of primary tumor volume for its prognostic impact and for treatment stratification in future clinical trials.

EP-1069 Nasopharyngeal carcinoma screening by plasma EBV DNA and serum antibodies in an outpatient clinic
C.W. Twu, J. Jin-Ching Lin, W. Wen-Yi Wang
Taichung Veterans General Hospital, Otolaryngology-Head and Neck Surgery, Taichung, Taiwan
Hung Kuo University, Department of Nursing, Taichung, Taiwan

Purpose or Objective: To investigate the role of plasma EBV (pEBV) DNA and serum antibodies tests in nasopharyngeal carcinoma (NPC) screening.

Material and Methods: From Feb. 2008 to Nov. 2009, a total of 467 subjects coming to an otorhinolaryngology outpatient clinic were enrolled in a prospective screening study. Paired serum and plasma samples were collected and subjected to an immunofluorescence assay for IgA antibodies against the viral capsid antigen (VCA) and early antigen (EA) and a real-time quantitative polymerase chain reaction assay for pEBV DNA measurement. Nasopharyngoscopy was done for subjects with risk factors associated with NPC or abnormal reports of blood tests. Biopsy was performed for suspected lesions to confirm the diagnosis.

Results: We divided the studied population into three subgroups- group A (n=139, symptoms/signs mimicking NPC, presence of family history of NPC, or abnormal antibody tests at other hospital), group B (n=191, symptoms/signs not related to NPC), and group C (n=137, healthy volunteers). After a minimal follow-up of five years, 9 of 467 screened subjects were proven to have NPC. All NPC patients were found in the group A. The sensitivity, specificity, positive predictive value, and negative predictive value for the pEBV DNA test were 100%, 99.8%, 90.0%, and 100%. The sensitivity, specificity, positive predictive value, and negative predictive value for the VCA-IgA test were 77.8%, 88.9%, 12.1%, and 99.5%. The corresponding numbers for the EA-IgA test were 33.3%, 97.6%, 21.4%, and 98.7%.

Conclusion: The pEBV DNA test is a useful screening tool in the detection of NPC. Both VCA-IgA and EA-IgA antibody tests have a low sensitivity and positive predictive value in clinical practice.

EP-1070 Prognostic role of FDG-PET performed before or during radiotherapy in head and neck cancer
M. Min1, P. Lin2, M. Lee3, I. Ho Shon2, M. Lin1, D. Forstner1, M.T. Tieu2, A. Chicco2, V. Bray3, A. Fowler3
Liverpool Hospital, Nuclear Medicine, Liverpool, Australia
Calvary Mater Newcastle, Radiation Oncology, Newcastle, Australia
Calvary Mater Newcastle, Medical Oncology, Liverpool, Australia

Purpose or Objective: The aim of this study is to evaluate the prognostic value of metabolic parameters derived from 18F-FDG PET-CT performed before definitive radiation therapy (RT) (prePET) in patients with mucosal-primary head and neck squamous-cell carcinoma (MPHNSCC) and to assess the additive prognostic values of 18F-FDG PET-CT performed during RT (iPET).

Material and Methods: One hundred consecutive patients who had radical RT for MPHNSCC and underwent staging prePET and iPET performed during the third week of treatment, were retrospectively analysed. The maximum-standardised-uptake-value (SUVmax), metabolic tumour-volume (MTV) and total-lesional-glycolysis (TLG) of primary tumour were analysed for both prePET and iPET, and results were correlated with oncological outcomes including loco-regional-recurrence-free-survival (LRFS), metastatic-failure-free survival (MFFS) and overall-survival (OS), using Kaplan-Meier analysis. Optimal-cutoffs (OC) were derived from Receiver-Operating-Characteristic curves for the best combined sensitivity and specificity.

Results: Median age was 61 years (range 39-81), median follow-up of 20 months (range 4-70, mean 27), and AJCC 7th Edition clinical stage II, III and IV were 8, 24 and 68 patients respectively. All patients in this study received definitive RT using IMRT or TomoTherapy®: 15 patients were treated with RT only; 68 patients with chemoradiotherapy; 17 patients with RT and concurrent Cetuximab; and 17 patients received induction chemotherapy. Addition of iPET significantly improves the prognostic values of all three metabolic parameters. Metabolic values below cutoffs in both prePET and iPET (comPET) were found to be associated with significant improvements in DFS (p<0.05) and OS (p<0.05). In addition, patients with SUVmax above the OC in comPET were associated with worse MFFS (p = 0.011) and confirmed on both univariate (p=0.019) and multivariate analyses (p=0.04).

Conclusion: The predictive value of FDG-PET is significantly improved by addition of iPET. ComPET is found to be predictive of oncological outcomes including MFFS and can potentially be used in future adaptive local and systemic therapy trials.

EP-1071 Maintenance metronomic chemotherapy for recurrent/metastatic nasopharyngeal carcinoma
C. Wu1, W.Y. Wang1, C.W. Twu2, P.J. Lin3, Y.C. Liu4, J.C. Lin5
Changhua Show-Chwan Memorial Hospital, Department of Radiation Oncology, Changhua, Taiwan
Hung Kuo University, Department of Nursing, Taichung, Taiwan
Taichung Veterans General Hospital, Departments of Otorhinolaryngology, Taichung, Taiwan
Taichung Veterans General Hospital, Department of Radiation Oncology, Taichung, Taiwan
Taichung Veterans General Hospital, Department of Radiation Oncology, Taichung, Taiwan

Purpose or Objective: The prognosis of recurrent/metastatic nasopharyngeal carcinoma (r/m NPC) after curative radiotherapy is very poor. We aim to investigate the survival impact and toxicity of maintenance metronomic chemotherapy in patients with r/m NPC.

Material and Methods: Patients with r/m NPC were first salvaged by iv cisplatin-based or gemcitabine-based chemotherapy. Local therapy (either radiotherapy or surgery) was administered for suitable patients and feasible disease (local tumor or oligometastasis) as a local consolidation boost therapy. We started to give maintenance chemotherapy with oral tegafur-uracil (two capsules per day) with/without oral cyclophosphamide 50 mg per day for at least 12 months or until disease progression/intolerable toxicity/patient’s refusal in our hospital since 2005. A total of 89 patients were collected. We analyzed the treatment outcome between patients with (n=45) and without (n=44) maintenance chemotherapy.

Results: Baseline patient characteristics at diagnosis of recurrence/metastasis (age, sex, pathological type, performance status, disease extent) and response to antecedent iv salvage chemotherapy were comparable in both arms. The median overall survival for patients with and without maintenance chemotherapy were 26 and 11 months, respectively (p<0.01). We observed 5 and 1 patients with biopsy-proven distant metastasis surviving more than 5 years and no evidence of disease in patients with and without maintenance chemotherapy. The toxicities during maintenance oral chemotherapy period were usually mild and no occurrence of grade 3/4 non-hematolocal toxicity.

Conclusion: Maintenance metronomic chemotherapy strategy significantly improves overall survival and has low toxicity in patients with r/m NPC after iv salvage chemotherapy.