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CASE REPORT

Cryptogenic organizing pneumonia associated with primary Sjogren's syndrome

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Abstract The association of cryptogenic organizing pneumonia (COP) with primary Sjogren's syndrome (PSS) is extremely rare. We report a case of simultaneous diagnosis of PSS and COP. A 70-year-old female presented with fever, non-productive cough and dyspnea of 2 months' duration. She had experienced sicca symptoms for the past 2 years. The chest radiograph revealed a right lower lobe infiltrate, which was unresponsive to antibiotics. Bronchoscopy, bronchoalveolar lavage and an open lung biopsy established the diagnosis of COP, while a lip biopsy was consistent with PSS. The patient improved on steroids. Organizing pneumonia may be one of the early manifestations of PSS. Exclusion of PSS should be part of a thorough evaluation of the patient with COP.

Keywords Sjogren's syndrome · Organizing pneumonia

Introduction

Cryptogenic organizing pneumonia (COP) is an interstitial lung disease characterized by intra-alveolar buds of connective tissue [1]. It can be idiopathic or associated with a known underlying disease. Although connective tissue diseases in general, and rheumatoid arthritis in particular, have been known to induce COP, primary Sjogren's syndrome (PSS) has only rarely been etiologically associated with COP. In this report, we present a case in which the diagnosis of PSS and COP were made concurrently and verified by tissue biopsies. Our case highlights the importance of adding PSS to the differential diagnosis of COP.

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Case report

A 70-year-old woman was admitted to our hospital with a 2-month history of persistent right lower lobe consolidation. Two months prior to admission, she was hospitalized at another institution with cough and fever up to 38°C. A chest X-ray revealed right lower lobe consolidation and the patient was treated for community-acquired pneumonia. Despite antibiotic therapy for 3 weeks, the symptoms did not abate; a bronchoscopy with bronchoalveolar lavage showed no endobronchial masses and a lymphocytic predominance on cell count differential. Cytology and cultures were negative.

The patient denied haemoptysis, weight loss, night sweats, skin rashes, or arthralgias. Review of systems was significant only for xerostomia and xerophthalmia present for the last 2 years. The patient was never a smoker. She denied recent travel or exposure to animals. On physical examination she appeared pale; her temperature reading was 38°C. Her vital signs were normal. Dryness of the oral mucosa was noted. Auscultation of the lungs revealed bilateral end-inspiratory fine crackles and bronchial breathing at the right base posteriorly. The rest of the physical examination was unremarkable.

The erythrocyte sedimentation rate was 90 mm/hr and C-reactive protein was 60 mg/L. Antinuclear autoantibodies

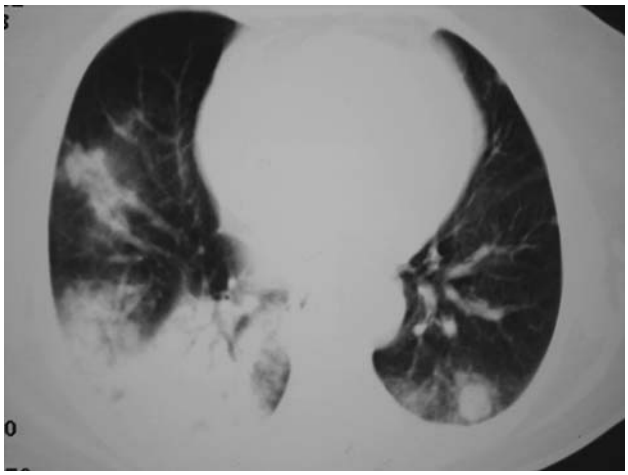

Fig. 1 High-resolution CT of the chest reveals dense alveolar infiltrates and ground glass opacities in both lower lobes. Diffuse air-bronchograms can be appreciated. The lesions have predominantly subpleural and peri-bronchovacular distribution

(ANA) were positive (1/640) and all other autoantibodies were negative. Arterial blood gases on air showed hypoxia and respiratory alkalosis. A high-resolution CT scan of the lungs revealed patchy infiltrates and ground glass opacities with a sub-pleural and peri-bronchovascular distribution in both lower lung fields (Fig. 1). An open lung biopsy showed COP. There was no evidence of malignancy. All cultures were negative. Schirmer test and lip biopsy were consistent with PSS. The patient was started on oral methylprednisolone 0.75 mg/Kg/day, with improvement of symptoms and marked clearing of pulmonary infiltrates at a 3-month follow-up.

Discussion

COP is a relatively rare clinicopathologic entity characterized by polypoid intraluminal masses of fibroblasts and myofibroblasts embedded into collagen tissue in the alveolar ducts and spaces with coexistent chronic inflammation of the surrounding alveoli and varying degrees of bronchiolar involvement [2]. The presentation mimics community-acquired pneumonia and the true diagnosis is made with a delay of 6–10 weeks, following one or more failed courses of antibiotics [1]. The radiologic presentation is one of bilateral patchy alveolar opacities with air-bronchograms in the presence of normal lung volumes [3] although unilateral opacities and irregular linear or nodular interstitial infiltrates can occasionally be seen.

