

# Chang Gung Medical Journal

## CONTENTS IN BRIEF

### REVIEW ARTICLES

- 235 **The Potential Application of Granulocyte Colony Stimulating Factor Therapy on Neuropathic Pain**  
Long-Sun Ro, MD, PhD; Shyue-Ru Chen, MS; Po-Kuan Chao, MS; Yun-Lin Lee, MS;  
Kwok-Tong Lu, PhD
- 247 **Sleep-disordered Breathing in Children**  
Hsueh-Yu Li, MD; Li-Ang Lee, MD

### FORUM

- 258 **The Highly Pathogenic Avian Influenza H5N1 – Initial Molecular Signals for the Next Influenza Pandemic**  
Yasuo Suzuki, PhD

### ORIGINAL ARTICLES

- 264 **The Efficiency of Percoll and Ficoll Density Gradient Media in the Isolation of Marrow Derived Human Mesenchymal Stem Cells with Osteogenic Potential**  
Yuhan Chang, MD; Pang-Hsin Hsieh, MD; Chuck C.-K. Chao, PhD
- 276 **Biomechanical Testing of Spinal Fusion Segments Enhanced by Extracorporeal Shock Wave Treatment in Rabbits**  
Tao-Chen Lee, MD; Yu-Lin Yang, PhD; Nyuk-Kong Chang, DVM; Ting-Sheng Lin, PhD;  
Wan-Ching Lin, BS; Yi-Shiuan Liu, BS; Ching-Jen Wang, MD
- 283 **Using the 100-g Oral Glucose Tolerance Test to Predict Fetal and Maternal Outcomes in Women with Gestational Diabetes Mellitus**  
Chia-Hung Lin, MD; Shih-Fen Wen, BSc; Ya-Hui Wu, BSc; Miao-Ju Huang, MD
- 290 **Etiologic Features in Patients with Unilateral Vocal Fold Paralysis in Taiwan**  
Hui-Chen Ko, MD; Li-Ang Lee, MD; Hsueh-Yu Li, MD; Tuan-Jen Fang, MD
- 297 **Comparison of the Static and Dynamic Balance Performance in Young, Middle-aged, and Elderly Healthy People**  
Mei-Yun Liaw, MD; Chia-Ling Chen, MD, PhD; Yu-Cheng Pei, MD; Chau-Peng Leong, MD;  
Yiu-Chung Lau, MD
- 305 **Long-term Video-EEG Monitoring for Paroxysmal Events**  
Ying-Ying Lee, MD; Mei-Ying Lee; I-an Chen, MD; Yu-Tai Tsai, MD; Chung-Yang Sung, MD;  
Hsiang-Yao Hsieh, MD; Siew-Na Lim, MD; Peter Wu Hung; Tony Wu, MD, PhD

**313 Help-seeking Behavior in Taiwanese Woman with Menopause-related Mood Symptoms**  
Mei-Chun Hsiao, MD; Pi-Hui Chiang, MS; Chia-Yih Liu, MD; Yi-Hsiung Lin, MD

**320 Vertical Skeletal and Facial Profile Changes after Surgical Correction of Mandibular Prognathism**  
Yueh-Tse Lee, DDS; Min-Chin Chen, PhD; Huei-Lin Chen, DDS; Chou Bing Wu, DDS, PhD

### **CASE REPORTS**

**330 *De Novo* Dedifferentiated Chordoma of the Sacrum: A Case Report and Review of the Literature**  
Wen-Chi Chou, MD; Yu-Shin Hung, MD; Chang-Hsien Lu, MD; Kun-Yun Yeh, MD;  
Swei-Sheu, MD; Chuang-Chi Liaw, MD

**336 Fibrolamellar Hepatocellular Carcinoma- Report of A Case**  
Ju-Bei Yen, MD; Kuei-Wen Chang, MD

**340 INSTRUCTIONS TO AUTHORS**

# Chang Gung Medical Journal

## CONTENTS

### REVIEW ARTICLES

**235 The Potential Application of Granulocyte Colony Stimulating Factor Therapy on Neuropathic Pain**

Long-Sun Ro, MD, PhD; Shyue-Ru Chen, MS; Po-Kuan Chao, MS; Yun-Lin Lee, MS; Kwok-Tong Lu, PhD

