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C-RC-4

Lymph Node Density in Slicosis: Its Relationship with Lung Function and Clinical Parameters

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Introduction: Lung function impairment in silicosis is attributed to lung fibrosis as a response to fibrogenic silica. It is not known whether regional lymph nodes have any significant clinico-functional correlation. This study quantifies mediastinal lymph node density using computed tomography (CT) to evaluate its relationship with clinico-functional parameters.

Method: Twenty-nine consecutive men (63.7 ± 8 years), all receiving compensation from the Hong Kong Pneumoconiosis Fund Board, were recruited. Full lung function tests (FEV_1 , FEV_1/FVC , TLC, RV, VC and DLCO/VA) and plain thoracic volumetric CT scans were performed. Exposure and smoking history were obtained. Densities of calcified and non-calcified peritracheal, aorto-pulmonary, precarinal, subcarinal and para-oesophageal nodes were measured. Three operator-defined regions of interest were placed on each lymph node interrogated. At least 2 lymph nodes (calcified and non-calcified) were quantified in each station, and mean values obtained. Progressive massive fibrosis (PMF) was graded according to 5-point grading system (0-4). The years of silica exposure, PMF grade and lung function indices were statistically correlated with the densities of calcified and non-calcified nodes.

Results: 93% of patients were smokers, 71.4% had PMF. Mean duration of exposure was 28.3 ± 8 years. Mean density of non-calcified lymph nodes was associated with severity of PMF ($r=0.42$, $p=0.01$) and DLCO/VA ($r=-0.4$, $p=0.03$). There was no correlation with indices of obstruction (FEV_1 , RV, FEV_1/FVC) or duration of exposure. The mean density of calcified was not associated with any parameters.

Conclusion: This study has illustrated a previously unknown relationship between lymph node density and functional impairment as well as PMF, which is a generally regarded as an indicator of severity of silica damage. This relationship could be used as an indirect measure of disease severity in the assessment of silicosis.

C-RC-5

CT Features of Advanced Lymphoepithelioma-Like Carcinoma (LELC)

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Introduction: Primary pulmonary lymphoepithelioma-like carcinoma (LELC) is an exceedingly rare non-small cell lung cancer (LELC) which primarily affects Orientals with distinct clinico-pathological features and an association with the Epstein-Barr virus. The aims of this study are to document pertinent computed tomography features of advanced primary pulmonary LELC.

Method: Ten consecutive patients [4men, $45.67 (7.21)$ yrs] with biopsy proven LELC and 25 controls (4 men, 44.7 ± 5.4 yrs) with other NSCLC (13 adeno, 1 large cell, 2 squamous cell and 9 undifferentiated carcinomas) were recruited over 3 years. All had inoperable disease. The following CT features were evaluated: site (central vs peripheral), size and border characteristics of the tumour, pattern of intrathoracic nodal metastasis (mediastinal, hilar and peribronchovascular) and presence of pleural, pulmonary and lymphangitic spread, including vascular encasement. Differences between the 2 groups were evaluated with Mann-Whitney rank sum test.

Results: There were 6, 1 and 3 LELC patients and 15, 2 and 8 controls with stage 4, 3A and 3B disease respectively. LELC tumours were larger (45.67 cm^2 , $p=0.02$), centrally sited ($p=0.01$) near the mediastinum, had well-defined borders ($p=0.02$), and associated with peribronchovascular nodal spread ($p=0.01$) and vascular encasement ($p=0.02$). Other NSCLC that served as controls were smaller (17.71 cm^2), peripherally sited ($p=0.04$) and had irregular/spiculated edges ($p<0.001$). Seven LELC patients had positive EB virus serology.

Conclusion: Advanced primary pulmonary LELC have distinct radiological features compared with other NSCLC. They are often centrally sited in close contact with the mediastinum with vascular encasement and peribronchovascular nodal involvement.