Calcium Oxalate Crystals in the Lungs

Hideharu Hagiya¹, Soichiro Fushimi², Junya Itakura² and Fumio Otsuka¹

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Picture.

A 67-year-old man who had been prescribed prednisolone for 20 months consulted our department due to repeated episodes of pneumonia. Computed tomography showed a large cavity in the apex of the right lung (Picture A, arrow). A fungal culture of a sample aspirated from the cavity revealed black-colored colonies (Picture B), which were later confirmed to be *Aspergillus niger*. A Grocott's methenamine

silver-stained section of the lung biopsy sample revealed branched septate hyphae (Picture C), with evident crystallization (Picture D) under polarized light microscopy.

The common pathogen of chronic pulmonary aspergillosis is *Aspergillus fumigatus*, whereas *Aspergillus niger* is seldom detected in such cases (1). Oxalic acid is produced by *Aspergillus niger* as a mycotoxin and subsequently forms

¹Department of General Medicine, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Japan and ²Department of Pathology, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Japan

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Correspondence to Dr. Hideharu Hagiya, e_dai_for_all@hotmail.com

calcium oxalate in combination with calcium ions, which injures lung tissues, leading to pulmonary hemorrhage and multiple organ failure (2). The deposition of calcium oxalate crystals in lung tissue is a distinctive finding of *Aspergillus niger* infection, even in cases exhibiting a lack of conidia.

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