Sjogren's syndrome affects the lungs in up to 75% of cases with four predominant patterns: diffuse interstitial lung disease, small airways disease, large airways obstruction, and dessication of the tracheobronchial tree [4]. The commonest form of interstitial lung disease is non-specific interstitial pneumonitis (NSIP) [5]. The initial insult to the lung seems to originate in the airways with lymphocytic infiltration of the submucosal glands in the large and small airways and later development of follicular bronchiolitis [6].

COP has been described in various autoimmune diseases; primarily in rheumatoid arthritis [7] but also in systemic lupus erythematosus [8] and polymyositis/dermatomyositis [9]. While in most cases the diagnosis is made in the setting of a preexisting autoimmune disease, in some cases COP may be the initial manifestation of the systemic disease [10]. PSS is not usually associated with COP and only a few cases have been reported in the literature. Matteson et al. [11] described the first case of PSS-associated COP in 1990. A few years later, Usui et al. [12] and Lambert et al. [13] described two more patients with primary SS and histologically proven COP on open lung biospy. As with our case, in most published reports the diagnosis of COP was concurrent with the diagnosis of PSS. It is quite possible that the association of PSS with COP is more common than previously reported and that a number of patients with the so-called idiopathic COP may have underlying PSS. In this setting, PSS may elude diagnosis because of its non-specific symptomatology or because these patients often dismiss sicca symptoms as age related.

In conclusion, we presented a case of COP that was diagnosed concurrently with primary Sjogren's syndrome. PSS should be included in the differential diagnoses of diseases associated with COP and a questionnaire about sicca symptoms should be part of a complete work up of any patient with COP.

References

1. Cordier JF (2002) Update on cryptogenic organizing pneumonia. Swiss Med Wkly 132:588–591
2. Myers J, Colby T (1993) Pathological manifestations of bronchiolitis, constrictive bronchiolitis, cryptogenic organizing pneumonia, and diffuse panbronchiolitis. Clin Chest Med 14:611–622
3. Cordier JF, Loire R, Brune J (1989) Idiopathic bronchiolitis obliterans organizing pneumonia. Definition of characteristic clinical profiles in a series of 16 patients. Chest 96:999–1004
4. Constantopoulos SH, Papadimitriou CS, Moutsopoulos HM (1985) Respiratory manifestations in primary Sjogren's syndrome. A clinical, functional, and histologic study. Chest 88:226–229
5. Ito I, Nagai S, Kitaichi M, Nicholson AG, Johkoh T, Noma S, Kim DS, Handa T, Izumi T, Mishima M (2005) Pulmonary manifestations of primary Sjogren's syndrome: a clinical, radiologic, and pathologic study. Am J Respir Crit Care Med 171:632–638
6. Papiris SA, Saetta M, Turato G, La Corte R, Trevisani L, Mapp CE, Maestrelli P, Fabbri LM, Potena A (1997) CD4-positive T-lymphocytes infiltrate the bronchial mucosa of patients with Sjogren's syndrome. Am J Respir Crit Care Med 156:637–641
7. Kaushik P, Cooper ES, Banda VR, Vatsavai SR, Kaushik R (2005) Bronchiolitis obliterans with organizing pneumonia in rheumatoid

arthritis—a fatal case and short review of literature. Rheumatol Int 25:391–393
8. Otsuka F, Amano T, Hashimoto N, Takahashi M, Hayakawa N, Makino H, Ota Z, Ogura T (1996) Bronchiolitis obliterans organizing pneumonia associated with systemic lupus erythematosus with antiphospholipid antibody. Intern Med 35:341–344
9. Douglas WW, Tazelaar HD, Hartman TE, Hartman RP, Decker PA, Schroeder DR, Ryu JH (2001) Polymyositis–Dermatomyositis-associated interstitial lung disease. Am J Respir Crit Care Med 164:1182–1185
10. Min JK, Hong YS, Park SH, Park JH, Lee SH, Lee YS, Kim HH, Cho CS, Kim HY (1997) Bronchiolitis obliterans organizing pneumonia as an initial manifestation in patients with systemic lupus erythematosus. J Rheumatol 24:2254–2257
11. Matteson EL, Ike RW (1990) Bronchiolitis obliterans organizing pneumonia and Sjogren's syndrome. J Rheumatol 17:676–679
12. Usui Y, Kimula Y, Miura H, Kodaira Y, Takayama S, Nakayama M, Kataoka N (1992) A case of bronchiolitis obliterans organizing pneumonia associated with primary Sjogren's syndrome who died of superimposed diffuse alveolar damage. Respiration 59:122–124
13. Lambert M, Hebbar M, Viget N, Hatron PY, Hachulla E, Devulder B (2000) Bronchiolitis obliterans with organized pneumonia: a rare complication of primary Gougerot–Sjogren syndrome. Rev Med Interne 21:74–77