Chronic Pulmonary Aspergillosis (CPA) In a Patient Suffering From Granulomatosis With Polyangiitis(GPA): A Case Report

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INTRODUCTION

Chronic pulmonary aspergillosis is an uncommon and slowly destructive pulmonary disease characterized by progressive cavitations and fibrosis. CPA is seen in immunocompetent or midly immunosuppressed patients with underlying respiratory disorder.

CASE REPORT

We report the case of a 56 -year-old man, caucasian, with GPA having upper respiratory tract involvement and steroid induced diabetes mellitus, in which *Aspergillus Niger* was detected in culture of Bronchoalveolar Lavage (BAL) after initiating current immunosuppressive therapy and long term corticotherapy for extensive GPA. He was admitted in our pneumology department complaining of clinical signs suggestive of pneumopathy (dyspnea, dry cough, low abundance hemoptysis and prolonged fever). Physical examination showed a moderate deterioration general status. Chest CT scan revealed progression in number and size of excavated and unexcavated nodules and architectural distortion with traction bronchiectasis and appearance of a new excavated opacity at the left upper lobe.

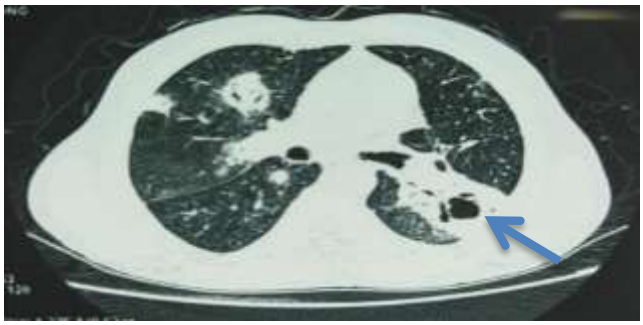

Figure 1: CT scan image showing the appearance of a new excavated opacity at the left upper lobe.

Ziehl-Neelsen staining for mycobacteria and SARS-Cov-2 PCR were negative. *Aspergillus* galactomannan antigen and anti-*aspergillus* antibody assays were negative. Gomori-Grocott staining showed septate hyphae in BAL (Figure 2) and culture yielded *Aspergillus niger* (Figure 3).

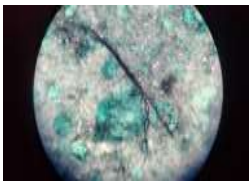

Figure 2: Microscopic examination after Gomori-Grocott staining showing mycelial filaments in BAL.

Figure 3: Colony of *Aspergillus niger* on Sabouraud Chloramphenicol medium.

The diagnosis being difficult, not fulfilling all the criteria for probable chronic pulmonary Aspergillosis and sometimes difficult to differentiate from underlying pathology (GPA), the CPA diagnosis was retained above of clinical, radiological and mycological arguments.

The clinical status has been improved from the first week 'no fever neither hemoptysis) under antifungal therapy (voriconazole: 800 mg the first day then 400 mg/day). The current corticostroids treatment was also modified being reduced to 15mg of Prednisolone daily.

DISCUSSION

The risk of aspergillosis seems to be more and more frequent in patients with systemic pathologies, such as GPA [1]. Thus, the frequency of aspergillosis is estimated at 9.5% based on data from Stankovic *et al.* [2] in a study focusing on systemic diseases and increases to 3% [2] or 0% [3] in the case of carrier patients specifically from GPA, all receiving corticosteroid therapy and/or treatment with cyclophosphamide. The diagnosis being difficult, to differentiate from the underlying pathology, it is based on a set of clinical, radiological and mycological arguments, involving the decrease in immunosuppression at the same time of introducing an early antifungal treatment [1]. In this context, the favorable development remains linked to the early diagnosis and initiation of antifungal treatment (voriconazole first-line) over a recommended period of six to 12 weeks [1,3], but often longer in the practice (average duration about five months after [1,3]).

CONCLUSION

Pulmonary Aspergillosis outcome will be improved with a rapid diagnosis, the administration of antifungal drugs as well as the management of underlying disease. The authors discuss how to manage and treat such aspergillosis risk regarding GPA physiopathology, taking into account the immunosuppressive therapy.

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