

0-76 Lung

Autoantibodies in Lung Cancer.

Caroline Chapman¹, A. Murray², J. McElveen², U. Sahin³, U. Luxemburger³, O.Tureci³, R. Wiewrodt³, A. Barnes², J. Robertson¹. Division of Breast Surgery, Nottingham City Hospital, Nottingham, UK¹ OncImmune Ltd, BioCity, Nottingham, UK². Mainz "Johannes Gutenberg" University, Germany²

Aims: To demonstrate the diagnostic potential afforded by the detection of multiple autoantibodies to tumour-associated antigens in lung cancer.

Lung cancer is the world's leading cause of cancer deaths. Of the two main types of lung cancer (non-small cell lung cancer -NSCLC and small cell lung cancer - SCLC) NSCLC is generally less aggressive and more likely to be found before it has spread. However, lung cancers of all types are frequently not found until the cancer has advanced. Immune responses to a number of tumour-associated antigens have been reported, although their suitability, individually, as diagnostic indicators has not been demonstrated.

Methods: Autoantibodies to p53, HER2, NY-ESO, GBU4-5 and CAGE were measured in plasma, by ELISA in: normal controls (n=50); NSCLC (n=58) and SCLC (n=11).

Results: Elevated levels of autoantibodies were seen in 68% of lung cancer patients (71% NSCLC and 46% SCLC) with a specificity of 90%. Positivity of individual antigens ranged from 28% to 40%. No significant difference was seen in overall detection when these patients were subdivided by tumour grade or subtype.

Conclusions: This study raises the possibility of using a combination of assays to detect autoantibodies to cancer-associated antigens for screening and early diagnosis of lung cancer.