Cavernoscopic Views of a Pleural Aspergillosis

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Conflicts of interest

The authors declare no conflict of interest.

Authors contribution

SO, JPd'O: patient care and drafting the manuscript for important intellectual content.

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A 48-year-old man consulted for weight loss and hemoptysis. His medical history included medically-treated Mycobacterium szulgai pulmonary infection (1997), left upper lobectomy for pulmonary aspergilloma (2000), chronic pulmonary aspergillosis treated with voriconazole (since 2003), and left pleural cavernostomy for pleural aspergilloma associated with bronchopleural fistulas (2005). He had no history of tobacco smoking, alcohol drinking, drug abuse, immunosuppressive disease or medications. Flexible endoscopic cavernostomy exploration with pleural biopsies led to the diagnosis of pleural aspergillosis, caused by voriconazole-sensitive Aspergillus fumigatus (Figures 1A-1B-1C). Blood analysis revealed normal complete and differential blood counts, glucose, lactate dehydrogenase, renal- and liver-function tests, protein levels and electrophoresis, as well as negative antinuclear antibodies, antineutrophil cytoplasmic antibodies, rheumatoid factor, and screening for human immunodeficiency virus. Voriconazole trough blood level was infra-therapeutic while its oral intake was reduced by half few months earlier for unclear reasons. Following bronchial embolization and voriconazole intake adjustment, the symptoms resolved with disappearance of fungal mats six months later (Figure 2).

This is the first flexible endoscopic cavernostomy exploration of a pleural aspergillosis, while it has recently been reported by a surgical approach (1). Following medical treatment, the endoscopic follow-up illustrated the disappearance of pleural fungal invasion. This patient with various clinicoradiological presentations of Aspergillus infection over time (pulmonary aspergilloma, chronic pulmonary aspergillosis, pleural aspergilloma, and finally pleural aspergillosis) was considered immunocompetent, no known underlying immunodeficiency factors being present (2). Lung resection and atypical mycobacterial infection were two preexisting conditions as reported in a recent study on 126 patients suffering from chronic pulmonary aspergillosis in 15.9% and 14.3% cases, respectively (3). Bronchopleural fistulas suggested fungal dissemination from lung to pleura (4). A minimum

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of four to six months of antifungal treatment is initially recommended in chronic pulmonary aspergillosis (5). Voriconazole monitoring with adjusted oral intake is mandatory. Optimal duration of therapy is unknown and dependent on various factors such as prevention of hemoptysis and respiratory disability. Long-term therapy was herein implemented according to the clinical background and excellent tolerance to voriconazole.

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Figure legends

Figure 1: Exploration of the thoracic cavernostomy by video flexible bronchoscopy (Olympus Europe, BF-1TH190, outer diameter of 6.0 mm) at the time of pleural aspergillosis diagnosis. **A.** The bronchoscope is just in front of the cavernostomy entrance, allowing visualization of the skin (black arrow) and the pleura (green arrow). **B.** The exploration of the cavernostomy revealed an extensive white covering of the pleura with hyphae (green arrow) and bronchopleural fistulas (black arrows). **C.** Pleural biopsies in areas of fungal mats confirmed the presence of voriconazole-sensitive Aspergillus fumigatus.

Figure 2: Exploration of the thoracic cavernostomy by video flexible bronchoscopy (Olympus Europe, BF-1TH190, outer diameter of 6.0 mm) after six months of treatment. The exploration of the cavernostomy six months after voriconazole intake adjustment showed the complete disappearance of the fungal mats previously covering the pleura.

The images have not been previously published.

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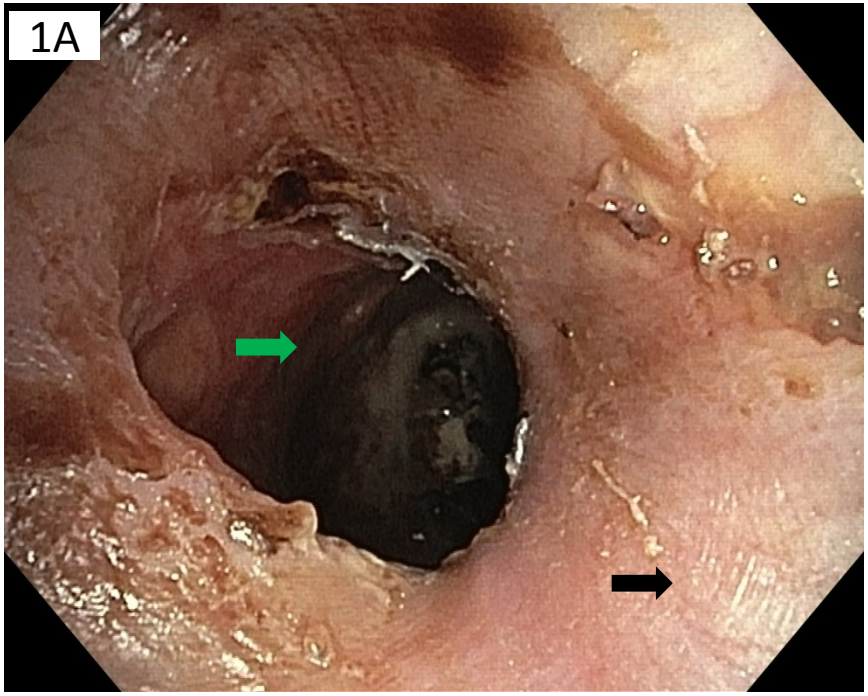

