

group and 64.7% (11/17) in the CS group. 18 patients had disease progression (NCS 10, CS 8); median TTP was 5.5 months in the NCS group and 3 months in the CS group, and average TTP was 5.3 months in NCS group and 3.1 months in CS group. The incidence of adverse events was similar for both groups. No adverse events of grade 3 skin rash or grade 3 infusion-related reactions were observed.

Interpretation: This study provides evidence that nimotuzumab combined with cisplatin and S-1 has better outcomes than cisplatin and S-1. Initial results show a benefit in TTP improvement and a potential improvement in OS, and the study is ongoing.

Funding: Beijing Science Plan.

The authors declared no conflicts of interest.

doi:10.1016/j.ejcsup.2011.02.052

P52 3T MRI DETERMINATION OF CIRCUMFERENTIAL RESECTION MARGIN IN RECTAL CANCER – CORRELATION WITH HISTOPATHOLOGY

A. Singh*, P. Chatterjee, A. Eapen, B. Perakath. *Christian Medical College, Tamil Nadu, India*

Background: Recent surgical trials show that in patients with rectal carcinoma, evaluating the involvement of the mesorectal fat and mesorectal fascia is more important than T staging for planning treatment. We studied the accuracy of 3T MRI for prediction of mesorectal fascia involvement and circumferential resection margin (CRM; shortest distance between tumour and mesorectal fascia) in patients with rectal cancer.

Methods: 40 consecutive patients with biopsy-proven rectal cancer from the Department of Colorectal Surgery were included in the study. 3T MR imaging was done after patients had a 4-h fast and cleansing water enema. T1-weighted and T2-weighted images were obtained, with high resolution images in 3 planes. The image series were evaluated after verification by an experienced gastrointestinal radiologist, and CRM measurements and mesorectal fascia involvement were documented. These results were compared with the final histopathology report.

Findings: Sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) of 3T MRI for prediction of CRM involvement was 100%, 33.3%, 61.9%, and 100%, respectively.

Interpretation: 3T MRI has high sensitivity and NPV, and low specificity and PPV for prediction of CRM involvement. The low specificity could be due to the high resolution of the images, which picked up areas of tumour reaction, increased flow, and oedema. This low specificity is compounded by the difficulty in assessing CRM in cachectic patients and in low anterior tumours. However, MR imaging has a high sensitivity and NPV for mesorectal fascia assessment, and is therefore indispensable for pre-operative staging of rectal cancer.

Funding: None.

The authors declared no conflicts of interest.

doi:10.1016/j.ejcsup.2011.02.053

P53 OPEN-LABEL, RANDOMISED, MULTICENTRE, PHASE 2A STUDY OF GAMBOGIC ACID INJECTION (THS) FOR TREATMENT OF ADVANCED CANCER

Y. Chi^a, J. Wang^a, X. Zhan^a, G. Xie^a, Z. Wang^a, W. Xiao^a, Y. Wang^b, J. Hu^c, H. Yu^d, L. Yang^e, C. Cui^f, F. Xiong^g, J. Zheng^{h,i,*}. ^a Department of Internal Oncology, Cancer Hospital, Chinese Academy of Medical Sciences, Beijing, China. ^b Department of Internal Oncology, Tianjin Tumor Hospital, Tianjin, China. ^c Department of Internal Oncology, Qilu Hospital, Shandong University, Jinan, China. ^d Department of Internal Oncology, First Affiliated Hospital of Anhui Medical University, Hefei, China. ^e Department of Internal Oncology, Anhui Tumor Hospital, Hefei, China. ^f Department of Epidemiology and Biostatistics, School of Public Health, Nanjing Medical University, Nanjing, China. ^g Kanion Pharmaceutical Co. Ltd., Beijing, China. ^h Biotech Pharmaceutical Co Ltd, Beijing, China. ⁱ and School of Medicine, Tongji University, Shanghai, China

Background: Gamboge Acid is a pure active compound isolated from the Camboge (Garcinia morella Desv), a traditional Chinese herb medicine. Based on preliminary results of the completed phase 1 study, this phase 2a study compared the efficacy and safety of different dosage schedules.

