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REVIEW ARTICLES

591 **Leptospirosis: A Toll Road from B Lymphocytes**

Catherine Werts, PhD

Leptospirosis is a widespread zoonosis caused by pathogenic *Leptospira interrogans*. Toll-like receptors (TLRs)-2 and 4 of the innate response have been shown to be involved in the recognition of important *Leptospira* antigens, such as lipopolysaccharide or lipoproteins. Using transgenic and deficient mice, we have recently deciphered the role of TLRs in the clearance of *Leptospira*. We detected an early TLR4-dependent production of anti-*Leptospira* immunoglobulin M, which helped to protect the mice, and also a TLR2- and TLR4-mediated protective response in the target organs. Unexpectedly, we also found that in the absence of this potent TLR control, the pathogenic *Leptospira* induced deleterious, MyD88-independent inflammation.

602 **Cutaneous Melanoma: Taiwan Experience and Literature Review**

John Wen-Cheng Chang, MD

Malignant melanoma is a rare disease in Taiwan. Excessive exposure to ultraviolet radiation is not associated with most Taiwanese melanoma. Acral lentiginous melanoma comprises 58% of cutaneous melanoma. Surgery, including resection of the primary melanoma, sentinel lymph nodes that may harbor microscopic metastasis, clinically abnormal lymph nodes, and selected distant metastases, is the most important treatment. Adjuvant interferon significantly prolongs progression-free survival. However, its use in Taiwan is limited by its substantial toxicity. The prognosis of metastatic disease remains poor. Recently, biochemotherapy has been commonly utilized to treat patients with metastatic melanoma.

ORIGINAL ARTICLES

613 **Changes in High-density Lipoprotein and Homeostasis Model Assessment of Insulin Resistance in Medicated Schizophrenic Patients and Healthy Controls**

Meng-Chang Tsai, MD; Chia-Ming Chang, MD; Tiao-Lai Huang, MD

This study intended to simultaneously investigate the relationships between high-density lipoprotein (HDL) and homeostasis model assessment of insulin resistance (HOMA-IR) in medicated schizophrenic patients vs healthy controls. We recruited 37 medicated schizophrenic patients and 30 healthy controls. An analysis of covariance (ANCOVA) with BMI adjustment revealed that the patients had significantly lower HDL levels than the healthy controls ($p = 0.017$). ANCOVA with age adjustment revealed that the patients had significantly higher fasting insulin levels than the healthy controls ($p = 0.034$). In conclusion, we found lower HDL and higher insulin levels in medicated schizophrenic patients than in healthy controls.

619 **Correlations between Expression of Epidermal Growth Factor Receptor (EGFR), Phosphorylated EGFR, Cyclooxygenase-2 and Clinicopathological Variables and Treatment Outcomes in Nasopharyngeal Carcinomas**

Tai-Lin Huang, MD; Chien-Feng Li, MD; Hsuan-Ying Huang, MD; Fu-Min Fang, MD, PhD

We analyzed the immunorexpression of epidermal growth factor receptor (EGFR), phosphorylated EGFR (pEGFR^{Tyr1068}), and cyclooxygenase-2 (COX-2) and their prognostic utility in 170 nasopharyngeal carcinomas (NPC) patients. The ranges of immunohistochemical H-scores were 0-510 (median 225) for EGFR, 0-395 (median 25) for pEGFR^{Tyr1068}, and 0-460 (median 170) for COX-2. None of these 3 markers were significantly associated with one another, clinicopathological factors, or rates of locoregional control, distant metastasis-free survival, or overall survival for NPC patients treated by radiotherapy.

628 **Brain Reorganization after Bilateral Arm Training and Distributed Constraint-induced Therapy in Stroke Patients: A Preliminary Functional Magnetic Resonance Imaging Study**

Ching-Yi Wu, ScD, OTR; Yu-Wei Hsieh, MS; Keh-Chung Lin, ScD, OTR;

Li-Ling Chuang, PhD, PT; Ya-Fen Chang, MS; Ho-Ling Liu, PhD; Chia-Ling Chen, MD, PhD;

Kwan-Hwa Lin, PhD, PT; Yau-Yau Wai, MD

This study compared the effects of bilateral arm training (BAT) with distributed constraint-induced therapy (dCIT) on brain reorganization and motor function after stroke. Six stroke patients received BAT or dCIT for 3 weeks for 5 days per week. Functional magnetic resonance imaging (fMRI) examination and clinical measures were administered. Patients showed varied patterns of fMRI changes and improved motor function after intervention. During bilateral elbow movement, the BAT group showed increased bilateral cerebellar activation, whereas the dCIT group showed decreased cerebellar activation. Neuroplastic changes after motor rehabilitation may be specific to the intervention. Further larger studies are warranted to validate the findings.

639 Feasibility and Safety of A Transradial Approach in Intervention for Chronic Total Occlusion of Coronary Arteries: A Single-center Experience

Cheng-Hsu Yang, MD; Gary Bih-Fang Guo, MD, PhD; Shyh-Ming Chen, MD; Hon-Kan Yip, MD; Kelvin Hsieh, MD; Chi-Yung Fang, MD; Chien-Jen Chen, MD; Chi-Ling Hang, MD; Mien-Cheng Chen, MD; Chiung-Jen Wu, MD

The transradial approach for cardiac catheterization has become popular; however, its feasibility and safety in percutaneous coronary intervention (PCI) for chronic total occlusion (CTO) have rarely been reported. We retrospectively examined the angiographic and clinical outcomes in 419 consecutive patients with CTO who underwent a transradial artery approach (n = 400) or a transfemoral artery approach (n = 19) between 1998 and 2003. There were no statistical differences in the rates of procedure success and major complications between the 2 groups. We conclude that the transradial approach for PCI can be a feasible choice for a CTO lesion.

