Dual-agent chemotherapy is the current standard of care for patients with advanced non-small-cell lung cancer (NSCLC). While progress in patients’ outcome has been made, significant variability in the efficacy and toxicity of anticancer drugs is observed in unsellected populations of patients. Recent studies have shown promise for improved outcome if therapy is selected based on molecular tumor characteristics. Although resistance to gemcitabine and/or platinum are likely multifactorial, nucleotide metabolism and DNA repair have emerged as critical components. Previous studies have demonstrated a relationship between RRM1 gene expression and differential sensitivity to gemcitabine/cisplatin. RRM1 is involved nucleotide metabolism and the nucleotide excision repair pathway, and up-regulation of this gene results in resistance to these agents.

Methods: We have generated three human cancer cell lines derived from lung, colon, and breast, with increased and decreased RRM1 expression by stable transfection. The authenticity of cell lines was verified by genome typing. Chemosensitivity testing of different drugs was performed in vitro with the CellTiter-Glo® Luminescent cell viability assay.

Results: RRM1 expression at the mRNA and protein level was variable among clones. For drug testing, clones with a greater than 2-fold increase (for up regulation) and a greater than 50% decrease (for down regulation) of RRM1 expression at the mRNA and protein level were selected. Scrambled sequence and out of frame RRM1 constructs were used to generate the control clones. When examining the association between the expression of RRM1 and the IC50 of drugs, RRM1 overexpressing clones showed resistance and underexpressing clones sensitivity to some drugs; most notably to gemcitabine.

Conclusions: Understanding the role of specific genes on DNA damage repair and response to treatment is paramount to the evolving concept of individualized chemotherapy. It is well known the efficacy of various treatment regimens varies greatly among patients. Our in vitro RRM1 regulation model has the potential to not only help with tailoring the clinical selection of chemotherapy but also with understanding the function of RRM1 in tumor biology.

P1-009  Chest Medicine and Intervention Posters, Mon, Sept 3

A clinicopathologic features and Management of Lung cancer in a Nigeria

Adewole, Olanisun O.1 Anteyi, Emmanuel A.1 Dosunmu, Ade E.1 Ajuwon, Zaccheus A.1 Erhabor, Greg E.1 Betiku, Yewande L.1

1 Public Health, Abuja, Nigeria 2 Public Health, Ile -Ife, Nigeria

Introduction: Lung cancer is a common malignancy worldwide with high morbidity and mortality. With increasing incidence of lung cancer world wide, there are few studies in Nigeria which have looked at the clinical and histological patterns of lung cancer in our center hence this study.

Method: We conducted a retrospective review of all cases of lung cancer seen at the National Hospital, Abuja, Nigeria over a 6 year period from 2001-2006. Cases were identified from the admission and discharge files on the wards and searched from the main record library. All cases which were retrievable were presented. Data were expressed using descriptive statistics.

Results: Thirty two cases of Lung cancer were identified out of which sixteen cases were fully retrievable. These are presented in this study. The male to female ratio is 1.7:1 with a mean age of 55years (range from 40-85years). Smoking was the commonly identified risk factor which was present in 50% of the cases (7 males and 1 female). Other identifiable potential risk factors were indoor and out door pollution from burning biomass (18.7%), exposure to asbestos (12.5%). In 18.2% no risk factor could be identified.75% have a primary lung cancer of which adenocarcinoma was the commonest while secondaries from breast, bone and cervical cancer was seen in the remaining 25%. At presentation, 85% of the patients have developed extensive disease three patients with secondary lung cancer received combination chemotherapy and while radiotherapy with high dose steroid was given in those with SVO.

P2-158  BSTB: Tumor and Cell Biology Posters, Tue, Sept 4

XAGE-1b protein-pulsed dendritic cell vaccination induces specific cytotoxic T lymphocytes against lung cancer cells in vitro

Zhou, Qing1 Wu, Yi L.2 Guo, Ai L.2 Xu, Chong R.2 An, She J.2 Wang, Zhen2

1 Lung Cancer Research Institute of Guangdong Province, Guangzhou, China 2 Guangdong Provincial People’s Hospital, Guangzhou, China

Background: Dendritic cells (DCs) are the most potent antigen-presenting cells for initiating cellular immune response. Cancer-testis antigens (CTA) are the biggest tumor antigens family expressing only in some tumors and genital system but not in normal cells. XAGE-1b gene is one of CTA which highly expresses in lung cancer and has strong immunogenicity. Our study was to examine whether DCs loaded with XAGE-1b protein could induce specific antitumor response against lung cancer cells in vitro.

Methods: Tumor tissues and normal lung tissues were obtained by operation from 30 non-small cell lung cancer patients. Cancer cells and normal lung epithelium cells were cultured and saved as target cells. Total RNA were isolated and RT-PCR was done to determine XAGE-1b gene expression. XAGE-1b gene was cloned by constructing expression vector and recombinant protein was expressed and purified by using BL21 (DE3) E. coli and AKTA-FPLC. Peripheral blood monocytes were isolated from 20ml blood and cultured to be DCs in serum-free DCs Medium. DCs were loaded with XAGE-1b protein through coculture and induced T lymphocytes into XAGE-1b-specific cytotoxic T lymphocytes (CTLs). The cytotoxicity of CTLs was then measured by cytotoxic assay.