Methods: 47 patients were randomly assigned to one of two groups. Group A received a daily intravenous infusion of gamboge acid (THS) of 45 mg/m² every day for 5 days, every 2 weeks (n = 21). Group B received intravenous THS 45 mg/m² every other day five times, every 2 weeks (n = 26). All patients had two consecutive courses of treatment prior to safety and efficacy evaluation.

Findings: In group A, the objective remission rate (ORR) was 14.29% and overall disease control rate (DCR) was 76.2%, compared with an ORR of 0% and DCR of 61.5% in group B. Apart from ORR (with a insufficient value of zero) comparison of DCR was statistically significant ($p = 0.0456$), with a positive relative risk and odds ratio and 95% confidence intervals. Adverse events or reactions were mainly grade 1 and 2, and were observed, in most cases, after patients received the trial drugs. The incidence rate of adverse events or reactions did not differ significantly between the two groups.

Interpretation: Preliminary results of this exploratory study showed favourable safety profiles for THS at 45 mg/m², and DCR was higher for 5-day consecutive dosing of THS than for an every-other-day schedule.

Funding: Beijing Science Plan.

The authors declared no conflicts of interest.

doi:10.1016/j.ejcsup.2011.02.054

P54 DOSIMETRIC COMPARISON OF ¹⁸FLT AND ¹⁸FDG PET-CT IN CONTOURING BIOLOGICAL TUMOUR VOLUME IN THORACIC OESOPHAGEAL CARCINOMA

D. Han, J. Yu*, G. Zhang, Z. Fu, J. Lu, S. Zhao. *Department of Radiation Oncology, Shandong Cancer Hospital and Institute, Jinan, China*

Background: We used 3-deoxy-3-¹⁸F-fluorothymidine (FLT) PET-CT to delineate biological tumour volume in thoracic oesophageal carcinoma, for a treatment planning simulation. We compared results with that of ¹⁸F-fluorodeoxyglucose (FDG) PET-CT, on the basis of dosimetric analysis.

Methods: 22 patients with oesophageal squamous-cell carcinoma detected by FLT and FDG PET-CT were enrolled. We used the treatment planning system to compare hypothetical treatment plans based on the optimal threshold for standard uptake value of FLT and FDG PET-CT. We compared parameters in dose-volume histograms of the two groups, planning fields in similar directions and ensuring the prescribed dose line surrounded 95% of the target volume.

Findings: Gross tumour volume, clinical target volume, and planning target volume were less with FLT than with FDG PET-CT imaging. The conformity index and homogeneity index did not differ significantly between FLT and FDG PET-CT treatment planning. The difference in V_{20} of bilateral lung, V_{40} of heart, and maximum dose received by the spinal cord did not differ significantly between FLT and FDG. Values for mean lung dose, V_5 , V_{10} , V_{30} , V_{40} , and V_{50} of bilateral lung, and mean heart dose and V_{30} of heart were significantly lower with FLT PET-CT based planning than with FDG PET-CT ($t = -5.442$ to -2.637 , $p < 0.05$).

Interpretation: Treatment planning based on FLT PET-CT had potential benefits for some organs at risk, such as lungs and heart.

Funding: Research Fund of Shandong Provincial Health Bureau of China.

The authors declared no conflicts of interest.

doi:10.1016/j.ejcsup.2011.02.055

P55 THORACO-ABDOMINAL FLAP COVER FOR LARGE POST-MASTECTOMY DEFECTS – EXPERIENCE FROM A REGIONAL CANCER CENTRE IN NORTHEAST INDIA

J. Purkayastha^{*}, B.K. Das, B.B. Borthakur, A. Talukdar, M. Ahmed. *Department of Surgical Oncology, Dr. B Borooah Cancer Institute, Guwahati, Assam, India*

Background: Tumours of the breast have become one of the most common malignancies in India in recent years, and seem to be increasing. Common malignancies affecting the breast are carcinoma and sarcoma, including phyllodes tumour. Because of a lack of awareness in the general population, patients present late and with large advanced tumours. Surgery for large tumours leads to extensive defects that may not be suitable for primary closure. Extensive, complex surgical procedures are not suitable for our centre because of a lack of resources and time constraints. We share our experience of closure of such defects using a simple procedure, the thoraco-abdominal (TA) flap.

