

## Images in Infectious Diseases

# *Pneumocystis jirovecii* pneumonia following corticosteroid therapy

Magda Garça<sup>[1]</sup> , João Domingos<sup>[2]</sup>  and Susana Peres<sup>[2]</sup> 

[1]. Hospital de Santo Espírito da Ilha Terceira, Serviço de Medicina Interna, Açores, Portugal.

[2]. Centro Hospitalar Lisboa Ocidental, Serviço de Infeciologia e Medicina Tropical do Hospital Egas Moniz, Lisboa, Portugal.

A new population of immunocompromised individuals has emerged from increased use of immunosuppressive therapy. The use of corticosteroids associated with other immunosuppressive therapies is a key risk factor for *Pneumocystis jirovecii* pneumonia (PJP) in patients without HIV, and guidelines for treatment and prophylaxis have recently been created. However, cases of PJP in patients undergoing corticosteroid monotherapy are rare<sup>1</sup>.

A 62-year-old man with no relevant personal history was hospitalized for a space-occupying lesion compatible with a brain abscess. A long course of targeted antibiotic therapy was administered and, because of cerebral edema, adjuvant corticosteroids were administered for 6 weeks (cumulative dose of >700 mg).

Two weeks after discontinuing corticosteroid therapy, the patient presented with fever and respiratory failure. Chest radiography revealed diffuse bilateral interstitial infiltrates (**Figure 1**), and hospital-acquired pneumonia was diagnosed. Unfortunately, the patient's clinical status quickly deteriorated; he developed severe respiratory failure, and invasive mechanical ventilation was initiated. Chest computed tomography showed patchy ground-glass opacities, which were more evident in the



**FIGURE 1:** Chest radiograph at admission demonstrating diffuse bilateral interstitial infiltrates.

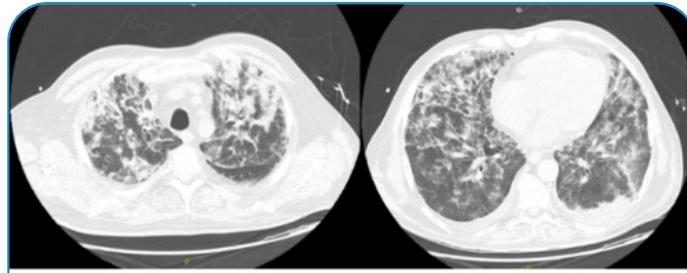
**Corresponding author:** Dr. Magda Garça. **e-mail:** [magdajpgarca@gmail.com](mailto:magdajpgarca@gmail.com)

**Authors' contribution:** MG: Conception and design of the study, Acquisition of data, Drafting the article, Final approval of the version to be submitted. JD: Analysis and interpretation of data, Final approval of the version to be submitted. SP: Final approval of the version to be submitted.

**Conflict of Interest:** The authors have declared that no competing interests exist.

**Financial Support:** The authors have declared there was no financial support received.

**Received** 9 November 2022 | **Accepted** 1 December 2022



**FIGURE 2:** Computed tomography scan from hospital admission demonstrating patchy ground-glass opacities that are more evident in the lower and upper lobes, interspersed with zones of parenchymal consolidation.



**FIGURE 3:** Chest radiograph after 10 days of trimethoprim-sulfamethoxazole treatment.

lower and upper lobes, interspersed with zones of parenchymal consolidation (**Figure 2**).

Bronchoalveolar lavage was performed, with the identification of *P. jirovecii*.

Ten days after starting targeted therapy, the patient's clinical status and imaging findings improved (**Figure 3**).

In patients receiving corticosteroid therapy, the threshold of suspicion of opportunistic infections should be low. Early treatment in this patient prevented clinical deterioration and changed the disease evolution and prognosis<sup>2</sup>.

#### ACKNOWLEDGMENTS

The author's would like to acknowledge Susana Peres, M.D for her supervision of and contribution to this case.

#### REFERENCES

1. Tasaka S. Recent Advances in the Diagnosis and Management of Pneumocystis Pneumonia. *Tuberc Respir Dis (Seoul)*. 2020;83(2): 132-40.
2. Jagannathan M. The Infectious Danger of Corticosteroids: A Fatal Case of Pneumocystis Jirovecii Pneumonia in a Non-HIV Patient Following Corticosteroid Use with Prophylaxis. *Cureus*. 2019;11(10): e5874.