Results: 12/30(40%) lung cancer tissues expressed XAGE-1b gene, most of which were adenocarcinoma (11/12, 91.7%). None of normal tissues expressed it. Gene sequencing and western blot confirmed the expression vector construction and recombinant protein expression. Immunofluorescence identification showed the accumulation of XAGE-1b protein in immature DCs. T lymphocytes were stimulated twice with XAGE-1b protein-loaded DCs. Cytotoxic assay showed that the CTL cytotoxicity was much stronger for XAGE-1b positive tumor cells than for XAGE-1b negative tumor cells and it was almost none for normal lung epithelium cells.

Conclusions: Our study indicates that DCs loaded with XAGE-1b protein could induce specific antitumor effect against lung cancer cells in vitro and this model offers a new approach to the immunotherapy for lung cancer.
Conclusion: Within the limits of retrospective analysis primary lung cancer is a more common form of lung cancer in this review. The commonest histological type being adenocarcinoma. Late presentation with extensive disease and a large diagnostic time was observed from admission to working up the patient and commencing treatment/death.

There is a great need for training of physicians in diagnostic procedures and treatment of lung cancer in resource poor countries. Smoking either actively or passively should be discouraged.

P1-010 Chest Medicine and Intervention Posters, Mon, Sept 3

Fiberoptic bronchoscopy as standard procedure in staging of carcinoma of the esophagus
Bukurov-Sudjic, Emilia; Uskokovic-Stefanovic, Zivka; Popevic, Spasoje
Institute for Lung Diseases and TB, Belgrade, Serbia

Fiberoptic bronchoscopy is standard endoscopic procedure in staging of carcinoma of the esophagus. In the bronchoscopy department of our Institute more than 3800 bronchoscopies are completed annually. In the 2005 to 2006 bronchoscopic staging of carcinoma of the esophagus was performed in 141 patients: 120 male 21 female. Normal endoscopic appearance existed in 105, direct signs of tumor in 21 and indirect signs in 14 patients. One patient had esophagobronchial fistula. Infiltration of mucosa was established in 14, tumorous vegetation in 7 patients. In the group of patients with direct signs, squamocellular carcinoma was found in 13 patients. Localisation of direct signs of tumor: trachea in 7, main bronchi in 6 and lobar bronchi in 8 patients. Indirect signs were present in trachea in 8, main bronchi in 3 and lobar bronchi in 3 patients. Fiberoptic bronchoscopy is inevitable diagnostic procedure in staging of esophageal cancer, which is safe, precise and easily applicable. It should be done in all patients with this malignancy. Indirect signs should be interpreted with caution, as some of them doesn’t contraindicate the operation.

P1-011 Chest Medicine and Intervention Posters, Mon, Sept 3

Is pleurodesis an efficient therapy in general practice?
Burgers, Jacobus A.1 Kunst, Peter2 Koolen, Mia3 Willems, Luuk N.4
Institute for Lung Diseases and TB, Belgrade, Serbia

Methods: In four hospitals, all patients with (suspected) malignant pleurisy who were drained with the intention to perform a pleurodesis, were prospectively registered. Diagnostic procedures, decision making during the drainage and outcome were monitored and compared to the guideline.

Results: We prospectively followed 100 patients from February 1st to November 30, 2006. All patients had a histologically or cytologically confirmed malignancy. LDH, pH and protein levels in pleural fluid were known in 84, 75 and 68% respectively before drainage or were determined during the procedure as recommended in the guideline. Malignant pleurisy was confirmed cytologically in 58 patients, histologically in 5 and was clinically suspected in 35 patients. In 75 patients a pleurodesis was performed. Reasons for not performing a pleurodesis were trapped lung in 15 patients, high fluid production in 3, alternative diagnosis or unable to obtain a cytologic confirmation of the diagnosis in 6 patients. Pleurodesis was performed with 2, 3 or 5 gr talc slurry at a median interval of 3 days (range 0 - 15 days) after start of the drainage. The drain was removed after 5 days (range 2 - 21 days) in case of pleurodesis and after 4 days (range 0-9 days) when no pleurodesis was performed. A recurrence of pleural fluid was seen in 27 patients (36%), with a mean of 17 days after pleurodesis (range 2-285 days); in 11 (14%) patients no radiological follow up was performed; 14 out of 44 patients who had pleurodesis and no documented recurrence of pleural fluid died during follow up with a median survival of 61 days (range 13 - 174 days). The most frequently reported side effect during drainage was local pain. Ten late complications were reported: one empyema and one tumor growth into the scar of the drain were the most severe.

Conclusions: Compared to literature data, pleurodesis seems considerably less effective in general practice. Parameters predicting the success rate of pleurodesis are not always known and do not affect clinical decision making. Future studies should focus on proper selection of patients for drainage and pleurodesis. Guidelines should also include alternative treatment options such as chronic indwelling pleural catheters.

P1-012 Chest Medicine and Intervention Posters, Mon, Sept 3

Bronchoscopy for bevacizumab-related hemoptysis
Cho, Young-Jae1 Murgu, Septimiu D.2 Colt, Henri G.2
1 Division of Pulmonary and Critical Care Medicine, Department of Internal Medicine and Lung Institute, Seoul National University College of Medicine, Seoul, Republic of Korea, Seoul, Korea 2 Division of Pulmonary and Critical Care Medicine, Department of Medicine, University of California, Irvine Medical Center, California, USA, Orange, CA, USA

Bevacizumab is the first anti-angiogenic agent inhibiting vascular endothelial growth factor (VEGF) for treatment of patients suffering from cancer. Life-threatening hemoptysis is the most serious adverse effect of bevacizumab. The inhibition of VEGF is a possible mechanism involved in the destruction of normal lung tissue and subsequent hemoptysis. We report a case of bevacizumab-related hemoptysis and associated bronchoscopic findings that were successfully treated with rigid bronchoscopy and laser photocoagulation.