

## Pulmonary Aspergilloma as a Complication of Nosocomial Pneumonia in a Patient with Rheumatoid Arthritis

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DOI: 10.36347/SJMCR.2019.v07i09.003

| Received: 04.09.2019 | Accepted: 12.09.2019 | Published: 18.09.2019

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### Abstract

### Case Report

One of the commonest manifestations of *Aspergillus* pulmonary infection is the aspergilloma which develops in pre-existing cavities caused by infections or inflammatory diseases. In the present case, the patient had previous history of rheumatoid arthritis and was admitted with pneumonia.

**Keywords:** Aspergilloma, rheumatoid arthritis, nosocomial pneumonia, immunosuppressed.

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## INTRODUCTION

Pulmonary aspergilloma is one of the commonest manifestations of infection caused by *Aspergillus fumigatus*. It occurs more frequently in patients that are immunodeficient and develops in pre-existing cavities formed by tuberculosis, sarcoidosis or pulmonary infection [1]. Aspergilloma, a fungal ball, may also appear in rheumatoid lung as complication of the structural disease [2]. Most patients are asymptomatic, but some may develop hemoptysis that can be severe and require surgical approach [3]. Here we present the case of a patient that had rheumatoid arthritis treated with corticoids and was admitted with a nosocomial pneumonia and developed pulmonary aspergilloma during the recovery.

## CASE REPORT

A 54-year-old woman with prior history of rheumatoid arthritis, asthma, hypothyroidism, arterial hypertension and a recent hospitalization for septic shock from urinary tract infection. On treatment to rheumatoid arthritis with methotrexate and prednisolone 5mg daily. She presented to the emergency department with fever (38.5°C), dyspnea and hypotension. On the admission, thorax X-ray revealed interstitial opacity of the right lung. The diagnosis of nosocomial pneumonia with unidentified agent was admitted and the patient was treatment with meropenem due to the recent stay in the hospital and previous antibiotics exposure. Initially, stayed at intensive care unit (ICU) for support and treatment and after eight days was transferred to the ward. At 10<sup>th</sup> day of admission patient clinical condition was improving but a new cavitated lesion appeared on

control thorax X-ray. The thorax CT scan showed a 21mm cavity in the right lower lobe, with thick wall with a crescent image. A bronchofibroscopy was performed to understand the etiology of this lesion and the bronchoalveolar lavage revealed positive to *Aspergillus fumigatus*. The patient remained asymptomatic and with positive clinical evolution and was discharged to follow-up with image control that showed complete resolution of the image.

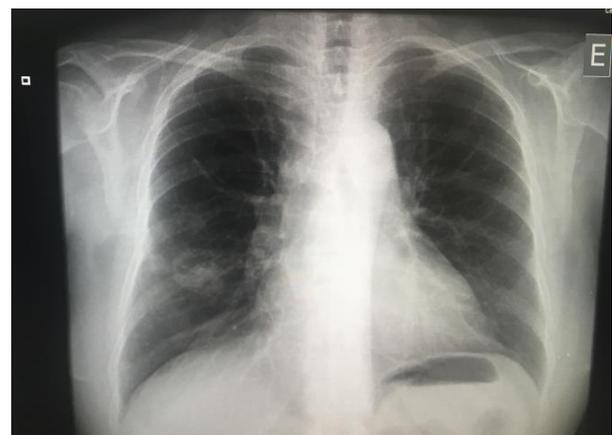
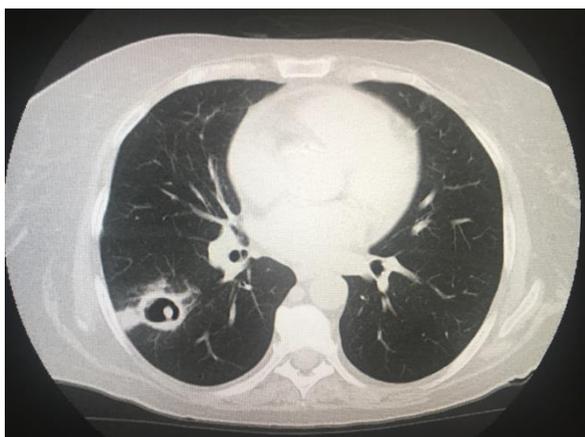


Fig-1: Chest X-ray showing a nodular image in the left lung



**Fig-2:** Chest CT scan showing a cavitary lesion with a crescent halo in the left lung (aspergilloma)

## DISCUSSION

The development of aspergilloma during the recovery from nosocomial pneumonia is rare and most frequently the lesion appears in upper pulmonary lobes [3]. In the presented case, the patient had two risk factors to develop aspergilloma, the rheumatoid arthritis with its lung structure changes (rheumatoid lung) and the immunosuppression. However, the patient had no previous history of pulmonary disease and the aspergilloma appeared in the parenchymal changes that were consequence of the pneumonia. According to recent guidelines, the follow up of asymptomatic patients with pulmonary aspergilloma should be clinical and imagological monitoring with no need to intervention [4].

## CONCLUSION

Pulmonary aspergilloma is a rare finding after pneumonia and has been reported in some patients with rheumatoid arthritis with pulmonary parenchymal disease. It is important to have that differential diagnosis in immunosuppressed patients with diseases that cause lung structure changes and present with a typical image on X-ray. Most cases do not need a specific approach but in others antifungal and surgical treatment may be necessary.

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