Five Cases Diagnosed as Organizing Pneumonia

Organize Pnömoni Tanısı Almış Beş Olgu

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ABSTRACT

Organizing pneumonia (OP) is characterized by the presence of granulation tissue in distal air spaces. Five patients were diagnosed histopathologically as OP (3 men, 2 women; mean age, 61 years; range, 49-78 years). All patients were classified as cryptogenic except one, who had sclerosing glomerulonephritis and a history of colchicine use. Corticosteroid treatment resulted in remission in all patients and relapse was seen in one. We aimed to present the clinical features of the five cases diagnosed as OP.

(Tur Toraks Der 2010; 11: 181-3)

Key words: Alveolar hemorrhage, colchicine, organizing pneumonia, sclerosing glomerulonephritis

Received: 13.02.2008 *Accepted: 15.05.2008*

ÖZET

Organize pnömoni (OP) distal hava boşluklarında granülasyon dokusunun varlığı ile karakterize bir hastalıktır. Beş hastaya (3 kadın, 2 erkek; ortalama yaş, 61; yaş aralığı, 49-78) histopatolojik olarak OP tanısı konuldu. Sklerozan glomerülonefrit ve kolsişin kullanım öyküsü olan bir hasta hariç tüm hastalar kriptojenik olarak sınıflandırıldı. Kortikosteroid tedavisi tüm hastalarda remisyon ile sonuçlandı ve bir hastada nüks görüldü. Biz OP tanısı almış beş hastanın klinik özelliklerini sunmayı amaçladık.

(Tur Toraks Der 2010; 11: 181-3)

Anahtar sözcükler: Alveolar hemoraji, kolşisin, organize pnömoni, sklerozan glomerülonefrit

Geliş Tarihi: 13.02.2008 *Kabul Tarihi: 15.05.2008*

INTRODUCTION

Organizing pneumonia (OP) has been described as the presence of buds of granulation tissue composed of myofibroblasts, fibroblasts, and collagen in distal air spaces. Lesions occur predominantly within the alveolar spaces but often involve the bronchiolar lumen; hence, the condition was formerly called *bronchiolitis obliterans organizing pneumonia*. Organization of inflammatory exudates leads to intra-alveolar fibrosis, a process reversible by corticosteroids, in contrast to the usual interstitial pneumonia [1].

Alveolar epithelial injury is the initial event of this inflammatory process, which may occur in several clinical settings due to various causes such as drugs, infectious agents, connective tissue disorders and malignancies. However, it remains idiopathic in most of the cases and is called *cryptogenic organizing pneumonia* (COP) [1]. Our purpose was to present the clinical features of 5 cases diagnosed as OP of which 4 were classified as cryptogenic.

CASE

Five patients (3 men, 2 women) were diagnosed histopathologically as OP in our department (Figure 1). Mean age at the time of diagnosis was 61 years (range: 49-78). Presenting symptoms were cough (n=4), dyspnea (n=4), sputum (n=3), fever (n=3), weight loss (n=3) and hemoptysis (n=1) and the mean duration of symptoms was 10 weeks. Two patients were current smokers, and the others had no smoking history. None responded to the empirical antibiotherapy which they had received before admission. Fine, sparse, inspiratory crackles were heard bilaterally in all patients, except for the patient with a completely normal physical examination. None of the patients had finger clubbing.

The results of pulmonary function tests showed decreased diffusion capacity (n=4), restrictive ventilatory defect (n=3), moderate obstructive ventilatory defect (n=1) and were completely normal in 1 patient. Computerized tomography (CT) scanning of the thorax revealed bilateral alveolar or interstitial infiltrates in all the patients, except the case with pleura-based 67x30x30mm opacity in the anterior segment of the right upper lobe. The diagnostic procedure was CT assisted-transthoracic biopsy in 4 patients and transbronchial biopsy in 1 patient. Clinical characteristics of the cases are summarised in Table 1.

All the patients were classified as cryptogenic, except a 49-year-old woman who presented with normocapnic respiratory failure and acute renal failure. She had complained of a cough for 3 months and fever and mild

Presented In: Xth Congress of Turkish Thoracic Society, 25-29 Nisan 2007, Antalya

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doi:10.5152/ttd.2010.29

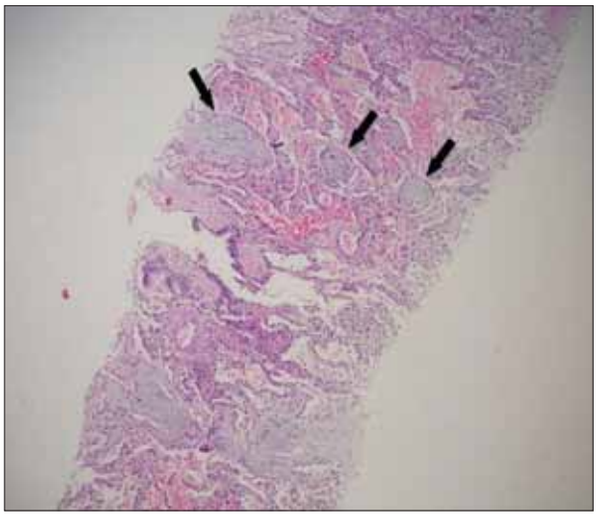

Figure 1. HE.x200. Interstitial fibrosis, intraluminal fibroblastic polypoid lesions (Masson body indicated by arrow)

