

## **G-RC-14**

### **AN ASSESSMENT OF TUMOUR AND NODAL BULK VOLUME FOR CHINESE PATIENTS WITH NON SMALL CELL LUNG CANCER**

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Non small cell lung cancer (NSCLC) is the commonest type of lung cancer in Hong Kong and patients frequently present with metastatic disease to intra-thoracic lymph nodes and other organs. Little is known on the correlation between tumour volume (TV) and thoracic nodal volume (NV) in NSCLC. We have therefore prospectively performed two-dimensional computed tomography (2D-CT) volumetry to assess TV and NV in our patients. From July 1998 to June 1999, 28 patients attending the Special Respiratory clinic, Queen Mary Hospital (QMH) with inoperable NSCLC were recruited. All patients underwent assessment with pre-treatment post-contrast (7mm and 5mm) CT scans of the thorax, TNM staging, and Karnofsky performance status (KPS). Tumour and nodal area at each CT section were multiplied by slice thickness to yield the 2D-CT volume of each section. The sum of 2D-CT volume in all relevant sections approximated the overall 2D-CT TV and NV respectively. Correlations between TV and NV with survival time, KPS, TNM staging, laboratory indices and site of metastases (M) were analysed. Of 28 patients, 6 were excluded [drug allergy (n=3) and private CT (n=3)]. The data of 22 patients [15M, 7W; mean age 59.27±7.12yrs (48-70)] were analysed. Histological classification of the 22 tumours were adenocarcinoma (n=16), squamous cell carcinoma (n=5), and NSCLC (n=1). 59.1% and 40.9% patients had stage IIIB and stage IV disease respectively. All had baseline KPS equal or above 80. Overall mean TV and NV were 75382.02mm<sup>3</sup> (645-547237.5) and 23682.75mm<sup>3</sup> (0-126480) respectively. Mean TV and NV for stage IIIB were 100364.1mm<sup>3</sup> (645-547237.5) and 12805.81mm<sup>3</sup> (0-58507.5) respectively, while those for stage IV were 39296.78mm<sup>3</sup> (2140-69200) and 39393.89mm<sup>3</sup> (0-126480) respectively. There was a correlation between TV and NV ( $r=0.71$ ,  $p<0.01$ ) in stage IIIB, but not in stage IV. This suggests that tumor spreads to other sites after NV reaches a "threshold volume". Median TV and NV of stage IIIB patients with haemoptysis were significantly larger than those without haemoptysis, but not in stage IV. This suggests that haemoptysis is associated with tumor and nodal volumes in stage IIIB disease only. Median NV of stage IIIB patients with baseline pleural metastasis was significantly smaller than those without. Median NV of stage IV patients with baseline lung metastasis was significantly smaller than those without, which suggests that tumor could spread outward to the lung and pleura earlier than LN initially in IIIB and IV diseases. Our results could re-conceptualize the current understanding in the biology of NSCLC.

## **G-RC-15**

### **ASSESSMENT OF ASTHMA MANAGEMENT BEFORE AND AFTER THE INTRODUCTION OF GUIDELINES IN AN ACCIDENT AND EMERGENCY DEPARTMENT IN HONG KONG**

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**Objectives:** We investigated whether the introduction of guidelines for asthma management would improve the management of asthma in an A&E department in Hong Kong. **Methods:** An audit was carried out on records of patients with the diagnosis of asthma, older than 2 years of age, seen in the A&E department between August 18 to November 14, 1998 (88 days). The guidelines, similar to the one published by the British Thoracic Society but amended to fit in the department's system, were introduced and actively promoted on November 15, 1998. The audit was repeated for patients seen between November 30 and February 10, 1999 (73 days). The following data were collected: asthma history, investigations, treatment, outcome and medications given on discharge. **Results:** There were 233 and 337 asthma patients seen during the 2 periods respectively, with no differences in gender and age distribution. Their asthma severity was also not different as measured by pulse and respiratory rate, arterial oxygen saturation, peak flow rate before and after bronchodilator treatment. Peak flow rate was measured in 51.5% of patients before and 75% after the introduction of guidelines ( $p<0.01$ ). Significant increases in the use of oxygen (82.8% vs 89%) and systemic steroids (6.4% vs 11.9%) were found. 35% and 37.7% of patients respectively were admitted into hospital before and after the introduction of the guidelines. For those who were discharged, a higher proportion were placed on a course of oral steroids (25.8% before and 52.7% after,  $p<0.005$ ) after the introduction of the guidelines. **Conclusion:** We conclude that asthma management in the A&E department improved after the introduction of guidelines but the improvement did not result in a reduction in the rate of hospital admission for asthma.