Summary of your submission

Control # 10476

Abstract/Case Report Information

Title: The Presence of Autoantibodies to Tumour-Associated Antigens Can Predate Clinical Diagnosis of Small Cell Lung Cancer

Primary Category: Adult Pulmonary

Secondary Category: Lung Cancer

Third Category: Diagnosis and Evaluation

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Abstract/Case Report Content

PURPOSE:
Autoantibodies to tumour-associated antigens (TAAs) are often described as being present in individuals with cancer. Whilst it is hard to envisage an immune response to a tumour only occurring at the point of diagnosis, antibodies have not been described in the majority of individuals with SCLC before clinical identification, due to its usually late presentation. LEMS is a paraneoplastic neurological disorder often found in association with SCLC (50-60%) and with voltage-gated calcium channel antibodies (~90%). By studying LEMS as a clinical model of early tumour immunity, we aimed to establish whether autoantibodies to TAAs are present before subsequent SCLC diagnosis.

METHODS:
Autoantibodies to a panel of 7 TAAs (p53, SOX2, Hu-D, NY-ESO-1, CAGE, GBU4-5, Annexin I) were measured by ELISA in sera from individuals with LEMS, with SCLC (n=69) and without cancer (n=103, minimum 3 year follow up). 172 age and gender matched normal sera were also analysed. 65% of the SCLC samples were drawn within 1 month of diagnosis when many of the individuals had no pulmonary complaints from their SCLC. Of these 18 were available 1-49 months prior to SCLC diagnosis.

RESULTS:
Autoantibodies to these antigens were present in 57% (39/69) of LEMS patients with SCLC with a specificity of 91% compared with matched controls. Autoantibodies were present in 15% of patients with LEMS without SCLC at a similar frequency to that observed in the matched population. Autoantibodies were detected in 50% (9/18) of patients prior to SCLC diagnosis, and in 60% (27/45) within 1 month of diagnosis.

CONCLUSIONS:
Autoantibodies to TAAs were detected in 57% of studied patients with LEMS and SCLC, and were found at a similar frequency in samples taken from LEMS patients at a stage before their SCLC is confirmed.

CLINICAL IMPLICATIONS:

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If the results found in LEMS are typical of immunoreactivity in patients without neurological paraneoplastic disorders, it is possible that SCLC is capable of triggering an early measurable autoimmune response when the therapeutic options of treating this aggressive tumour are greatest.

Disclosure Information

Shareholder

John Robertson is shareholder in Oncimmune Ltd

Employee

Andrea Murray is an employee of Oncimmune Ltd

Consultant fee, speaker bureau, advisory committee, etc.

Caroline Chapman receives a consultants fee from Oncimmune Ltd

Other

Nothing to disclose

No Product/Research Disclosure Information

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