

# Chang Gung Medical Journal

## CONTENTS IN BRIEF

### REVIEW ARTICLES

- 115 The Role of Insulin Receptor Signaling in Synaptic Plasticity and Cognitive Function**  
Chiung-Chun Huang, PhD; Cheng-Che Lee, PhD; Kuei-Sen Hsu, PhD
- 126 Active Compounds in Chinese Herbs and Medicinal Animal Products Which Promote Blood Circulation via Inhibition of Na<sup>+</sup>, K<sup>+</sup>-ATPase**  
Jason TC Tzen, PhD; Ronald JY Chen, MSc; Tse-Yu Chung, MSc; Yi-Ching Chen, MSc; Nan-Hei Lin, MSc

### ORIGINAL ARTICLES

- 137 Hepatitis Delta Virus and GBV-C Infection in Two Neighboring Hepatitis B Virus and Hepatitis C Virus – Endemic Villages in Taiwan**  
Chang-Jung Chang, MD; Jui-Chin Chiang, MD; Sheng-Nan Lu, MD, MPH, PhD; Jing-Houng Wang, MD
- 145 Lack of Fas-pathway Gene Mutations in Primary Resected Esophageal Squamous Cell Carcinoma**  
Chih-Ling Ko, MD; Chiou-Ying Yang, PhD; Cheng-Yen Chung, MD; Mei-Chin Wen, MD; Chung-Ping Hsu, MD; Jen Miaow, MD; Jiun-Yi Hsia, MD
- 152 Ovarian Tumors in the Pediatric Age Group: 37 Cases Treated over An 8-year Period**  
Shih-Ming Chu, MD; Yung-Ching Ming, MD; Hsun-Chin Chao, MD; Jin-Yao Lai, MD; Jeng-Chang Chen, MD; Chao-Ping Yung, MD; Chih-Cheng Luo, MD
- 157 Prurigo Pigmentosa: A Clinical and Histopathologic Study of 11 Cases**  
Shang-Hong Lin, MD; Ji-Chen Ho, MD; Yu-Wen Cheng, MD; Po-Han Huang, MD; Cheng-Yu Wang, MD
- 164 Comparison between Hospital-based and Community-based Services for the Special Health Care Needs of Children with Developmental Delays**  
Jannie Ying-Syuan Chen, MD; Keh-Chung Lin, PhD; Chung-Yao Chen, MD; Chia-Ling Chen, MD, PhD; Wen-Yu Liu, PhD; Mei-Yun Liaw, MD; Ching-Yi Wu, ScD; Hung-Chih Hsu, MD
- 174 The Impact of Regular Biopsy in the First Cystoscopic Follow-up and Other Predictors on the Recurrence of Superficial Bladder Tumors**  
Ying-Hsu Chang, MD; Cheng-Keng Chuang, MD, PhD; See-Tong Pang, MD, PhD; Chun-Te Wu, MD, PhD; Kun-Lung Chuang, MD; Shuen-Kuei Liao, PhD

- 182**      **Age-related Reference Levels of Serum Prostate-specific Antigen among Taiwanese Men without Clinical Evidence of Prostate Cancer**  
Kuo-Jen Lin, MD; See-Tong Pang, MD, PhD; Ying-Hsu Chang, MD; Chun-Te Wu, MD, PhD; Kun-Lung Chuang, MD; Heng-Chang Chuang, MD; Cheng-Keng Chuang, MD, PhD
- 188**      **Double Primary Teeth in Children under 17 Years Old and Their Correlation with Permanent Successors**  
Chen-Wei Wu, DDS; Yng-Tzer Lin, DDS, MS; Yai-Tin Lin, DDS, MS
- 194**      **Electrocorticographic Monitoring as An Alternative Tool for the Pre-surgical Evaluation of Patients with Bi-temporal Epilepsy**  
Peng-Wei Hsu, MD; Hsien-Chih Chen, MD; Yin-Cheng Huang, MD; Chee-Ching Hsu, MD, PhD; Tony Wu, MD, PhD; Chen-Nen Chang, MD
- 201**      **Nuclear Titin Interacts with Histones**  
Lan King, PhD; Chun-Ru Jhou, MSc