Neuropathic pain is a type of pain arising as a direct consequence of a lesion or disease affecting the somatosensory system. It is relatively common and can not be treated easily. One effective strategy in neuropathic pain can result from interactions between leukocyte-derived opioid peptides and their receptors on peripheral sensory neurons. Here, we briefly review granulocyte colony stimulating factor therapy in an animal model of neuropathic pain that has led to an increased understanding of the opioids and cytokines -modulating peripheral analgesia effect on neuropathic pain, which opens a new avenue in its treatment.

**247 Sleep-disordered Breathing in Children**

Hsueh-Yu Li, MD; Li-Ang Lee, MD

Children with sleep-disordered breathing (SDB) can manifest a continuum from simple snoring to obstructive sleep apnea (OSA). Most children who present with SDB are 4 to 8 years old with variable clinical symptoms at different ages. Adenotonsillar hypertrophy is the leading cause of OSA. As in adults, polysomnography is the gold standard diagnostic tool for OSA in children. Adenotonsillectomy is the cardinal treatment for pediatric SDB and is usually followed by resolution of clinical symptoms. However, maxillofacial surgery, orthodontic procedures, and continuous positive airway pressure are helpful in treating pediatric OSA in patients with underlying structural or neuromuscular deficiencies.

### FORUM

**258 The Highly Pathogenic Avian Influenza H5N1 – Initial Molecular Signals for the Next Influenza Pandemic**

Yasuo Suzuki, PhD

A new pandemic influenza in the human world may originate from avian reservoirs. Influenza is one of the most widely spread zoonotic infectious diseases. All avian influenza viruses are type A, and they have often caused pandemics throughout human history. The highly pathogenic H5N1 influenza A viruses have now been spreading to many countries in Asia, Europe and Africa. They have infected an increasing number of humans in at least 14 countries in the world. This paper describes recent advances in the mechanism of transmission of highly pathogenic avian influenza to humans and measures for control of a new pandemic.

### ORIGINAL ARTICLES

**264 The Efficiency of Percoll and Ficoll Density Gradient Media in the Isolation of Marrow Derived Human Mesenchymal Stem Cells with Osteogenic Potential**

Yuhan Chang, MD; Pang-Hsin Hsieh, MD; Chuck C.-K. Chao, PhD

Percoll and Ficoll density gradient media are widely used in the isolation of human mesenchymal stem cells (hMSCs) for research. In this study, the ability of the two methods to isolate MSCs from human bone marrow was compared. We found that the Ficoll methodology was superior to that of Percoll in the preparation of hMSCs.

**276 Biomechanical Testing of Spinal Fusion Segments Enhanced by Extracorporeal Shock Wave Treatment in Rabbits**

Tao-Chen Lee, MD; Yu-Lin Yang, PhD; Nyuk-Kong Chang, DVM; Ting-Sheng Lin, PhD; Wan-Ching Lin, BS; Yi-Shiuan Liu, BS; Ching-Jen Wang, MD

Twelve rabbits underwent fusion at the bilateral L5 and L6 transverse processes. In the study group (n = 6), the bilateral L5 and L6 transverse processes were treated with extracorporeal shock wave treatment (ESWT). The

control group rabbits did not undergo ESWT. Radiographic examinations showed that ESWT stimulated new bone growth. Biomechanical tests showed that ESWT significantly increased the flexion and extension stiffness of spinal fusion segments.

**283 Using the 100-g Oral Glucose Tolerance Test to Predict Fetal and Maternal Outcomes in Women with Gestational Diabetes Mellitus**

Chia-Hung Lin, MD; Shih-Fen Wen, BSc; Ya-Hui Wu, BSc; Miao-Ju Huang, MD

From March 2001 to February 2006, 8557 pregnant women underwent a 50-g glucose challenge test, followed by a 100-g oral glucose tolerance test (OGTT) according to the Carpenter and Coustan modification, and the incidence of gestational diabetes mellitus (GDM) was 7.4%. Older age, lower weight gain during pregnancy, higher rates of caesarean section, and more macrosomia and neonatal deaths occurred in the 617 women with GDM compared to the 1250 women with normal glucose tolerance. The fasting glucose in the 100-g OGTT was positively correlated with birth weight and a value exceeding 90 mg/dl was 80% sensitive and 50% specific for macrosomia.

