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REVIEW ARTICLES

555 Lipoprotein(a) in Vascular Disease, Cancer and Longevity

June Hsieh Wu, PhD

High blood levels of Lipoprotein(a) [Lp(a)] are associated with coronary artery disease and stroke, but the absence of Lp(a) does not affect normal human functioning. Lp(a) is a variable size apo(a) protein that surrounds bad cholesterol containing low-density lipoprotein particles. Lp(a) has been implicated in wound repair and longevity and apo(a) degradation products have been found to have anti-cancer activity. This lipoprotein displays both good and bad functionality in humans.

565 Transposon-based Vector Systems for Gene Therapy Clinical Trials: Challenges and Considerations

Yaa-Jyuhn James Meir, PhD; Sareina Chiung-Yuan Wu, PhD

Much progress has been made in gene therapy, but significant challenges remain. DNA transposons are now emerging as viable vectors for gene therapy. In this article, we will briefly review the adverse effects associated with virus-based gene therapy. The development of DNA transposon-based gene delivery systems and the advantages and limits of the most commonly used DNA transposon systems will be discussed with focuses on the most promising transposon system for gene therapy, piggyBac. Challenges and considerations for advancing piggyBac for therapeutic application will be critically addressed.

ORIGINAL ARTICLES

580 In Vitro Activities of Nine Current Antibiotics against Culprit Bacteria in Nosocomial Infections in An Institution in Northern Taiwan

Sai-Cheong Lee, MD; Shie-Shian Huang, MD; Lai-Chu See, PhD; Ming-Han Tsai, MD; Wen-Ben Shieh, MD

This study assessed the in vitro activities of ampicillin/sulbactam, ceftiofime, colistin, daptomycin, ertapenem, meropenem, teicoplanin, tigecycline and vancomycin against 208 aerobic bacterial pathogens that caused 197 nosocomial infections with Etest. Of the 31 oxacillin-resistant *S. aureus* (ORSA) isolates, 16 were susceptible to daptomycin (16/31, 51.6%) according to the breakpoint $\leq 1 \mu\text{g/ml}$. All 31 ORSA isolates were susceptible to teicoplanin and vancomycin but MICs of vancomycin for all 31 ORSA isolates were $\geq 1 \mu\text{g/ml}$. Of the 21 isolates of *A. baumannii* that were multiple-drug-resistant, 19 isolates (19/21, 90%) were susceptible to colistin and 18 isolates (18/21, 86%) sensitive to tigecycline.

590 A Phase II Study of Irinotecan in Combination with Cisplatin as Second-line Chemotherapy in Patients with Metastatic or Locally Advanced Gastric Cancer

Wen-Chi Shen, MD; Tsai-Sheng Yang, MD; Hung-Chih Hsu, MD; Jen-Shi Chen, MD

No standard secondary-line chemotherapy for advanced gastric cancer has been recommended. Twenty-four previously treated patients with advanced gastric cancer were enrolled in this study; they received irinotecan 60 mg/m² followed by cisplatin 30 mg/m² on days 1 and 8, every three weeks. Five patients (21%) achieved partial response, while 10 patients (42%) remained stable. The median progression-free survival was 109 days and median overall survival was 222 days. The major grade 3/4 toxicities were neutropenia 20.9% and diarrhea 8.3%. Second-line chemotherapy with irinotecan and cisplatin for advanced gastric cancer is effective and has acceptable toxicity.

599 Short-term Inhalation of Sevoflurane during Induction of General Anesthesia Can Inhibit the A-line ARX Index Response to Intubation: A Randomized Trial

Ching-Feng Lin, MD; Ching-Yue Yang, MD; Edison Chao, MBBS; Mel S. Lee, MD, PhD; Lai-Chu See, PhD

Thirty patients undergoing general anesthesia were investigated to determine whether inhalation of 6% sevoflurane with 4 L/min O₂ for three minutes following intravenous thiopental induction inhibited the occurrence

of inadequate hypnotic depth following intubation. The A-line ARX index was used to assess the state of unconsciousness. We found that adding a short-term inhalation of sevoflurane during the induction of anesthesia could prevent the occurrence of inadequate hypnotic depth caused by intubation compared with the use of intravenous medication alone, but could not inhibit hemodynamic changes after intubation.

607 Comparison of Salivary Antioxidants in Healthy Smoking and Non-smoking Men

Hamid-reza Abdolsamadi, DDS; Mohammad-taghi Goodarzi, MD, PhD;

Hamed Mortazavi, DDS; Maryam Robati, DDS; Fatemeh Ahmadi-Motemayel, DDS

The aim of this study was to compare the levels of salivary antioxidants between healthy smoking and non-smoking men. Unstimulated whole saliva samples were collected from 80 smoking and non-smoking men. The mean levels of salivary superoxide dismutase, glutathione peroxidase, and peroxidase were significantly lower in smokers than non-smokers, but there was no difference in salivary uric acid. Measurement of antioxidant agents in human saliva might be useful for estimating the level of oxidative stress caused by cigarette smoke.

