latest sequence)

1. Lin YT, Lin CF, *Yeh TH. Application of the endoscopic prelacrimal recess approach to the maxillary sinus in unilateral maxillary diseases. Int Forum Allergy Rhinol. 2018 Apr;8(4): 530-536.
2. **KC Shen, **YT Lin, CF Lin, CH Chang and *TH Yeh. Allergy accelerates the disease progression of chronic rhinosinusitis. Acta Otolaryngol. 2019 Jan;139(1):75-79. (**equal contribution)

3. Lin YT, Lin CF, *Yeh TH. Influenza A virus infection induces indoleamine 2,3-dioxygenase (IDO) expression and modulates subsequent inflammatory mediators in nasal epithelial cells. Acta Otolaryngol. 2020 Feb;140(2):149-156.
4. Lin YT, Lin MH, Wu KY, Lee YL. Secondhand smoke effects on rhinoconjunctivitis and sleep quality in an adolescent asthma study. Ann Allergy Asthma Immunol. 2020 Aug 11;S1081-1206(20)30570-6.
5. Lee IT, Nakayama T, Wu CT, Goltsev Y, Jiang S, Gall PA, Liao CK, Shih LC, Schürch CM, McIlwain DR, Chu P, Borchard NA, Zarabanda D, Dholakia SS, Yang A, Kim D, Chen H, Kanie T, Lin CD, Tsai MH, Phillips KM, Kim R, Overdevest JB, Tyler MA, Yan CH, Lin CF, Lin YT, Bau DT, Tsay GJ, Patel ZM, Tsou YA, Tzankov A, Matter MS, Tai CJ, Yeh TH, Hwang PH, Nolan GP, Nayak JV, Jackson PK. ACE2 localizes to the respiratory cilia and is not increased by ACE inhibitors or ARBs. Nat Commun. 2020 Oct 28;11(1):5453.

Comparison between endoscopic binostril transseptal approach and endoscopic transnasal approach for pituitary surgery

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Background

Endonasal endoscopic approach for pituitary surgery can provide better visualization and manipulation, and it is performed mainly transnasally. For better preservation of the septal and sphenoidal sinonasal mucosa, we proposed an endoscopic binostril transseptal technique, but it may be questioned for the limited space for surgical instruments and visualization. We conducted this study to see if the pituitary surgery by endoscopic binostril transseptal approach can prevent nasal morbidities with equivalent neurosurgical outcome as the surgery via transnasal approach.

Method

We retrospectively reviewed consecutive 67 patients undertaken endoscopic pituitary surgery from January 2019 to June 2020. The patient records were reviewed for demographic data, clinical presentations, endoscopic and imaging study findings, surgical procedures, outcomes and complications.

Results

We divided patients into transseptal group (N=27) and transnasal group (N=19). There was no difference in the demographics, radiological features, endocrine functions and tumor types between two groups. Gross total resection was obtained in 15 patients (60.0%) in trans-septal group and 8 patients (44.4%) in trans-nasal group (P=0.69). All patients with hormonal abnormality have a better control after surgery. The rate of neurosurgical complications was not significantly different. Postoperative endoscopic scores of crusting, discharge, edema and scarring were significantly lower in the transseptal group. The results of olfactory were not significantly different between two groups.

Conclusion

Binostril transseptal approach is a safe, efficient, effective and minimally destructive for benign pituitary lesion. It provides better recovery of sinonasal mucosa without compromising neurosurgical outcomes or increasing rate of complications.

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Visual field defect in pregnancy: An unique case of microprolactinoma developed to pregnancy-induced macroadenoma

微小泌乳激素瘤於孕期變化之案例報告

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Prolactinoma are the most frequently encountered pituitary functioning tumor, with an annual incidence of 30 per 100,000 and the female: male ratio was 20:1. During pregnancy, increasing amount of estrogen from placenta stimulates lactotroph hyperplasia and cause pregnancy-associated enlargement of normal pituitary as well as prolactinoma. The major concern of tumor growth was visual field defect and was reported to occurred in 2.4% of those with microadenomas (<1cm in diameter), 21% of those with macroadenomas without previous surgery or irradiation and 4.7% of those with macroadenomas with prior intervention. We report an unique case of microprolactinoma, who developed pituitary macroadenoma with bitemporal hemianopsia during pregnancy and remained amenorrhea after lactation.

