

# Chang Gung Medical Journal

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- 274**      **PET/CT in Oncology: a Major Technology for Cancer Care**  
Peter J. Ell, MD  
PET-CT can image tumor metabolism, proliferation, hypoxia, and apoptosis with precise anatomic image fusion and will become an essential tool in the management of patients with cancer by its ability to assess disease extent, severity, and response to treatment. It has changed dramatically the management of numerous cancers. PET-CT will be used with increasing frequency and will become progressively used as a surrogate marker for disease response. Novel ligands will further increase the clinical utility of this technology.
- 284**      **FDG-PET in Head and Neck, and Thyroid Cancer**  
Homer A. Macapinlac, MD  
FDG-PET is valuable in primary tumor localization in patients with neck metastases from an unknown primary, in the staging of primary head and neck cancer, and in the detection of recurrent disease. FDG-PET also provides prognostic information. After thyroidectomy, FDG-PET has proven useful in patients with clinical or serological evidence of recurrent or metastatic thyroid carcinoma but negative whole body iodine scan. Occasionally incidental intense FDG uptake is observed in the thyroid gland. Although diffuse FDG uptake usually indicates thyroiditis, focal uptake has been related to thyroid cancer in 25-50% of cases.
- 296**      **PET in Lung Cancer**  
Hans C. Steinert, MD  
Accurate tumor staging is essential for appropriate treatment in patients with lung cancer. PET improves the detection of mediastinal lymph node metastases as well as extrathoracic metastase. Integrated PET-CT enables the exact matching of focal abnormalities on PET to anatomic structures on CT. PET-CT is superior in diagnostic accuracy for T staging, in assisting mediastinoscopy to reveal additional mediastinal disease, and in detecting unexpected extrathoracic metastases. A very high accuracy of FDG-PET in distinguishing recurrent disease from benign treatment effects has been shown. At our institution PET-CT has become the standard imaging modality for staging patients with lung cancer.
- 306**      **PET/CT in Non-Small-Cell Lung Cancer: Value of Respiratory-Gated PET**  
Steven M. Larson; Sadek A. Nehmeh; Yusuf E. Erdi; John L. Humm  
The use of PET in the staging of patients with NSCLC is cost-effective. The greatest source of error in accurate localization and quantification on PET or PET-CT in lung cancer is respiratory motion. At MSKCC respiratory-gated PET (RGPET) is used in treatment planning. Gating gives a much clearer picture resulting improved local co-registration and quantitation (SUV). This development will also have important implications for controlling respiratory motion of the liver. We have successfully taken the first step in an attempt to correct for respiratory motion artifacts in PET imaging of lung lesions.
- 315**      **Role of PET in Lymphoma**  
Markus Schwaiger, MD; Hinrich Wieder, MD  
In Hodgkin's lymphoma (HL), PET imaging should be performed in all patients for staging. For aggressive Non-Hodgkin's lymphoma (NHL), PET imaging is valuable to provide a baseline for response evaluation. For indolent NHL, PET imaging is not generally indicated. For response evaluation in HL, a negative FDG-PET scan is highly indicative of long-term, disease-free survival. For aggressive NHL, a positive FDG-PET scan is predictive of disease persistence or recurrence. For both NHL and aggressive HL, early assessment of response appears to be predictive of long-term.

## ORIGINAL ARTICLES

- 326**      **Comparison of Referral and Non-referral Hypertensive Disorders during Pregnancy: an Analysis of 271 Consecutive Cases at a Tertiary Hospital**  
Ching-Ming Liu, MD, MPH; Shuenn-Dyh Chang, MD; Po-Jen Cheng, MD  
An analysis of 271 cases of referral and non-referral patients of preeclampsia at a tertiary hospital retrospectively revealed that risk factors and disease severity of preeclampsia had an impact on maternal complications and pregnancy outcomes. Initial univariate analyses and multivariate logistic regression models were used subsequently in order to adjust potential confounders.
- 335**      **Prognostic Significance of Intratumoral Natural Killer Cells in Primary Resected Esophageal Squamous Cell Carcinoma**  
Jiun-Yi Hsia, MD; Jung-Ta Chen, MD; Chih-Yi Chen, MD; Chung-Ping Hsu, MD; Jen Miaw; Yu-Shan Huang; Chiou-Ying Yang, PhD  
Natural killer (NK) cells are important effector cells in the defense against tumors. Immunohistochemistry was used to analyze the intratumoral NK cell infiltration in 38 patients with primary resected esophageal squamous cell carcinoma (ESCC). The 5-year survival of patients with high level NK infiltration was significantly better than that of patients with a low level of NK infiltration. Intratumoral NK cell infiltration is associated with a favorable outcome in ESCC.
- 341**      **Use of a Galeopericranial Flap for the Reconstruction of Anterior Cranial Base Defects**  
Chia-Hsiang Fu, MD; Sheng-Po Hao, MD, FACS, FICS; Yung-Shin Hsu, MD  
Craniofacial resection is now a standard approach for tumors of the anterior cranial base. We collected data on 25 patients who had anterior cranial base tumors and who underwent craniofacial resection for which a galeopericranial flap was used to reconstruct the defect. We chose the galeopericranial flap for the reconstruction because of its ready availability, valid strength, and sufficient axial blood supply. The advantages of the galeopericranial flap, the possible reasons for its failure, and ways to improve flap viability are discussed.
- 349**      **Motor Control in Patients with Incomplete Spinal Cord Injuries and Various Voluntary Movement Capabilities**  
Shih-Wei Chou, MD, PhD; Yu-Cheng Pei, MD; Cheng-Hsiu Lai, PhD; Chia-Hua Kuo, PhD; Tieh-Cheng Fu, MD; Wei-Hsien Hong, PhD  
The purpose of this study was to assess the motor control profile in patients with an incomplete spinal cord injury (SCI) and various voluntary movement capacities. The lower limbs of 11 patients with incomplete SCI were evaluated using polyelectromyography during voluntary movements, reinforcement maneuvers, tonic vibratory reflex, passive stretch reflex, and plantar reflex suppression. Supraspinal inhibitory effects were most active in limbs which were capable of lifting the heel off the examination table, as compared to limbs with partially preserved volitional activity but without visible movement or which were incapable of lifting the heel off the examination table. The capacity for volitional activity paralleled the supraspinal inhibitory effects.
- 357**      **Adenoid Cystic Carcinoma of the Trachea: a Report of Seven Cases and Literature Review**  
Po-Yi Yang, MD; Maw-Sen Liu, MD; Chih-Hung Chen, MD; Chin-Ming Lin, MD; Thomas Chang Yao Tsao, MD, PhD  
Seven cases of primary tracheal Adenoid cystic carcinoma (ACC) were investigated in this study and the relevant reports in the literature were reviewed. Hemoptysis, nonproductive cough, dyspnea, chest pain and weight loss were the frequent early manifestation in our patients and those of other studies. The period from early manifestation to diagnosis differed, extending from weeks to more than 1 year. These cases were easily misidentified and were assumed to be asthma for a long time. Complete surgical resection offers the best opportunity of extended survival or complete remission.
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