#### **CASE REPORTS**

- 211**      **Aripiprazole Improves Social Interaction in Taiwanese Children with Pervasive Developmental Disorder**  
Shu-Chi Huang, MD; Shih-Jen Tsai, MD; Hao-Jan Yang, PhD
- 216**      **Myocardial Bridging of the Right Coronary Artery inside the Right Atrial Myocardium Identified by ECG-gated 64-slice Multidetector Computed Tomography Angiography**  
Chien-Cheng Chen, MD; Huan-Wu Chen, MD; Chen-Ju Fu, MD; Fen-Chiung Lin, MD; Ming-Shien Wen, MD; Yung-Liang Wan, MD; Yuan-Chang Liu, MD
- 220**      **INSTRUCTIONS TO AUTHORS**

# Chang Gung Medical Journal

## CONTENTS

### REVIEW ARTICLES

- 115 The Role of Insulin Receptor Signaling in Synaptic Plasticity and Cognitive Function**  
Chiung-Chun Huang, PhD; Cheng-Che Lee, PhD; Kuei-Sen Hsu, PhD  
Insulin is the most abundant peptidergic hormone secreted by the pancreatic islets of Langerhans and plays an important role in organic metabolism. In recent years, various functions for insulin receptor signaling in the brain have been suggested in normal neurophysiology, and a dysregulation of insulin secretion or insulin receptor signaling has been reported in serious mental illnesses. Recent advances in the knowledge of the biological role of brain insulin receptor signaling in relation to synaptic plasticity and cognitive function, and of the regulatory signaling mechanisms involved in these processes are summarized in this review.
- 126 Active Compounds in Chinese Herbs and Medicinal Animal Products Which Promote Blood Circulation via Inhibition of Na<sup>+</sup>, K<sup>+</sup>-ATPase**  
Jason TC Tzen, PhD; Ronald JY Chen, MSc; Tse-Yu Chung, MSc; Yi-Ching Chen, MSc; Nan-Hei Lin, MSc  
Several steroid-like compounds found in Chinese medicinal products used to promote blood circulation, e.g., ginsenosides, contain a core structure similar to cardiac glycosides. Inhibitory potency on Na<sup>+</sup>, K<sup>+</sup>-ATPase by ginsenosides from ginseng and sanqi is significantly affected by their sugar attachment. Magnesium lithospermate B (MLB) from danshen is also assumed to be responsible for the therapeutic effect by inhibiting Na<sup>+</sup>, K<sup>+</sup>-ATPase. Neuroprotective effects of cardiac glycosides, ginsenosides and MLB against ischemic stroke were accordingly observed in a cortical brain slice-based assay model. Molecular modeling suggests that cardiac glycosides, ginsenosides and MLB presumably bind to the same extracellular pocket of Na<sup>+</sup>, K<sup>+</sup>-ATPase.

