An unusual cause for diffuse pulmonary nodules

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DESCRIPTION

We present the case of a 67-year-old woman with a 3-week history of dysphagia in the absence of any respiratory or constitutional symptoms. A lifelong non-smoker with no significant medical comorbidities, it was thought unusual that a routine chest radiograph (figure 1) demonstrated diffuse, small, irregular nodules throughout her lung fields. The diagnosis of primary lung adenocarcinoma was made on the basis of a CT-guided biopsy (figure 2). It is likely that this atypical presentation and radiological appearance of primary malignancy is related to the erosion of tumour into one of the pulmonary arteries thus disseminating the neoplasm throughout the lungs. The cause for the patient's

symptoms was attributed to malignant involvement of the central nervous system.

To distinguish between differential diagnoses for diffuse nodules of varying diameters (2–5 mm), one must consider whether the patient is well or unwell, whether recent imaging is normal and whether the patient presents with infective symptoms. For example, in a patient who is well with gradual onset of symptoms, the diagnosis of sarcoidosis needs exclusion. This tends to affect the upper zones of the lungs and often has associated lymphadenopathy.¹

In an unwell patient, the differential diagnosis would include miliary infection (typically having a propensity of forming discrete areas of consolidation which alter with subsequent imaging), pulmonary oedema, disseminated malignancy and lymphoma.¹ Other differentials such as respiratory bronchiolitis and extrinsic allergic alveolitis require consideration in the appropriate clinical setting.¹

Figure 1 Chest X-ray.

Figure 2 CT scan of the chest.

Learning points

- ▶ The key determinants in discriminating between the differential diagnoses of diffuse pulmonary nodules are the time of onset, size, uniformity and tendency of nodules to coalesce and the presence of systemic features including infective and constitutional symptoms.
- ▶ Many causes of diffuse pulmonary nodules have a gradual onset and therefore are apparent on previous chest X-rays. In acute presentations, the clinician should consider the possibility of infectious, cardiac or less commonly malignant aetiologies with haematogenous spread.

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Competing interests None declared.

Patient consent Obtained from patient's daughter and next of kin.

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REFERENCE

- Desai SR, Padley SPG. Respiratory tract. In: Davies SG, ed. *Chapman & Nakielny's aids to radiological differential diagnosis*. Mexico: Elsevier, 2014:59–116. <https://www.clinicalkey.com.au/#/content/book/3-s2.0-B9780702051760000044> (accessed 25 Oct 2016).

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