612 A Comprehensive Study of the Extensor Tendons to the Medial Four Digits of the Hand

Prameela Dass, MD; Latha V. Prabhu, MD; Mangala M. Pai, MD; Varsha Nayak, MD;

Ganesh Kumar, MD; Jiji P. Janardhanan, MSc

The arrangements of extensor tendons to the medial four fingers and the intertendinous connections were studied in hundred upper limbs. In 98% the extensor indicis proprius was having a single tendon with single insertion. In 77% the extensor digitorum communis distally gave tendons to middle three fingers. The extensor digitorum communis small was present in only 34% and the extensor digiti minimi showed normal anatomy in only 20%. Common type of juncturae tendinum in the 2nd, 3rd and 4th intermetacarpal space was type 1, 2 and 3rd respectively.

620 Association of Body Mass Index and Depressive Symptoms in a Chinese Community Population: Results from the Health Promotion Knowledge, Attitudes, and Performance Survey in Taiwan

Nan-Wen Yu, MD; Ching-Yen Chen, MD; Chia-Yi Liu, MD; Yeuk-Lun Chau, MS;

Chia-Ming Chang, MD, PhD

To examine the association between body mass index and depressive symptoms in the Chinese adult population, we assessed depressive symptoms using the Taiwanese Depression Questionnaire with a cut off point of 19. Body mass index was categorized as underweight, normal weight, overweight or obese. Bivariate analyses found underweight men were significantly more likely to have depressive symptoms than normal weight men, while obese women were significantly less likely to have depressive symptoms than normal weight women. Results supported the "jolly fat" hypothesis in the Chinese community and there was a gender difference in the association.

628 Periventricular Nodular Heterotopia and Cardiovascular Defects

Chih-Hong Lee, MD; Yau-Yau Wai, MD; Tony Wu, MD

Patients with a diagnosis of brain heterotopia on magnetic resonance imaging at Chang Gung Memorial Hospital between 1994 and 2010 were screened for both typical periventricular nodular heterotopia (PNH) and cardiovascular anomalies. One family (5 patients) and a sporadic case were found to have both typical PNH and cardiovascular anomalies. Two of them had aortic root aneurysm, and one had aortic regurgitation. Two patients had a history of seizures, but none of them had Ehlers-Danlos syndrome. Ehlers-Danlos syndrome is unusual in Asians with PNH. Aortic aneurysm and other valvular heart diseases are common cardiovascular anomalies in PNH patients.

636 Prognosis of Patients on Extracorporeal Membrane Oxygenation plus Continuous Arteriovenous Hemofiltration

Tsung-Yu Tsai, MD; Feng-Chun Tsai, MD; Chih-Hsiang Chang, MD; Chang-Chyi Jenq, MD;

Hsiang-Hao Hsu, MD, PhD; Ming-Yang Chang, MD, PhD; Ya-Chung Tian, MD, PhD;

Cheng-Chieh Hung, MD, PhD; Ji-Tseng Fang, MD; Chih-Wei Yang, MD;

Yung-Chang Chen, MD

Patients on extracorporeal membrane oxygenation (ECMO) plus continuous arteriovenous hemofiltration (CAVH) (n = 123) at a specialized intensive care unit (CVSICU) between March 2003 and August 2010 were studied

retrospectively. The overall mortality rate was 85.4%. The most common conditions requiring ECMO plus CAVH were cardiogenic shock and oliguria. The Acute Physiology and Chronic Health Evaluation II and organ system failure (OSF) scores indicated good discriminative power in the area under the receiver operating characteristic curve. Multiple logistic regression analysis indicated age, mean arterial pressure, and OSF score on day 1 of ECMO plus CAVH were independent risk factors for hospital mortality. Cumulative survival rates at the 6-month follow-up differed significantly between those with an OSF score ≤ 4 vs. those with an OSF score ≥ 5 .

CASE REPORTS

644 **Fatal Serotonin Toxicity Caused by Moclobemide and Fluoxetine Overdose**

Ming-Ling Wu, MD, MPH; Jou-Fang Deng, MD

A woman developed coma, mydriasis, hyperthermia, tremor, hyperreflexia, rhabdomyolysis, renal failure and respiratory insufficiency after she ingested multiple drugs, including moclobemide, fluoxetine, propranolol and several benzodiazepines. She died of disseminated intravascular coagulation and circulatory collapse at 22.5 h postingestion. Toxicological analysis of the patient's blood confirmed high levels of moclobemide 150 $\mu\text{g}/\text{mL}$ (therapeutic 1-3 $\mu\text{g}/\text{mL}$), fluoxetine 3750 ng/mL (therapeutic 47-469 ng/mL) and several benzodiazepines. Though a combination of moclobemide and fluoxetine has been used in refractory depression, it should be avoided in depressed patients with high suicidal tendencies

650 **Possible Role of Repetitive Practice of Activities Requiring Reflexive Responses in the Treatment of Tourette's Disorder**

Huei-Shyong Wang, MD; Meng-Fai Kuo, MD, PhD; Jeremy S. Stern, MB, BChir

Two boys with Tourette's disorder improved significantly after a period of repeated, sustained practice of activities requiring reflexive responses. Tics may be thought of as a kind of overflow of energy, and excessive energy consumption with physical or mental exercise may help the motor disorder and associated comorbidities.

654 **INSTRUCTIONS TO AUTHORS**

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