Case Report

Cryptogenic Organizing Pneumonia Mimicking a Mass Lesion: An Unusual Case

Shubhra Jain, Yogendra Singh Rathore, Anshika Jindal, Vinod Joshi

Department of Respiratory Medicine, Institute of Respiratory Disease, SMS Medical College, Jaipur, Rajasthan, India

Abstract

Cryptogenic organizing pneumonia (COP) is less common interstitial lung disease with varying clinical picture. It can be misdiagnosed as lung cancer as COP usually presents with malaise, fever, weight loss, and myalgia, which overlap with clinical features of lung cancer. Here, we present a rare case of a 68-year-old male smoker admitted with cough, hemoptysis, arthralgia, fever, and chest pain. On chest X-ray, unilateral homogenous opacity was seen. Blood culture and sputum for Ziehl–Neelsen stain were negative. High-resolution computed tomography chest revealed consolidation in middle and lower zone of the left lung with ground-glass opacity with centrilobular nodules. Bronchoalveolar lavage specimen was negative for bacteria, *Mycobacterium tuberculosis*, and atypical cells. Transbronchial lung biopsy showed evidence of OP. The patient responded well to steroids.

Keywords: Cryptogenic organizing pneumonia, hemoptysis, transbronchial lung biopsy

Introduction

Organizing pneumonia (OP) is a clinicopathological entity which was originally described as bronchiolitis obliterans OP. Cryptogenic OP (COP) is a preferred term because it is more of acinar rather than an airway disease.

It is a rare disease with an incidence of 1.96/100,000 in the 1980s but has increased to 3.06.[1,2] OP is referred as COP when the etiology is not known. When OP is associated with etiological factors such as connective tissue diseases, autoimmune diseases (rheumatoid arthritis and dermatomyositis-polymyositis), malignancies, infections (many viral, bacterial, fungal, and parasite), lung radiotherapy, organ transplantation, and drugs induced such as nitrofurantoin, phenytoin, amiodarone, and sulfasalazine, then it is referred as secondary OP.[3,4] Patients of OP typically present with nonspecific features including cough, dyspnea, fever, and weight loss. Hemoptysis and arthralgias are rarely seen as primary symptoms and often lead to misdiagnosis.

Case Report

A 68-year-old male smoker presented with low-grade fever for 1 month and hemoptysis, left-sided chest pain, dry cough, and arthralgia for 10 days. The patient had no other chronic diseases such as hypertension or diabetes and no history of alcohol abuse. There was no history of radiotherapy and chemotherapy. The patient had not taken any antitubercular treatment previously. On respiratory examination, crepitations were present in the left axillary and mammary area. Complete blood count revealed increased total leukocyte count (12,900 cells/cumm) with polymorph leukocytosis. Liver and renal function tests were normal. HIV was nonreactive. There were no hematuria and no albuminuria. Serum C-reactive protein (CRP) was increased and rheumatoid factor was negative. Blood culture and sputum Ziehl–Neelsen stain was negative. Chest X-ray posteroanterior view showed left-sided mid-zone homogenous opacity [Figure 1]. High-resolution computed tomography (HRCT) chest revealed consolidation in middle and lower zone of the left lung with ground-glass opacity with centrilobular nodules [Figure 2]. Bronchoscopy revealed a normal bronchial tree. Bronchoalveolar lavage specimen was negative for bacteria, *Mycobacterium tuberculosis*, and

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Address for correspondence: Dr. Yogendra Singh Rathore, Room No. 509, New Zanana Residency, Jhotwara Road, Chandpole, Jaipur - 302 001, Rajasthan, India.
E-mail: yrjsr108@gmail.com

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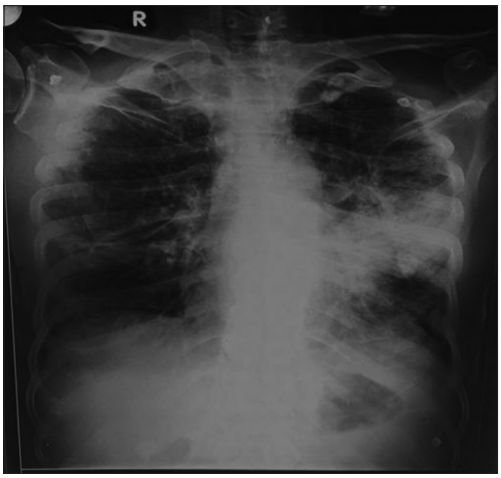

Figure 1: Chest X-ray posteroanterior view showed left-sided mid-zone homogenous opacity

