CLINICAL IMAGE / KLİNİK GÖRÜNTÜ

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Pneumocystis pneumonia

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Atousa HAKAMIFARD[1], Somayeh HAJIAHMADI[2]

[1]*Department of Infectious Diseases, School of Medicine, Isfahan University of Medical Sciences, Isfahan, Iran*
[2]*Department of Radiology, School of Medicine, Isfahan University of Medical Sciences, Isfahan, Iran*

Keywords: *Pneumocystis jirovecii*, *kotrimoksazol*, human immunodeficiency virus, pneumatocele, HIV/AIDS
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Pneumocystis jirovecii is responsible for *P. jirovecii* pneumonia (PJP) in immunocompromised individuals. The diagnosis of PJP involves the visualization of *P. jirovecii* in induced sputum or bronchoalveolar lavage fluid stains using direct and/or indirect fluorescence. Co-trimoxazole is the mainstay of therapy[1]. A 33-year-old man presented with fever, fatigue, and slight shortness of breath. His symptoms were present for approximately two months. On admission, his white cell count was 2300/mm^3, platelet count was 78,000/mm^3, hemoglobin was 9 gr/dl, and lactate dehydrogenase 780 U/L. The blood oxygen saturation level was 85%. On physical examination, his lung and heart auscultations were normal. His pulse rate was 102 beats/min, body temperature was 38 °C, respiratory rate was 21 breaths/min, and blood pressure was 120/80 mmHg. A plain chest X-ray showed bilateral perihilar interstitial thickening with poor definition of vascular marking (Figure 1); a computed tomography (CT) scan revealed scattered micronodules with ground-glass opacity and thin wall cysts in both lungs (Figure 2).

According to the bilateral ground-glass opacity and the presence of cystic lesions, PJP was strongly implicated in the lung CT scan. Subsequently, sputum induction was performed using hypertonic saline. Sputum staining using Giemsa and Papanicolaou stains was reported to be positive for *P. jirovecii*. Examination of respiratory secretions for bacterial smear and culture and also *Mycobacterium tuberculosis were* found negative. Because of confirmed PJP diagnosis, a fourth-generation human immunodeficiency virus (HIV) ELISA test and Western blotting

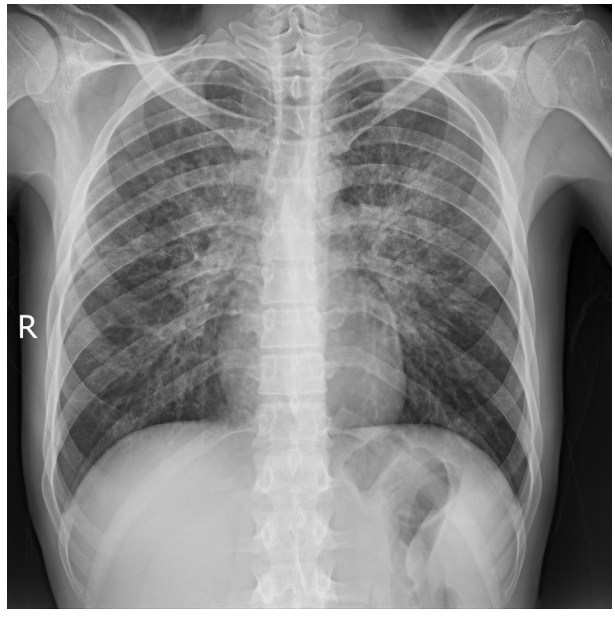

Figure 1. Bilateral perihilar interstitial thickening with poor definition of vascular marking

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Address for Correspondence/Yazışma Adresi: Atousa Hakamifard MD, Department of Infectious Diseases, School of Medicine, Isfahan University of Medical Sciences, Isfahan, Iran
Phone: +00989132291573 **E-mail:** a.hakamifard@med.mui.ac.ir **ORCID ID:** orcid.org/0000-0001-9456-2239
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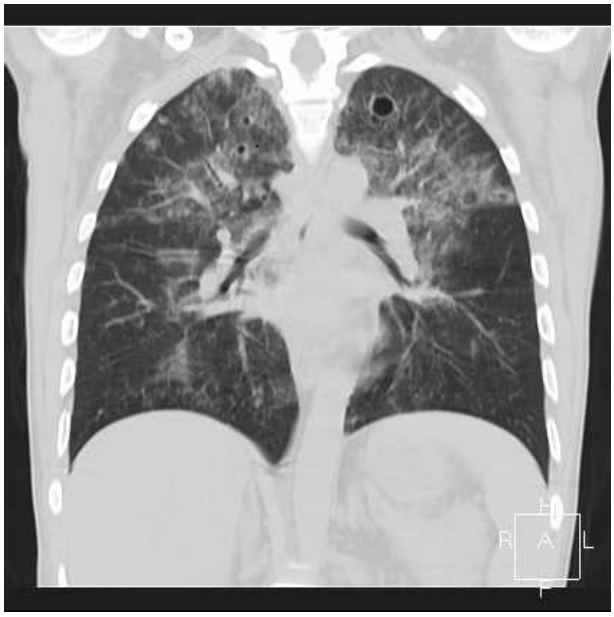

Figure 2. Coronal chest computed tomography image shows scattered micronodules with ground glass opacity and thin wall cysts in both lungs

were performed, and the patient was diagnosed with acquired immune deficiency syndrome (AIDS). The patient's CD4 count was 17/mm^3. In a study comparing pulmonary imaging of PJP in HIV-infected patients with other immunocompromised patients, the incidence of pulmonary cysts was higher in the HIV-infected group than in the uninfected group[2]. Given the PJP diagnosis, therapy with co-trimoxazole was started. After five days of therapy, the patient was afebrile and his shortness of breath improved. At the end of the third week of treatment, the patient's symptoms resolved and his blood oxygen saturation level was 94%. Due to his intolerance to the combination of tenofovir, emtricitabine, and efavirenz, he received antiretroviral therapy (ART), including dolutegravir 50 mg once daily and Truvada once daily [emtricitabine (200 mg) + tenofovir (300 mg)]. His ART regimen was continued along with secondary prophylaxis of co-trimoxazole for PJP. No evidence of recurrence was found at his six-months follow-up. The patient tolerated the ART regimen well. In patients with bilateral ground-glass opacities and thin wall cysts (pneumatocele), PJP diagnosis in the context of AIDS should be considered.

Ethics

Informed Consent: Consent form was filled out by the patient.

Peer-review: Externally and internally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: A.H., Concept: A.H., S.H., Design: A.H., S.H., Data Collection or Processing: A.H., S.H., Analysis or Interpretation: A.H., S.H., Literature Search: A.H., S.H., Writing: A.H., S.H.

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