Wandering consolidation

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A 63-year-old man who had previously been fit and well, developed an acute illness with headaches and fever. His chest X-ray is shown in figure 1. Other investigations revealed an elevated lactate dehydrogenase and gamma glutamyl transferase and transient microscopic haematuria for which no cause was found. Following antibiotic treatment, his symptoms settled. Over the next six weeks he complained of increasing breathlessness but had no other symptoms. His family doctor found signs of left lower lobe consolidation and treated him with antibiotics, but there was no symptomatic improvement and he was referred to hospital. It was noted that he had travelled to Canada, Fiji, Australia, and Singapore a year previously.

On examination he appeared unwell and he had signs of left-sided consolidation. He was in atrial fibrillation and was normotensive. Routine blood tests were normal other than an erythrocyte sedimentation rate of 75 mm/h. His repeat chest X-ray is shown in figure 2.

Figure 1 Initial chest X-ray

Figure 2 Chest X-ray six weeks later

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Questions

- 1 What is the most likely diagnosis?
- 2 Suggest three alternative diagnoses.

Answers

QUESTION 1

Cryptogenic organising pneumonia (COP). The initial chest X-ray (figure 1) shows left apical and basal consolidation and a small area of consolidation at the right base. The left-sided consolidation improved over the succeeding six weeks, but at the same time the right basal shadowing worsened (figure 2).

QUESTION 2

Although there is a long list of causes of multifocal consolidation on a chest X-ray, causes of migratory consolidations, ie, new areas of abnormality appearing whilst other areas resolve, are relatively few (box 1).¹

Discussion

In this case the absence of peripheral eosinophilia, aspiration, or other relevant history make cryptogenic organising pneumonia the most likely diagnosis. A trucut biopsy was subsequently obtained using computed tomographic (CT) guidance and histology confirmed this. He responded well to treatment with prednisolone.

COP is a relatively recently described condition but, confusingly, it has been given two names: COP² and BOOP³ (bronchiolitis

obliterans organising pneumonia) which have come to be used interchangeably. An organising pneumonia occurs when inflammation in the distal lung structures incompletely resolves and in the past was most commonly seen as a sequel to bacterial pneumonia. However, although a number of causes are now recognised (box 2), in practice, the majority of cases are truly cryptogenic. Organising pneumonia is perhaps best considered a response of the lung to injury by a variety of different agents. By definition, no identifiable agent, infective or otherwise, is present in cases of COP.

The term BOOP was coined by the original American authors because the respiratory bronchioles may become blocked by buds of immature granulation tissue which originate in the alveoli. This terminology is unfortunate as it can cause confusion with obliterative bronchiolitis, an entirely different disease affecting the small airways.

CLINICAL AND RADIOLOGICAL FEATURES OF COP

The usual clinical presentation of COP is rather non-specific with cough, fever, malaise, and dyspnoea. The radiology is exemplified by this case with peripheral consolidations, often in the mid and lower zones, appearing and disappearing over a period of weeks or months.⁴ Uncommonly, cavitation and pleural effusions occur. There has been a report of COP presenting seasonally, associated with disturbance of liver function.⁵ CT adds little, other than to confirm the presence of multifocal consolidations but can be useful to identify a suitable site for biopsy. However, given a suitable history, including a lack of response to antibiotics, and the typical radiographic findings, biopsy may not always be necessary and a trial of steroids can be instituted.⁶

TREATMENT

The importance of making the diagnosis is that the condition is usually very sensitive to steroids with complete clinical and radiological remission being the rule, although relatively high doses of steroids may have to be continued for several months.

Final diagnosis

Cryptogenic organising pneumonia

Keywords: cryptogenic organising pneumonia, chest X-ray

Causes of migrating consolidation
<ul style="list-style-type: none">• cryptogenic organising pneumonia• chronic eosinophilic pneumonia• aspiration pneumonia• alveolar proteinosis• pulmonary infarcts• bronchioloalveolar cell carcinoma

Box 1

COP: associations
<ul style="list-style-type: none">• rheumatoid arthritis• ulcerative colitis• immunosuppression (eg, heart–lung transplantation)• drugs: amiodarone, acebutolol• radiation pneumonitis

Box 2

1 Hansell DM. What are BOOP and COP? *Clin Radiol* 1992; 45: 369–70.

2 Davison AG, Heard BE, McAllister WAC, Turner-Warwick MEH. Cryptogenic organizing pneumonitis. *Q J Med* 1983; 207: 382–94.

3 Epler GR, Colby TV, McLoud TC, Carrington CB, Gaensler EA. Bronchiolitis obliterans organizing pneumonia. *N Engl J Med* 1985; 312: 152–8.

4 Haddock JAA, Hansell DM. The terminology and radiology of cryptogenic organizing pneumonia. *Br J Radiol* 1992; 65: 674–80.

5 Spiteri MA, Klenerman P, Sheppard M, Padley S, Clark TJK, Newman-Taylor A. A seasonal cryptogenic organizing pneumonia with biochemical cholestasis: a new clinical entity. *Lancet* 1992; 340: 281–4.

6 Geddes DM. BOOP and COP. *Thorax* 1991; 46: 545–7.