**290 Etiologic Features in Patients with Unilateral Vocal Fold Paralysis in Taiwan**

Hui-Chen Ko, MD; Li-Ang Lee, MD; Hsueh-Yu Li, MD; Tuan-Jen Fang, MD

This retrospective, two-center study was conducted to investigate concurrent etiologies in patients with acquired unilateral vocal fold paralysis (UVFP). The causes were iatrogenic (48%), subclinical tumor (12%), neck trauma (7%), radiation effect (6%) and other causes (5%). In this study, thyroidectomy was the most common surgical cause of UVFP. Thyroid tumors and lung tumors could result in UVFP. In patients younger than 30 years, neck trauma was a major cause of UVFP. Accordingly, a tailored management strategy for UVFP is needed because vocal fold immobilization is an important sign of various underlying diseases.

**297 Comparison of the Static and Dynamic Balance Performance in Young, Middle-aged, and Elderly Healthy People**

Mei-Yun Liaw, MD; Chia-Ling Chen, MD, PhD; Yu-Cheng Pei, MD; Chau-Peng Leong, MD; Yiu-Chung Lau, MD

One hundred and seven individuals were divided into young, middle-aged, and elderly groups, and assessed using computerized dynamic posturography, which comprised sensory organization tests, motor control balance tests at the 75% limit of stability in 8 movement directions, and left/right rhythmic weight shift tests. The results showed the elderly had a higher degree of postural imbalance and used hip strategy to a greater extent to maintain balance, especially when standing on a swaying support surface in the absence of a visual surround or in the presence of a conflicted visual surround. The elderly required a longer reaction time and demonstrated lower directional control in balance performance.

**305 Long-term Video-EEG Monitoring for Paroxysmal Events**

Ying-Ying Lee, MD; Mei-Ying Lee; I-an Chen, MD; Yu-Tai Tsai, MD; Chung-Yang Sung, MD; Hsiang-Yao Hsieh, MD; Siew-Na Lim, MD; Peter Wu Hung; Tony Wu, MD, PhD

To analyze the yield of 2-day video-electroencephalography monitoring (VEM) in managing patients with paroxysmal events, we established a strict VEM protocol and made a prospective study of 129 consecutive patients admitted with a diagnosis of paroxysmal events. Seventy patients (54.3%) had events recorded and a diagnostic yield of 76% was achieved. The two-day VEM led to significant changes in diagnostic categories (41.1%) and treatment (33.7%). With a well-established VEM protocol and protective measures, no status epilepticus or trauma ensued from seizure clusters in 11 patients during VEM. Two-day VEM is a safe and efficient diagnostic tool, guiding treatment appropriate for patients with episodic events.

**313 Help-seeking Behavior in Taiwanese Woman with Menopause-related Mood Symptoms**

Mei-Chun Hsiao, MD; Pi-Hui Chiang, MS; Chia-Yih Liu, MD; Yi-Hsiung Lin, MD

Menopausal symptoms sometimes mimic cardiovascular illnesses or other physical problems. We recruited 181 women from one menopause-related mood clinic and collected patient data, help-seeking information and anxiety/ depression scores on the Hospital Anxiety Depression Scale and Menopause Rating Scale (MRS). Their first contacts were gynecologists, general practitioners, cardiologists, and psychiatrists. The most common contacts were gynecologists, general practitioners, and psychiatrists. Women who had visited gynecologists had higher somatovegetative scores on the MRS. The results suggest that increasing the public's understanding of menopause and improving cooperation with the public are very important.

