

Cases of successful treatment of chronic pulmonary aspergillosis in patients after destructive pneumonia



Zakhvatkina M, Shadrivova O, Desyatik E, Nikolaeva N, Borzova Y, Bogomolova T, Ignatyeva S, Vasilyeva N.,
Klimko N

I.Mechnikov North Western State Medical University; St. Petersburg, Russian Federation

olshadr@mail.ru

Objectives

We present clinical cases of successful treatment of chronic pulmonary aspergillosis (CPA) in patients after destructive pneumonia.

Materials and methods

For the CPA diagnosis the criteria Denning, 2016 were used.

Results

Clinical case No. 1.

Patient P., 37 years old male, with community-acquired right-sided pneumonia, received therapy from November to December 2018. In December 2018, episodes of haemoptysis with red blood, and negative CT dynamics with the appearance of a lesion in the upper lobe of the right lung were noted. In January 2019, he was admitted in a TB hospital, and right-sided upper-lobe abscessed pneumonia was diagnosed. He received an antibacterial treatment with a positive clinical effect. Laboratory tests for tuberculosis were negative. From February to April 2019, a course of preventive treatment with anti-TB drugs was carried out. During therapy, the progression of the inflammatory process in the upper lobe of the right lung, and the appearance of foci in the left lung were revealed.

In June 2019 the patient was examined at the mycological clinic.

Based on the clinical manifestations and examination results (a cavity with a soft-tissue component was visualized on CT scan (Fig.1); a positive *Aspergillus* IgG titre - 1: 1600; *A. fumigatus* growth in BAL), CPA was diagnosed.

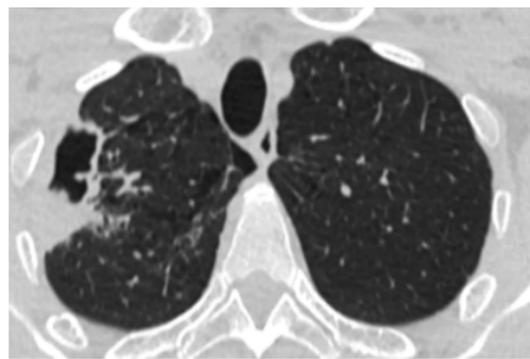


Fig.1. CT scan. In S1-2 of the upper lobe of the right lung, a cavity with dense walls with a parietal soft-tissue component.

While on antifungal therapy with voriconazole 400 mg/day, in August 2019, an upper lobectomy on the right, and a marginal resection of the middle lobe was performed. The postoperative material was examined with Grocott's stain and PAS-reactions. Histological examination revealed a chronic abscess in the lung tissue with necrotic masses, conidia, and branching at an angle of 45° mycelium of fungi, similar to *Aspergillus* spp. Antifungal therapy was continued until October 2019. Control examination revealed no clinical and laboratory signs of active CPA.

Clinical case No. 2.

Patient S., 61 years old male, in July 2018 suffered a community-acquired right-sided upper lobe destructive pneumonia. Patient received antibiotic therapy for 3 weeks without a significant effect.

Complaints of coughing, weakness and fatigue, and CT signs of pneumonia were still persisted. Tuberculosis was excluded. In October 2018, patient was examined in a mycological clinic. CPA was diagnosed based on CT-signs (presence of a cavity with a soft tissue component), a positive galactomannan test in BAL, and positive BAL microscopy for mycelium.

The patient received preoperative therapy with voriconazole 400 mg/day for 2 weeks. In November 2018, a resection of C2 of the right lung was performed. Septated mycelium was detected by microscopy of postoperative material and *A. fumigatus* growth was obtained. Antifungal therapy was continued for 2 more weeks. During control examination in the mycology clinic, there were no signs of active CPA, and antifungal therapy was stopped.

Conclusion

Destructive pneumonia is a risk factor for the CPA development. For the successful treatment of CPA a combination of antifungal therapy and surgical treatment is necessary.