### ORIGINAL ARTICLES

- 137 Hepatitis Delta Virus and GBV-C Infection in Two Neighboring Hepatitis B Virus and Hepatitis C Virus – Endemic Villages in Taiwan**  
Chang-Jung Chang, MD; Jui-Chin Chiang, MD; Sheng-Nan Lu, MD, MPH, PhD; Jing-Houng Wang, MD  
To elucidate the epidemiology of GBV-C infection in two neighboring hepatitis B (HBV) and C (HCV) virus-endemic villages, 74 adults from W village and 95 from H village were studied. W villagers had a high prevalence of alanine transaminase (ALT) elevation and HCV and GBV-C infections. Among the anti-HCV-positive subjects, HCV RNA positive rates were higher in men. GBV-C infection was correlated with HCV infection or endemicity, and HCV RNA was the determining factor in ALT elevation. In HBV and HCV endemic areas, GBV-C was more prevalent in areas with a higher prevalence of anti-HCV.
- 145 Lack of Fas-pathway Gene Mutations in Primary Resected Esophageal Squamous Cell Carcinoma**  
Chih-Ling Ko, MD; Chiou-Ying Yang, PhD; Cheng-Yen Chung, MD; Mei-Chin Wen, MD; Chung-Ping Hsu, MD; Jen Miaw, MD; Jiun-Yi Hsia, MD  
Many types of cancer cells are resistant to Fas-mediated apoptosis by several mechanisms, including Fas-pathway gene mutations. Immunohistochemistry and reverse transcriptase-polymerase chain reaction were used to analyze the Fas expression in 34 specimens from patients with esophageal squamous cell carcinoma. Exon 9 (death domain) of the Fas gene and exon 1 (death effective domain) of the Fas-associated death domain (*FADD*) gene were analyzed by polymerase chain reaction (PCR) and DNA sequencing. Immunohistochemistry and RT-PCR revealed Fas expressed in all specimens. But no mutation was detected in the Fas and *FADD* genes. Inhibition of Fas-mediated apoptosis may not be due to gene mutations in the Fas and *FADD* genes in ESCCs.

- 152 Ovarian Tumors in the Pediatric Age Group: 37 Cases Treated over An 8-year Period**  
Shih-Ming Chu, MD; Yung-Ching Ming, MD; Hsun-Chin Chao, MD; Jin-Yao Lai, MD;  
Jeng-Chang Chen, MD; Chao-Ping Yung, MD; Chih-Cheng Luo, MD  
Between January 1998 and December 2006, 37 girls with ovarian tumors were treated at our institute. 29 of the 37 patients presented with abdominal symptoms or palpable mass and another 8 patients were diagnosed prenatally. 30 of the 37 ovarian tumors patients had benign disease, and 7 had malignant tumors and underwent salpingo-oophorectomy and received chemotherapy following their initial operation. Most ovarian tumors were benign and germ cell tumors were the most common malignancy. With accurate staging, complete resection, and chemotherapy for malignant tumors, patients are expected to have excellent survival rates.
- 157 Prurigo Pigmentosa: A Clinical and Histopathologic Study of 11 Cases**  
Shang-Hong Lin, MD; Ji-Chen Ho, MD; Yu-Wen Cheng, MD; Po-Han Huang, MD;  
Cheng-Yu Wang, MD  
Prurigo pigmentosa is a rare inflammatory dermatosis of unknown etiology. Although far more prevalent in Japan, prurigo pigmentosa can be seen in Taiwan. Eleven cases, who exhibited clinical and histopathological correlation for prurigo pigmentosa, were enrolled in our study. Patients were predominantly young females who had been diagnosed initially as having eczema. Therefore, young females who present with intractable eczema distributed symmetrically over the trunk should prompt physicians to consider prurigo pigmentosa.
- 164 Comparison between Hospital-based and Community-based Services for the Special Health Care Needs of Children with Developmental Delays**  
Jannie Ying-Syuan Chen, MD; Keh-Chung Lin, PhD; Chung-Yao Chen, MD;  
Chia-Ling Chen, MD, PhD; Wen-Yu Liu, PhD; Mei-Yun Liaw, MD; Ching-Yi Wu, ScD;  
Hung-Chih Hsu, MD  
In this study, 114 children were enrolled to compare hospital-based and community-based services for the special health care needs (SHCN) of children with developmental delay (DD) in Taiwan. The results showed that more children with DD in hospital-based services had disabled certificates, catastrophic illnesses and multiple caregivers than those in community-based services. Children in hospital-based services had more SHCN for team assessment and counseling, rehabilitation, complementary and alternative treatments and nutrition counseling than those in community-based services.
- 174 The Impact of Regular Biopsy in the First Cystoscopic Follow-up and Other Predictors on the Recurrence of Superficial Bladder Tumors**  
Ying-Hsu Chang, MD; Cheng-Keng Chuang, MD, PhD; See-Tong Pang, MD, PhD;  
Chun-Te Wu, MD, PhD; Kun-Lung Chuang, MD; Shuen-Kuei Liao, PhD  
Cystoscopy with bladder biopsy was evaluated as a predictor of bladder tumor recurrence. Patients were divided into two groups: group 1 (cystoscopy with bladder biopsy) and group 2 (cystoscopy only). At the first three-month follow-up, patients without evidence of recurrence in the two groups (groups 1A and 2A) were compared. The one-year/two-year recurrence rates in groups 1A and 2A were 2.4%/23.8% and 16.9%/22.1%, respectively. Univariate analysis showed no significant differences between groups. Cystoscopy with bladder biopsy during the first three-month follow-up does not mitigate tumor recurrence in later years. Regular cystoscopic evaluation alone is sufficient for long-term patient surveillance.
- 182 Age-related Reference Levels of Serum Prostate-specific Antigen among Taiwanese Men without Clinical Evidence of Prostate Cancer**  
Kuo-Jen Lin, MD; See-Tong Pang, MD, PhD; Ying-Hsu Chang, MD; Chun-Te Wu, MD, PhD;  
Kun-Lung Chuang, MD; Heng-Chang Chuang, MD; Cheng-Keng Chuang, MD, PhD  
To determine the normal distribution of serum prostate-specific antigen (PSA) levels in Taiwanese men, healthy Taiwanese men undergoing a routine health examination between August 2006 and October 2007 in our hospital were recruited into this study. A total of 7803 participants were included. The reference level for serum PSA (95<sup>th</sup> percentile range) was 3.329 ng/ml for men 50-59 years old; 5.114 ng/ml for men 60-69 years old; 6.237 ng/ml for those 70-79 years old. These findings confirm that the serum PSA is directly correlated with age, and offer more efficient PSA reference values for prostate cancer screening tests in Taiwanese men.