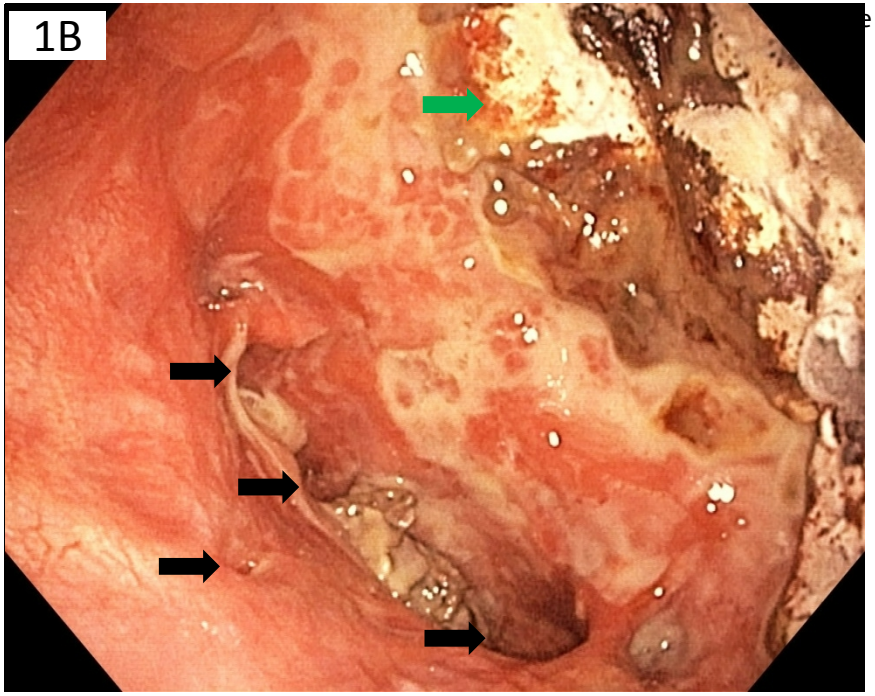

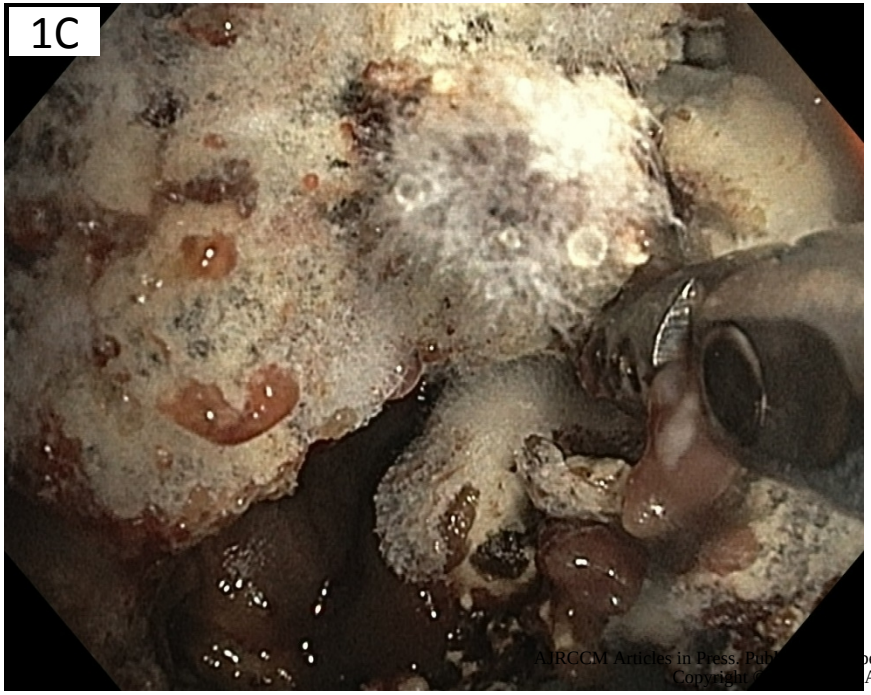

Figure 1

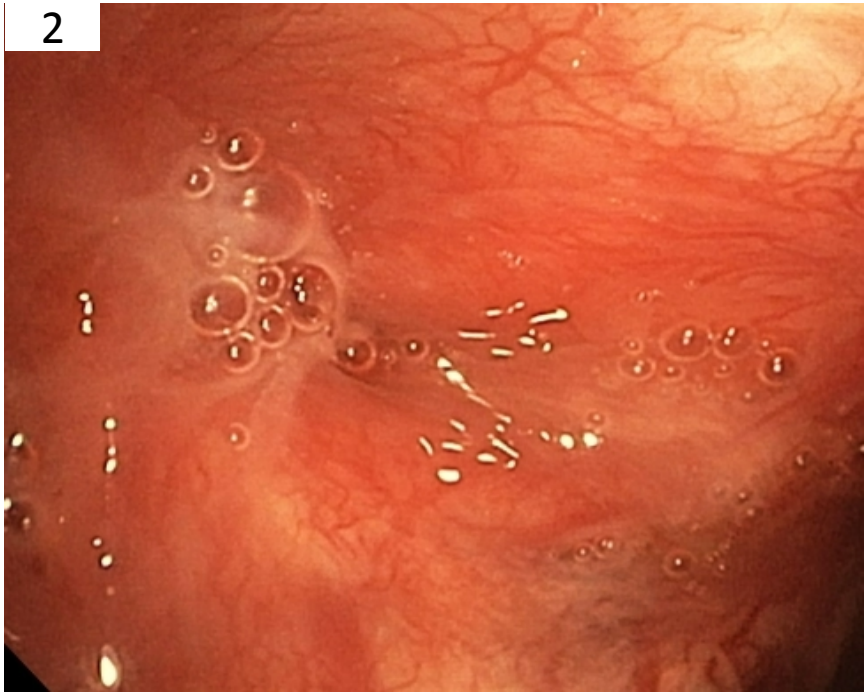

Figure 2

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