

# Cryptogenic Organizing Pneumonia Mimicking Hydatid Disease

U Gonlugur, T Efeoglu, I Akkurt, M Kaptanoglu

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## Abstract

Cryptogenic organizing pneumonia is an abnormal host defense reaction secondary to lung injury. A 35-year-old woman was admitted with cachexia, and tumor-like mass on chest radiograph. She underwent thoracotomy for hydatid disease. However, pathologic examination revealed histologic changes compatible with cryptogenic organizing pneumonia. Cryptogenic organizing pneumonia may present as an inflammatory cystic lesion.

## INTRODUCTION

Cryptogenic organizing pneumonia (COP) is a rare disease, which is histopathologically defined by the presence of granulation tissue in the alveolar ducts and alveoli leading to plugging of the bronchiolar and alveolar lumen. COP is considered as a nonspecific response to many types of lung injury, including drugs, radiation, an underlying hematologic malignant neoplasm, autoimmune diseases, bacterial or virus infection, or an underlying lung disease, or occurs idiopathically, e.g. cryptogenic organizing pneumonia [1].

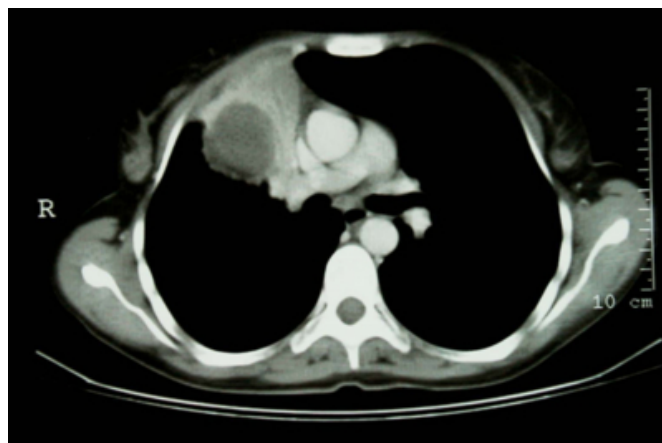
Clinical and radiologic manifestations of COP are nonspecific [2]. Depending on the clinoradiologic presentation, a number of other diseases may have to be considered in the differential diagnosis of COP. To our knowledge, this is the first case in the literature, which is COP mimic hydatid disease.

## CASE REPORT

A 35-year-old woman was hospitalized with a 3-year history of non-productive cough, non-pleuritic chest pain, anorexia, and weight loss. The patient had smoked ¼ pack of cigarettes per day for 15 years. There was no history to suggest an underlying connective tissue disorders, nor relevant occupational history nor toxic fume inhalation. The physical examination except cachexia was otherwise normal. A chest CT showed a cystic lesion with consolidation in the right lung (Fig.1).

## Figure 1

Figure 1: A cystic lesion localized closely adjacent to an area of consolidation.



The erythrocyte sedimentation rate was 85 mm/h. With the exception of mild normocytic anemia (hemoglobin 10.5 g/dL) and a white blood cell count of 9960/ $\mu$ L without eosinophilia. All routine laboratory test results, including liver and kidney function tests, serum proteins, urinalysis, lung function, and diffusion capacity were normal. Sputum specimens for mycobacteria and other pathogens were smear and culture negative. Serological tests for Mycoplasma, Legionella, Chlamydia, and HIV were negative but serology for echinococcosis showed an indirect immunohemagglutination technique-antibody titer of 1/320. In abdominal ultrasound, there were not any cystic lesions in the liver or the kidneys. Fiberoptic bronchoscopy revealed no pathological findings. There were not pathogen microorganisms, fungus, scolices, or malignant cells in

bronchial lavage fluid. A right posterolateral thoracotomy was performed assuming complicated hydatid disease. There was an abscess formation macroscopically, and affected lung fields were fragile. Microbiological evaluation of the cyst fluid could not be performed because of cyst rupture. Pathologic specimen showed myxoid fibroblastic tissue and intrabronchiolar aggregates of mononuclear cells invading alveolar spaces. These findings were considered to be consistent with BOOP. She underwent a rethoracotomy because of the occurrence of bronchopleural fistula due to suture insufficiency. The patient was not treated with steroid. During one year of follow-up, the patient remains well, without evidence of disease.

## DISCUSSION

Bilateral patchy alveolar infiltrates are the most common radiographic findings of COP. These infiltrates generally enlarge from their original site or new infiltrates appear as the clinical course progress [3]. On the other hand, the diseases may present with a variety of radiologic patterns including pulmonary nodule or nodules [4], cavities, pleural effusions, pleural thickening, hyperinflation [2, 5], and solitary opacities that may sometimes resemble tumors [2, 4]. Bilateral interstitial infiltrates and honeycombing mimicking interstitial pneumonias may be seen [5]. Additionally, a peripheral distribution has been noted, very similar to that considered being pathognomic for chronic eosinophilic pneumonia [6].

Almost three-quarters of patients with COP have symptoms for less than 2 month; few have symptoms for more than 6 months before diagnosis [7] like our patient. Radiologically, cystic mass lesion with consolidation may be due to necrotizing pneumonia, tuberculosis, neoplasms, pulmonary infarct, pulmonary sequestration, infected bulla or hydatid disease [8, 9]. A long duration of history, the failure of demonstration of an infectious agent, and positive serology for echinococcosis suggested a possible diagnosis of hydatid disease. However, cytopathologic examination showed no evidence of hydatid disease. On the other hand, it is not possible to exclude a diagnosis of hydatid disease-associated cryptogenic organizing pneumonia. An infectious process can eliminate scolices and cause disintegration of characteristic laminated layer of the cyst. In our patient, no specific information was reported about the histopathological findings at the wall of the cyst. We think that this patient was not an infected hydatid cyst-associated

organizing pneumonia because of long duration of history, the absence of a febrile illness, leukocytosis or anaphylaxis due to rupture. False positivity in serological tests can be seen in the course of other helminthic diseases, tuberculosis or malignant diseases such as lymphoma, leukemia, and lung cancer [10].

## CONCLUSION

In conclusion, COP can rarely presents as a thin walled fluid filled cyst and cause false positivity in the hydatid serology. Despite of the radiological appearance simulating hydatid disease, a 3-year history with the presence of anorexia and weight loss suggested a benign inflammatory lung disease. Our case also showed that clinical and laboratory findings of acute-phase responses such as anorexia, cachexia, anemia, and elevated erythrocyte sedimentation rate [11] could be seen in the course of COP.

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**Author Information**

**Ugur Gonlugur**

Department of Chest Diseases, Cumhuriyet University Medical School

**Tanseli Efeoglu**

Department of Chest Diseases, Cumhuriyet University Medical School

**Ibrahim Akkurt**

Department of Chest Diseases, Cumhuriyet University Medical School

**Melih Kaptanoglu**

Department of Thoracic Surgery, Cumhuriyet University Medical School