**188 Double Primary Teeth in Children under 17 Years Old and Their Correlation with Permanent Successors**

Chen-Wei Wu, DDS; Yng-Tzer Lin, DDS, MS; Yai-Tin Lin, DDS, MS

We investigated double primary teeth in 7868 children under 17 years old in southern Taiwan and found that the prevalence rate was 0.72%. Double primary teeth were mostly mandibular lateral incisors and canines. Approximately 56% of cases experienced further problems in the permanent successors. Hypodontia was the most common problem in permanent successors.

**194 Electrocorticographic Monitoring as An Alternative Tool for the Pre-surgical Evaluation of Patients with Bi-temporal Epilepsy**

Peng-Wei Hsu, MD; Hsien-Chih Chen, MD; Yin-Cheng Huang, MD; Chee-Ching Hsu, MD, PhD; Tony Wu, MD, PhD; Chen-Nen Chang, MD

To analyze the surgical outcome of patients with temporal lobe epilepsy with bilateral foci, we retrospectively analyzed 12 patients with bilateral epileptic foci after scalp electroencephalography examination who underwent ECoG between May 1995 and July 2000. Subdural strips were implanted in the bilateral subtemporal regions for a one-week ECoG recording. Following an anterior temporal lobectomy, the majority of patients (8 of 11) enjoyed a seizure-free phenotype during the ensuing 3 years. No operation-related mortality or morbidity was noted.

**201 Nuclear Titin Interacts with Histones**

Lan King, PhD; Chun-Ru Jhou, MSc

This study confirmed the existence of titin in the nucleus by developing a purification procedure to isolate titin molecules from the nucleus. The purified titin molecules exhibited strong interaction with histones H2A, H3 and H4 judged by mass spectrometry (MS) and MS/MS analyses. These results suggest that titin functions as a chromosome scaffold.