**320 Vertical Skeletal and Facial Profile Changes after Surgical Correction of Mandibular Prognathism**

Yueh-Tse Lee, DDS; Min-Chin Chen, PhD; Huei-Lin Chen, DDS; Chou Bing Wu, DDS, PhD

Patients with mandibular prognathism had surgical correction and we studied the postoperative vertical changes. Subjects included 18 patients who had surgical correction (S group) and 18 patients with untreated Class I malocclusion (C group). Cephalograms revealed no differences in the upper facial heights in the two groups. However, the S group exhibited longer anterior, and shorter posterior lower facial heights. Moreover, surgical correction maintained the chin position but reduced the posterior ramus heights. Thus, the results indicate that surgical correction can be planned to maintain lower vertical facial heights without violating physiological function.

**CASE REPORTS**

**330 *De Novo* Dedifferentiated Chordoma of the Sacrum: A Case Report and Review of the Literature**

Wen-Chi Chou, MD; Yu-Shin Hung, MD; Chang-Hsien Lu, MD; Kun-Yun Yeh, MD; Swei-Sheu, MD; Chuang-Chi Liaw, MD

We report a case of the rare *de novo* dedifferentiated chordoma (DC) of the sacrum in a patient without prior surgical or radiation treatments. A complete review of reported cases sourced from reports published in English literature is discussed and expanded upon and conclusions on the treatment of DC are presented.

**336 Fibrolamellar Hepatocellular Carcinoma- Report of A Case**

Ju-Bei Yen, MD; Kuei-Wen Chang, MD

Fibrolamellar hepatocellular carcinoma (FLH) is a variant of hepatocellular carcinoma (HCC) with distinct clinical, histologic and prognostic features different from conventional HCC. Herein, we present a 14-year-old girl with a palpable mass over the right upper -quadrant of the abdomen. A well-defined mass in the left liver with heterogeneous density and a central linear band was demonstrated by ultrasound and computed tomogram. FLH was proved by the histopathology study of a liver specimen taken from an echo-guided liver core needle biopsy before surgery and from a left hepatectomy. No tumor recurrence was detected by ultrasound in the 2-year follow-up.

**340 INSTRUCTIONS TO AUTHORS**

# 長 庚 醫 誌

## 綜 說

- 235 顆粒球生長激素療法對神經病變痛具有潛力的臨床應用  
羅榮昇 陳學如 趙伯寬 李泳鈴 呂國棟
- 247 小孩睡眠呼吸障礙  
李學禹 李立昂

## 論 壇

- 258 The Highly Pathogenic Avian Influenza H5N1 – Initial Molecular Signals for the Next Influenza Pandemic  
Yasuo Suzuki

## 原 著

- 264 使用比重梯度溶液分離人類骨髓間葉幹細胞效率之研究  
張毓翰 謝邦鑫 趙清貴
- 276 以生物力學檢測體外震波對脊椎融合的功效：兔子的動物實驗  
李道真 楊堉麟 鄭玉光 林鼎勝 林宛青 劉逸玄 王清貞
- 283 以 100 公克葡萄糖耐受試驗來評估妊娠糖尿病婦女及胎兒之預後  
林嘉鴻 溫世芬 吳雅慧 黃妙珠
- 290 台灣單側聲帶麻痺患者之病因特徵  
柯卉真 李立昂 李學禹 方端仁
- 297 健康年輕、中年、老年人靜態和動態平衡的比較  
廖美雲 陳嘉玲 裴育晟 梁秋萍 劉耀宗
- 305 長時間影像腦波監測在陣發症狀之臨床應用  
李盈瑩 李美瑩 陳怡安 蔡育泰 宋崇元 謝向堯 林秀娜 洪實修 吳禹利
- 313 某台灣更年期身心門診婦女之求醫行為探討  
蕭美君 姜丕慧 劉嘉逸 林義雄
- 320 下顎骨前突之手術矯正後骨骼與顏面輪廓垂直向的變化  
李岳澤 陳明岐 陳慧玲 吳秋彬

## 病例報告

- 330 薦骨的原生性去分化脊索瘤：病例報告及歷史文獻回顧  
周文其 洪玉馨 呂長賢 葉光揚 薛綏 廖宗琦
- 336 纖維板層肝細胞癌  
顏如貝 張魁文
- 340 長庚醫學雜誌投稿須知