Methods: Between January, 2003, and December, 2010, a total of 1232 patients had surgery for breast tumours at our centre. Of these, 912 (74%) of patients had a mastectomy. 78 (8.5%) of patients had a large post-mastectomy defect that could not be closed primarily. Soft-tissue cover using the TA flap was done for all of these patients. The TA flap is a rotation-advancement variant of the fascio-cutaneous flap, with random pattern blood supply.

Findings: Primary healing could be achieved in 73 (94%) of patients who had TA flap cover. Three patients had marginal necrosis that responded to conservative treatment. Two patients developed major necrosis with loss of TA flap and needed salvage myocutaneous flap repair. All patients were able to receive the planned adjuvant chemo and/or radiation therapy.

Interpretation: The aim of surgery in large advanced breast tumours is adequate disease extirpation with early recovery, so that adjuvant therapy can be done to improve survival. The TA flap is a simple, safe, reliable, and effective technique with minimum morbidity for coverage of large post-mastectomy defects, and is particularly suited for surgeons and patients in our region.

Funding: None.

The authors declared no conflicts of interest.

doi:10.1016/j.ejcsup.2011.02.056

P56 EFFECTS OF HYPOXIA ON ANGIOGENESIS AND PROLIFERATION – CORRELATION WITH TUMOUR RESPONSE IN PATIENTS WITH CERVICAL CANCER TREATED WITH COMBINED RADIATION AND CARBOGEN-NICOTINAMIDE

S. Mutya Sekarutami^{a,*}, S. Gondhowiardjo^a, F. Aziz^b, N.C. Sregar^c, A. Harahap^c. ^a *Department of Radiotherapy, Cipto Mangunkusumo General Hospital, Jakarta, Indonesia.* ^b *Department of Obstetry and Gynecology, Cipto Mangunkusumo, Jakarta, Indonesia.* ^c *Eijkman Institute, Jakarta, Indonesia*

Background: Hypoxia has been shown to cause tumour resistance to radiation and chemotherapy. Treatment failure in large tumours of locally advanced cervical cancer is associated with intratumoral hypoxic circumstances. We investigated the association between hypoxia, angiogenesis, proliferation, and tumour volume in patients with locally advanced cervical cancer, and evaluated the effectiveness of carbogen-nicotinamide (CON) as a hypoxia modifier to enhance cell oxygenation.

Methods: 89 patients with locally advanced cervical cancer treated at the Department of Radiotherapy, Cipto Mangunkusumo General Hospital, Jakarta, were included in this study. Patients were divided into two groups. Group 1 consisted of 29 patients who received radiotherapy combined with CON (RT + CON); group 2 had 60 patients who received chemo-radiotherapy (CRT) with cis-platinum. Group 2 was randomly divided into two subgroups, who received CRT plus CON or CRT alone. Biopsy specimens were taken to identify CA9 as a hypoxia marker, vascular endothelial growth factor (VEGF) as an angiogenesis marker, and S-phase fraction (SPF) as a proliferation marker. Analysis was done to evaluate the correlation between the three markers, between the markers and tumour volume, and the benefit of introducing CON.

Findings: A significant positive correlation was noted among pre-irradiated tumour volume and two markers: CA9 ($r = 0.514$, $p = 0.007$) and SPF ($r = 0.422$, $p = 0.032$), but there was a weak and non-significant correlation between tumour volume and VEGF ($r = 0.422$, $p = 0.114$). Significant correlations among the markers were also found: CA9 with VEGF ($r = 0.678$, $p = 0.000$), VEGF with SPF ($r = 0.475$, $p = 0.005$), and SPF with CA9 ($r = 0.510$, $p = 0.002$). CON effectiveness was analysed by evaluating treatment