## CASE REPORTS

**211 Aripiprazole Improves Social Interaction in Taiwanese Children with Pervasive Developmental Disorder**

Shu-Chi Huang, MD; Shih-Jen Tsai, MD; Hao-Jan Yang, PhD

Aripiprazole, an atypical antipsychotic, is effective in children with psychosis and few adverse effects have been reported. However, little is known about the efficacy and safety of aripiprazole in the treatment of autistic or other pervasive developmental disorders. We report on three children with pervasive developmental disorders who were treated with aripiprazole for associated behavioral syndromes. Aripiprazole significantly improved the social interaction of all three children. Furthermore, two patients also showed significant improvement in depression/anxiety syndromes. The outcomes achieved with aripiprazole in these cases suggest that it is a potential therapeutic agent for children with pervasive developmental disorders.

**216 Myocardial Bridging of the Right Coronary Artery inside the Right Atrial Myocardium Identified by ECG-gated 64-slice Multidetector Computed Tomography Angiography**

Chien-Cheng Chen, MD; Huan-Wu Chen, MD; Chen-Ju Fu, MD; Fen-Chiung Lin, MD; Ming-Shien Wen, MD; Yung-Liang Wan, MD; Yuan-Chang Liu, MD

A myocardial bridge (MB) is defined as an intramyocardial course of a major epicardial coronary artery, and it is mainly confined to the left ventricle and the left anterior descending coronary artery. There are rare reports of right coronary MB seen during angiographic examination. Herein, we present a 49 year-old man with right coronary artery MB without luminal narrowing in the diastolic and systolic phases of electrocardiography-gated computed tomography images. The value of multi-detector computed tomography for the detection of anatomical variants in the cardiovascular system is further discussed.

**220 INSTRUCTIONS TO AUTHORS**

# 長 庚 醫 誌

## 綜 說

- 115 胰島素受體訊息在神經突觸塑性及認知功能中所扮演之角色  
黃瓊君 李政哲 許桂森
- 126 經由抑制鈉鉀幫浦達成行血功能的中藥材有效成分  
曾志正 陳榮佑 鍾澤裕 陳怡菁 林南海

## 原 著

- 137 在 B 型及 C 型肝炎盛行地區之 D 型肝炎及 GB 病毒-C 的感染  
張倡榮 江瑞錦 盧勝男 王景弘
- 145 手術切除的食道鱗狀上皮癌中並無 Fas 途徑的基因突變  
柯志霖 楊秋英 莊政諺 文美卿 繆珍 夏君毅 徐中平
- 152 兒童時期的卵巢腫瘤——八年期間的三十七病例回溯及探討  
朱世明 明永青 趙舜卿 賴勁堯 陳正昌 楊兆平 駱至誠
- 157 色素性癢疹：11 個病例臨床和病理組織的研究  
林尚宏 何宜承 鄭裕文 黃柏翰 王振宇
- 164 比較接受醫院型式及社區醫療型式服務的發展遲緩兒童其特殊醫療照護需求  
陳穎萱 林克忠 陳仲堯 陳嘉玲 劉文瑜 廖美雲 吳菁宜 許宏志
- 174 膀胱鏡合併切片檢查與其他預測因子對表淺性膀胱腫瘤復發的影響  
張英勛 莊正鏗 馮思中 吳俊德 莊昆隆 廖順奎
- 182 台灣無前列腺癌的男性前列腺特異指數依年齡分布的參考值  
林國仁 馮思中 張英勛 吳俊德 莊昆隆 莊恆彰 莊正鏗
- 188 十七歲前乳牙雙生齒與繼生恆齒關係之調查研究  
吳晟暉 林瑩澤 林雅婷
- 194 以大腦皮質電位記錄做為雙側性顳葉癲癇術前的評估工具  
徐鵬偉 陳先志 黃盈誠 徐至清 吳禹利 張承能
- 201 彈性連結素在細胞核內與組蛋白作用  
金蘭 周純如

## 病例報告

- 211 Aripiprazole 改善台灣兒童廣泛性發展障礙之社交功能  
黃淑琦 蔡世仁 楊浩然
- 216 右冠狀動脈心肌橋以 64 切面電腦斷層冠狀動脈攝影診斷之病例報告  
陳建誠 陳煥武 傅真如 林芬瓊 溫明賢 萬永亮 劉原彰
- 220 長庚醫學雜誌投稿須知