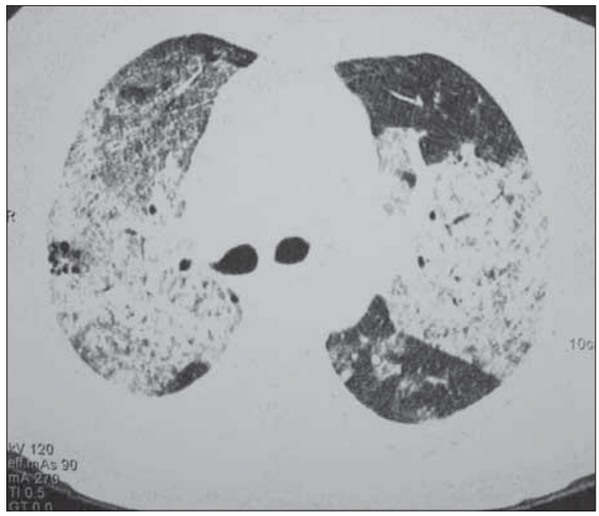

Figure 2. CT of thorax showing bilateral consolidations

Table 1. Clinical characteristics of the cases

Clinical characteristics	Number of cases (n)
Cough	4
Dyspnea	4
Sputum	3
Fever	3
Weight loss	3
Hemoptysis	1
Bilateral inspiratory crackles	4
Normal physical examination	1
Decreased diffusion capacity	4
Restrictive ventilatory defect	3
Obstructive ventilatory defect	1
Normal pulmonary function	1
Bilateral infiltrations	4
Focal opacity	1
Transthoracic biopsy	4
Transbronchial biopsy	1

hemoptysis for 10 days. She had been using colchicine for 10 years for the misdiagnosis of Behçet's disease. She had chronic skin lesions and was diagnosed as erosive lichen planus by the Dermatology department. The CT scan showed a ground glass appearance bilaterally in lung parenchyme (Figure 2) and ethmoidal sinusitis. No endobronchial lesion was seen during fiberoptic bronchoscopy; cytological evaluation of bronchoalveolar lavage fluid showed hemosiderin-laden macrophages. The serum sample was negative for anti-GBM antibody, C-ANCA, P-ANCA, ANA, and anti-dsDNA. She had non-nephrotic proteinuria (0.3g/dL) and insignificant hematuria; therefore, a renal biopsy was not considered at that time. Transthoracic biopsy revealed OP. Corticosteroid therapy was initiated and she recovered from respiratory and renal failure with regression of radiographic signs on the tenth day of treatment. Ten months after the first admission, she presented with acute renal failure while she was still on corticotherapy. A renal biopsy was performed that revealed sclerosing glomerulonephritis.

Methyl prednisolone (0.5-1mg/kg) was started in all patients and remission was achieved in all of them within a mean period of 1 month. The mean duration of corticotherapy was 7 months. Relapse was seen in 1 patient 2 weeks after the completion of 7-month corticotherapy and treatment was restarted. The patient, at the time of writing, is again in remission in the 11th month of decreasing dosage treatment schedule.

DISCUSSION

Although alveoli are the main site of involvement, COP was classified among the idiopathic interstitial pneumonias in the American Thoracic Society/European Respiratory Society International Multidisciplinary Consensus Classification of the Idiopathic Interstitial Pneumonias [2]. Males and females are equally affected, with a mean age of onset of 54 years [3]. Patients typically present with mild symptoms resembling respiratory system infection which is unresponsive to antibiotherapy. Dyspnea is rarely severe, and hemoptysis is uncommon. Diagnosis is often delayed 6 to 13 weeks (10 weeks in our cases) due to non-specific signs and symptoms.

The typical radiologic appearance is multiple alveolar infiltrations; however it may also present as solitary or infiltrative opacities [1]. Transthoracic biopsy was performed in our patient who presented with solitary focal opacity due to suspicion of bronchogenic carcinoma.

A mild-to-moderate restrictive ventilatory defect is most commonly detected at spirometry [1]. An obstructive ventilatory defect usually points to an underlying obstructive lung disease; likewise, our patient with moderate obstruction had a smoking history of 81 pack-years and symptoms and signs of chronic obstructive pulmo-

nary disease. Diffusion capacity is generally reduced, as it was in 4 of our patients.

Hypoxemia is usually mild, except in patients with widespread and rapidly progressive lesions [4,5]. Our patient with respiratory failure had bilateral pulmonary involvement and a history of colchicine use. Although many drugs have been shown to cause OP, colchicine was not among them [1,6]. Another female patient who presented with alveolar hemorrhage, acute renal and respiratory failure was reported as having been diagnosed as membranoproliferative glomerulonephritis and OP. The patient recovered from renal and respiratory failure in response to corticotherapy as happened in our patient [7]. To the best of our knowledge, our patient is the first case reported with OP, alveolar hemorrhage and sclerosing glomerulonephritis.

Diagnosis of COP depends on histopathological evaluation and exclusion of any possible cause [1]. Video-assisted thoracoscopy is a safe procedure for obtaining adequate biopsies from several lobes. However, transbronchial biopsy is recommended as a non-invasive procedure, but there is a risk of obtaining a small and collapsed piece of lung tissue with this method [8]. We could diagnose only 1 case transbronchially; transthoracic biopsy was required in the others.

Rapid clinical and radiological improvement with corticotherapy is a general feature of COP; however, relapses upon completion of the treatment or dose reduction are common. Relapse rates as high as 58% have been reported [9]. The mean duration of treatment in our patients was 7 months, and relapse was seen in 1 patient who completed 7-months of corticotherapy. Although a dosage regimen and duration of treatment have not been established for COP, 1 year is generally recommended [1].

Some issues related to COP necessitate further studies. The global incidence and prevalence of the disorder are not known. Many clinical conditions and drugs that may cause OP (eg, sclerosing glomerular disorders and colchicine) remain to be determined. The appropriate diagnostic procedure is not clear. Factors influencing relapse need to be elicited and a precise treatment schedule remains to be established.

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