646 A Preliminary Study of the Development, Validity, and Reliability of A Caregiver Questionnaire for the Health-related Quality of Life in Children with Cerebral Palsy

Wen-Yu Liu, PT, PhD; Yu-Jen Hou, PT, MS; Hua-Fang Liao, PT, MS; Yang-Hua Lin, PT, PhD; Yu-Ying Chen, PT, MS; Alice MK Wong, MD

This pilot study aimed to develop and test the validity and reliability of a caregiver questionnaire (CQ) for health-related quality of life (HRQL) in children with cerebral palsy (CP) (CQ-HRQL-CP). The questions were modified based on the content validity. Parents of children with CP completed tests of the item discriminant validity, internal consistency, and test-retest reliability. The results suggest that the CQ-HRQL-CP is a reliable measure. Other psychometric characteristics will be examined in the future.

659 Atrial Size Independently Correlates with the Development of Paroxysmal Atrial Fibrillation in Patients with Sick Sinus Syndrome

Yu-Sheng Lin, MD; G. Bih-Fang Guo, MD; Yung-Lung Chen, MD; Tzu-Hsien Tsai, MD; Kuo-Li Pan, MD; Wen-Hao Liu, MD; Chien-Jen Chen, MD; Cheng-Hsu Yang, MD; Chih-Yuan Fang, MD; Yuan-Kai Hsieh, MD; Mien-Cheng Chen, MD

This case-control survey involved 144 patients with planned transvenous permanent pacemaker implantation for sick sinus syndrome. Patients were classified into two groups, patients with (n = 71) and without (n = 73) a history of paroxysmal atrial fibrillation before implantation. Multiple logistic regression analysis identified that the left atrial area size independently correlated with the development of atrial fibrillation: each 1 cm² increase in left atrial area corresponded to a 44% increase in risk.

668 Short- to Medium-term Outcomes of Radial Head Replacement Arthroplasty in Posttraumatic Unstable Elbows: 20 to 70 Months Follow-up

Hung-Yang Chien, MD; Alvin Chao-Yu Chen, MD; Jau-Wen Huang, MD; Chun-Ying Cheng, MD; Kuo-Yao Hsu, MD

Treatment of irreparable radial head fractures with a modular titanium radial head prosthesis and soft-tissue reconstruction showed satisfactory results. Early mobilization of the elbow is important for the restoration of elbow range of motion and function. Studies with a control group and long-term follow-up are needed for further evaluation.

679 Percutaneous Trigeminal Nerve Radiofrequency Rhizotomy Guided by Computerized Tomography with Three-dimensional Image Reconstruction

Jen-Tsung Yang, MD, PhD; Martin Lin, MBChB; Ming-Hsueh Lee, MD; Hsu-Huei Weng, MD, MPH, PhD; Han-Hung Liao, RT

Percutaneous radiofrequency trigeminal rhizotomy offers high rates of complete pain relief for classic idiopathic

trigeminal neuralgia. When performed under fluoroscopy, it may cause anxiety for an inexperienced neurosurgeon owing to lack of familiarity with the regional anatomy. The authors describe the new procedure of computerized tomography with three-dimensional image reconstruction that can provide for precise placement of the rhizotomy needle in a safe and timely manner, which improves patient comfort and shortens operative time.

684 Cost Feasibility of A Pre-checking Medical Tourism System for U.S. Patients Undertaking Joint Replacement Surgery in Taiwan

Ching-Ying Haung, PhD; Sheng-Pen Wang, PhD; Chih-Wei Chiang, MD

This article presents a pre-checking medical tourism system for evaluating the cost feasibility of recruiting American patients to Taiwan for joint replacement surgery. Cost analysis was used to estimate the prime costs for each stage in the proposed business model. The break-even method was adopted to test the tradeoff between the sunk costs of investment in pre-checking stations and the annual surplus from this plan by analyzing the number of patients and the pricing strategy.

CASE REPORTS

693 Mixed Epithelial and Stromal Tumor of the Kidney – A Case Report

Chen-Pang Hou, MD; Yang-Jen Chiang, MD; Sheng-Hsien Chu, MD; Kwai-Fong Ng, MD; Hsu-Han Wang, MD

A 45-year-old woman presented with painless hematuria. A 7 cm multicystic enhanced tumor was found on her left renal pelvis and proximal ureter. The tumor was resected laparoscopically and the pathology demonstrated MESTK without malignant cells. We suggest keeping in mind the diagnosis of mixed epithelial and stromal tumor of the kidney when encountering perimenopausal women with renal cystic tumors.

699 A Surgery-first Approach in Surgical-orthodontic Treatment of Mandibular Prognathism – A Case Report

Chung-Chih Yu, MD; Po-Hsun Chen, DDS, MS; Eric J.W. Liou, DDS, MS; Chiung-Shing Huang, DDS, PhD; Yu-Ray Chen, MD

This is a case report of surgical-orthodontic treatment for mandibular prognathism without presurgical orthodontic preparation. This case demonstrated a rapid course of total treatment time and a good result. The treatment course and planning are presented in detail. This report shows that a surgery-first approach could be an effective alternative to conventional surgical-orthodontic treatment.

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