A 36-year-old female presented to endocrine clinic for galactorrhea and menstrual disturbance for 2 years after her first delivery. There was no history to suggest thyroid dysfunction, systemic or psychiatric disorder. Hormone profile revealed hyperprolactinemia (221.7 ng/ml) with low gonadal axis. Dynamic and contrast pituitary MRI showed an 8mm microadenoma with cavernous sinus invasion. Cabergoline 0.5mg twice weekly was prescribed and her menstruation became normal after 1 month and spontaneous conception followed; Carbegoline was thus discontinued by herself. During pregnancy, dimmed vision developed progressively and visual field test showed bitemporal hemianopia. Enlargement of tumor size to 12mm was presented at followed MRI.

She lost followed up and no treatment was given include dopamine agonist. Fortunately, she delivered smoothly, and the baby was unaffected. She breastfed her children for 6 months without any discomfort and visual defect improved markedly compared to previous report. She visited endocrinology department due to amenorrhea 2 months after cessation

of lactation. Pituitary MRI showed quite regression of tumor size. Menstrual cycle regained after Carbegoline re-administration and her prolactin levels became undetectable (<40ng/ml).

Current guidelines suggested that in hyperprolactinemic patients with microprolactinoma, there is no need for surveillance studies such as prolactin level, pituitary MRI, or visual field during pregnancy. Our case challenges current guideline policy and raises the concern whether there is need of more careful surveillance for specific patients with microprolatinoma before pregnancy. This case suggests that endocrinologist should keep cautious for patient with high prolactin level at their baseline, surveillance arrangement and follow up until delivery may be needed during pregnancy . If future pregnancy is aspired, pre-pregnancy counseling to discuss the potential risk of macroadenomatous transformation is important.

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研究領域

- 經鼻內視鏡顱底手術
- 腦下垂體腫瘤手術
- 顱底腫瘤顯微手術

論文 (5 important publications – latest sequence)

1. Wang WH, Lieber S, Lan MY, Wang EW, Fernandez-Miranda JC, Snyderman CH, Gardner PA. Nasopharyngeal muscle patch for the management of ICA injury in endoscopic endonasal surgery. J Neurosurg. 2019 Oct 18:1-.
2. Wang WH, Lieber S, Mathias RN, Sun XC, Gardner PA, Snyderman CH, Wang EW, Fernandez-Miranda JC. The Foramen Lacerum: Surgical Anatomy and Relevance for Endoscopic Endonasal Approache. J Neurosurg. 2018 Nov 1:1-12
3. Wang WH, Abhinav K, Wang E, Snyderman C, Gardner PA, Fernandez-Miranda JC. Endoscopic Endonasal Transclival Transcondylar Approach for Foramen Magnum Meningiomas: Surgical Anatomy and Technical Note. Neurosurgery. 2015 Nov 3.
4. Wang WH, Lee CC, Yang HC, Liu KD, Wu HM, Shiau CY, Guo WY, Pan DH, Chung WY, Chen MT. Gamma Knife Radiosurgery for Atypical and Anaplastic Meningiomas. World Neurosurg. 2015 Oct 17.
5. Wang WH, Hung YC, Hsu SP, Lin CF, Chen HH, Shih YH, Lee CC. Endoscopic hematoma evacuation in patients with spontaneous supratentorial intracerebral hemorrhage. J Chin Med Assoc. 2015 Feb;78(2):101-7

Pushing the boundaries: Edoscopic endonasal surgery for pituitary tumor with cavernous sinus invasion

經鼻內視鏡手術處理腦下垂體腫瘤合併海綿竇侵犯

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Cavernous invasion was usually considered as challenging condition in pituitary tumor surgery. The potential risks of carotid artery injury and cranial nerves palsy may happen while aggressively attacking the cavernous sinus. With the development of the surgical instruments and techniques, the resection rate and safety of cavernous sinus surgery has been greatly improved in the past decade. The current full HD and 4K endoscopic system provide better vision to identify the clear margin between tumors and neurovascular structures. The 4-hand-2surgeon technique (cooperation of a neurosurgeon and a otolarygologist) make the dissection and bleeding control more efficiently in cavernous sinus. Besides, the concept of 4 compartments of cavernous sinus provide more anatomical information for a surgeon before and during the operation.

In Taipei Veterans General Hospital, we developed a modern endonasal endoscopic surgical team since 2015. We constantly exposed the cavernous sinus if cavernous invasion was suspected or noted during the surgery. Our surgical outcome and the complication rate were both favorable especially for functional adenoma. Therefore, cavernous sinus invasion was not the limitation for resection of pituitary tumor and needed to be more aggressively removed instead. However, the learning curve of cavernous surgery was definitely required for surgeons and only experienced surgical team was encouraged to do.