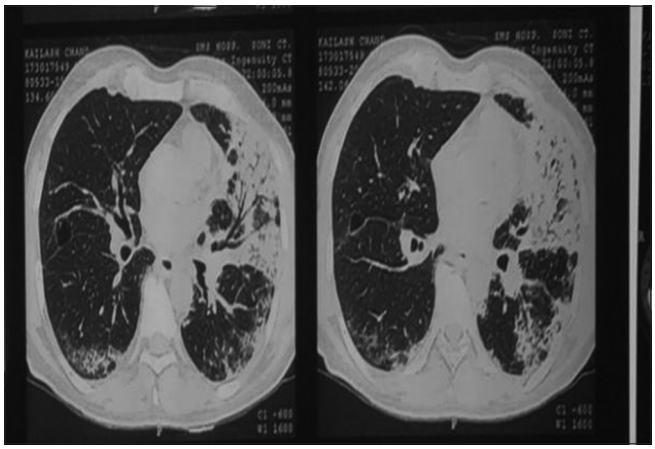

Figure 2: High-resolution computed tomography chest revealed consolidation in middle and lower zone of the left lung with ground-glass opacity with centrilobular nodules

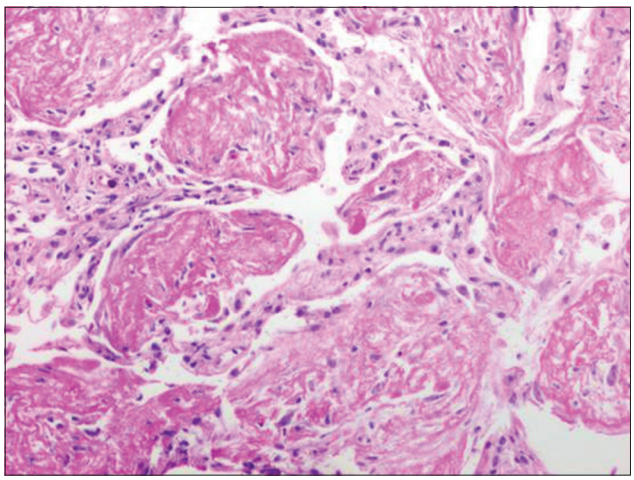

Figure 3: Intra-alveolar space and intra-alveolar ductal fibroblastic proliferation with early collagen deposition Masson bodies with alveolar architecture intact

atypical cells. Transbronchial lung biopsy (TBLB) showed evidence of OP. Histopathology revealed patchy fibrosis involving alveoli and alveolar duct. Fibroblasts embedded in myxoid matrix containing plugs of granulation tissue and inflammatory cells forming polypoid mass (Masson bodies). Alveolar architecture was not destroyed [Figure 3]. On detailed multidisciplinary approach combining clinical, radiological, and histological evaluation, the case was diagnosed as COP.

Discussion

The majority of patients of COP present with subacute onset of complaints over 2–10 weeks. Erythrocyte sedimentation rate and CRP are often elevated. On chest radiography, the most common presentation is asymmetric bilateral, patchy consolidation. The next most common pattern is a diffuse reticular or reticulonodular infiltration. The last major radiographic pattern of COP is a solitary focal lesion that often mimics lung cancer. Air bronchogram may also be seen within the lesion. This pattern has been associated more commonly with chest pain and hemoptysis. The HRCT scan recapitulates the findings on chest radiography and provides greater detail of the pattern. TBLB is required for a definitive diagnosis. The characteristic pathologic OP pattern is Masson bodies formed by fibroblast with variable infiltrate. Inflammatory cells fill the alveoli and spread to the alveolar ducts and terminal bronchioles, with characteristic endoluminal buds of granulation tissue.[5] COP response to corticosteroids is often rapid, and success of treatment is seen in 65%.[6] COP does not respond to antibiotics which is a clue to start steroid at appropriate time. The recommended therapy is prolonged administration of corticosteroids at high doses (prednisolone 1–1.5 mg/kg/day for 3 months) with gradual reduction thereafter.[7] Other drugs such as azathioprine, cyclophosphamide, or cyclosporine are alternative steroid-sparing agents.[8] However, when the corticosteroids are withdrawn, or the dosage is decreased, COP may relapse. The relapse rate is high at approximately 58%. Most relapses occurred within 1 year and the majority of them within the first 6 months.[9]

Conclusion

The present report detailed a case of COP with fever, hemoptysis, and chest pain mimicking lung cancer. COP should be kept in mind whenever focal parenchymal lung lesion is present as it can mimic lung cancer. TBLB is a useful tool for diagnosis of focal parenchymal lung disease. In our case, TBLB under C-arm revealed diagnosis of COP without any complication.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient has given his consent for his images and other clinical information to be reported in the journal. The patient understands that his name and initials will not be published and due efforts

will be made to conceal his identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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