Everolimus/prednisone/tacrolimus

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Primary lung adenocarcinoma and lymphangitic carcinomatosis: case report

A 68-year-old man developed fatal primary lung adenocarcinoma and lymphangitic carcinomatosis while receiving everolimus, prednisone and tacrolimus as immunosuppressant [*dosages, routes and durations of treatments to reactions onsets not stated*].

The man presented to the emergency department due to weakness, 25lb unintentional weight loss and shortness of breath. Eighteen months prior to the presentation, he had undergone bilateral lung transplantation from *cytomegalovirus* and *Epstein-Barr* virus positive donor for idiopathic pulmonary fibrosis. One month prior to the presentation, he was hospitalised due to weakness and breathlessness. A chest CT scan showed mild intra-lobular and interlobular septal thickening. The bronchoalveolar lavage fluid was positive for coronavirus. A diagnosis of adrenal insufficiency was made and he started receiving treatment with fludrocortisone. He had been receiving immunosuppressant therapy with tacrolimus, everolimus and prednisone along with antimicrobial prophylactic therapy with itraconazole, cotrimoxazole [trimethoprim/sulfamethoxazole] and valganciclovir. During a period of one month, he had experienced a weight loss of 25lb. During the current presentation, he appeared weak and thin with laboured breathing. His oxygen saturation was 96% on supplemental oxygen. A slight decrease in the breath sounds at the left apex and base without adventitious sounds was noted. A chest CT scan revealed small, bilateral, layering pleural effusions along with diffuse interlobular and intra-lobular septal thickening that were more prominent compared with the previous CT scan. New mild reticulonodular opacities were also noted. A left thoracocentesis showed 200mL of pale yellow exudative fluid with no evidence of lymphocytosis. He underwent video-assisted thoracoscopic surgery lung biopsy. Pathological biopsy analysis revealed cohesive clusters of malignant cells in the lymphatic circulation. Immunohistochemical analysis of the tumour cells was positive for TTF-1 and CK7, consistent with a diagnosis of pulmonary adenocarcinoma. The native lung explant did not show any evidence of cancer. Therefore, the adenocarcinoma was deemed to be originated following the lung transplant. He was diagnosed with lymphangitic carcinomatosis secondary to primary lung adenocarcinoma after bilateral lung transplantation.

The man and his family opted for comfort care measures and he was transferred to hospice services. After two days, he died [*immediate cause of death not stated*].

Author comment: "*Posttransplant immunosuppression that includes calcineurin inhibitors (tac rolimus or cyclosporine), antimetabolite drugs (mycophenolate mofetil or azathioprine), and prednisone also increases the risk of developing malignancy after transplantation because these drugs reduce the body's natural antitumor responses.*"

Omar A, et al. A 68-Year-Old Lung Transplant Recipient With Shortness of Breath, Weight Loss, and Abnormal Chest CT. Chest 153: e153-e157, No. 6, Jun 2018. Available from: URL: https://doi.org/10.1016/j.chest.2017.10.034 - USA

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