Cavitary Lung Lesions in a Patient with Positive IGRA and PR3-ANCA are not Always due to TB or GPA: a Case Report of Right-Sided Infective Endocarditis

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\textbf{Introduction:}
Infective Endocarditis (IE) can involve a lot of organs, and mimic variable diseases including autoimmune, other infectious, orthopedic, and neurological disorders through mechanisms such as immune complex deposition and septic emboli. IE has been associated with positive ANCA, and could be misdiagnosed as Granulomatosis with Polyangiitis (GPA).

\textbf{Case Presentation:}
A 67-year-old Japanese man with history of dental caries extraction, diabetes mellitus, and benign prostatic hyperplasia presented with one-month history of fever and multiple cavitary lung lesions. On examination, there were fine crackles bilaterally on auscultation. The patient was diagnosed as having active tuberculosis based on positive IGRA and clinical presentation and treated accordingly. After ANCA was found to be positive, he was referred to a nephrologist. Kidney biopsy was performed that revealed proliferative glomerulonephritis. The patient was referred to a rheumatologist, and started on corticosteroid therapy. The fever still persisted, and blood cultures were sent, that turned out to be positive with Enterococcus faecalis. He was transferred to the Infectious disease division of General Internal Medicine department. We noticed the lung cavities were migratory and the patients had peripheral signs. Cardiac ultrasonography showed huge vegetation on tricuspid valve. He was successfully treated with antibiotics therapy consisting of ampicillin and ceftriaxone and cardiac surgery.

\textbf{Discussion:}
The diagnosis of IE, especially right-sided, tend to be delayed since it mimics other diseases. Differential diagnosis of lung cavitation includes but are not limited to tuberculosis, lung cancer, septic emboli and granulomatosis with polyangiitis, but we must not miss right sided IE because it’s readily treatable and fatal if untreated.

We should keep it in mind that right-sided IE is included in the differential diagnosis of migratory lung lesions.