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1994-1995	Hormone laboratory, Mayo Clinic, Minnesota, USA	Research fellow
2006	9th Mayo Cinic Endocrine Course, An Intensive Review of Endocrinology for the Clinician	
2010~	Division of Endocrinology & Metabolism, Department of Internal Medical	Chief
2010~	Radioimmunoassay & hormonal Lab Cathay General Hospital, Taipei, Taiwan	Chief
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研究領域

- Endocrine disease.
- Diabetes mellitus
- Osteoporosis

論文 (5 important publications – latest sequence)

1. Li-Chi Huang, Ching-Ling Lin, Jia-Zheng Qiu, Chun-Yu Lin, Kai-Wen Hsu, Ka-Wai Tam, Jung-Yu Lee, Jinn-Moon Yang and Chia-Hwa Lee*. 2017. "Nicotinic Acetylcholine Receptor Subtype Alpha-9 Mediates Triple-Negative Breast Cancers Based on a Spontaneous Pulmonary Metastasis Mouse Model." Frontiers in Cellular Neuroscience. 11:336. (Epub 2017 Nov 3.) doi: 10.3389/fncel.2017.00336 (IF=4.555, NEUROSCIENCES field, 55/259=21.2%) (co-first author)
2. Li-Chi Huang, Winnie Liu, Chun-Yu Lin, Kai-Wen Hsu, KaWai Tam, Wen-Shyang Hsieh, Wei-Ming Chi, Jinn-Moon Yang, Ching-Ling Lin, and Chia-Hwa Lee. CRISPR/Cas9 genome editing of Epidermal Growth Factor Receptor sufficiently abolished oncogenicity in Anaplastic Thyroid cance. Disease Markers, Epub 2018 Apr 12:2018:3835783 doi:10.1155/2018/3835783. (co-corespondent)
3. Ching-Ling Lin, Ming-Lin Tsai, Chun-Yu Lin, Kai-Wen Hsu, Wen-Shyang, Hsieh, Wei-Ming Chi, Li-Chi Huang, Chia-Hwa Lee * HDAC1 and HDAC2 Double Knock-out Triggers Cell Apoptosis in Advanced Thyroid Cancer. The International Jouranl of Molecular Sciences. (IJMS) 2019, 20(2), 454; (IF=3.687, CHEMISTRY, MULTIDISCIPLINARY field：52/171; 30.4% Received 6 December 2018, Accepted 17 January 2019; Published 21 January 2019.)
4. Ruey-Yu Chen1, Li-Chi Huang2, Chien-Tien Su1,3, Yao-Tsung Chang1,4, Chia-lin Chu2, Chiao-Ling Chang2, Ching-Ling Lin2* Effectiveness of short-term health coaching on diabetes control and self-management efficacy., Front. Public Health, 30 October 2019 | https://doi.org/10.3389/fpubh.2019.00314 (impact factor:2.08, Ranking:47.8%, Corespondent)
5. Jiin-Torng Wu3,# Ching-Ling Lin1,2,#, , Chi-Jung Huang4,5,6,7, Yu-Che Cheng4,6,8,9, Chih-Cheng Chien6,10 and Yung-Chuan Sung6,11 Potential of sorafenib and CP-31398 with synergistic effects for treating anaplastic thyroid cancer with p53 mutation. Oncology Letters DOI: 10.3892/ol.2020.11377, #Equal contributor.

以武俠小說與迪士尼卡通爲基礎輔助腦下垂體影像判讀教學

國泰綜合醫院 內科部內分泌新陳代謝科 林慶齡

主題大綱：

1. 流星蝴蝶劍：冠狀切面腦垂體辨識法。

2. 此劍非彼劍，此乃石中劍：冠狀切面垂體及垂體柄辨識法。

3. 神鵰俠侶印度之旅：腦垂體矢狀切面辨識法。

4. 天涯明月刀：適用於兒童病患矢狀切面判讀法。

5. 別人的失敗就是我的快樂 - 黑白郎君：垂體微腺瘤判讀法。

6. 當黑白郎君變黑白無常：微腺瘤以外垂體病灶進階判讀法。

7. 冰雪奇緣之雪寶誕生：垂體巨腺瘤之辨識。

8. 當雪人變雪花冰：無症狀的促皮質素瘤。

9. 圓月彎刀 : 空蝶鞍症辨識法

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