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| **Massive enlargement of pulmonary hyalinizing granuloma following withdrawal of immunosuppression** |
| Crystal Ghabach Bassil1, Julian Leto2, Sean Riminton2, 3, Elizabeth Veitch1 |
| *1Respiratory and Sleep Medicine Department, Concord Hospital, NSW Australia.**2Immunology Department, Concord Hospital, NSW Australia.* *3Sydney Medical School, Faculty of Medicine and Health, University of Sydney, NSW Australia.* |
| **Introduction**:Pulmonary hyalinizing granuloma (PHG) is a rare, immune-mediated condition which manifests as asymptomatic or symptomatic lung nodules. Although it is now commonly thought to be a pulmonary manifestation of IgG4-related sclerosing disease, its aetiology remains poorly understood and not all cases are histopathologically linked to IgG4 disease. **Case Report:**We present a case of pulmonary hyalinizing granuloma in a now 71-year-old woman with a history of retroperitoneal fibrosis, ulcerative keratitis, haemolytic anaemia, recurrent upper respiratory tract infections and persistent systemic inflammatory response with positive anti-nuclear antibody. In 2010, she was commenced on methotrexate and prednisone to manage the expanding retroperitoneal fibrosis. She was found to have a single left upper lobe pulmonary nodule (diameter 17 mm) in 2008, which showed slow growth and was biopsied in 2012 (diameter 31 mm). This was found to be a fibrosclerosing lesion consistent with PHG. Radiological surveillance of the lesion was undertaken until 2019 with gradual reduction in size noted (diameter 17 mm). Methotrexate therapy was complicated by pancytopenia and was ceased in 2018, followed by cessation of prednisone in 2019, due to apparent long-term stability of her immune-mediated disease. This case of PHG was thought to be quiescent until 2023 when she presented to hospital with urosepsis and there was a surprising incidental finding of massive enlargement of the left upper lobe PHG (diameter 82 mm) plus multiple new nodules in all lobes (diameter range 10 to 45 mm). A core biopsy of a right upper lobe lesion was consistent with PHG, however, there was insufficient histopathological evidence to warrant a definitive diagnosis of IgG4 disease. This massive enlargement of the existing PHG, and development of multiple new lesions, corresponds with the cessation of immunosuppression four years prior. We speculate that the re-introduction of this therapy will once again contain these lesions. **Key words:**Pulmonary hyalinizing granuloma, IgG4- related lung disease, lung nodule.**Grant support:** Nil **Grant Support:**  |