

Pulmonary and cutaneous nodules in an immunocompromised patient



CLINICAL PRESENTATION

A 74-year-old man was admitted to hospital due to dyspnoea, malaise and purple, plaque-like papular nodules on his hands (figure 1A), soles (figure 1B) and genitalia for a duration of 1 month. He reported a 5-month history of systemic corticosteroid use for treatment of giant cell arteritis. Laboratory tests disclosed severe lymphopenia and hypogammaglobulinaemia. Pancultures and serological tests were negative, including repeated HIV serology. Contrast-enhanced CT of the chest (2.5 mm slice thickness) demonstrated multiple bilateral solid pulmonary nodules with peribronchovascular distribution and a cavitating nodule in the left lower lobe (figure 1C). Abdominal CT revealed multiple hepatic ring-enhancing lesions (figure 1D). A bronchoscopy for inspection, bronchoalveolar lavage and transbronchial

biopsies was discussed but deemed difficult to be performed safely due to the worsening respiratory status of the patient.

QUESTION

What is the diagnosis?

See page 1108 for the answer

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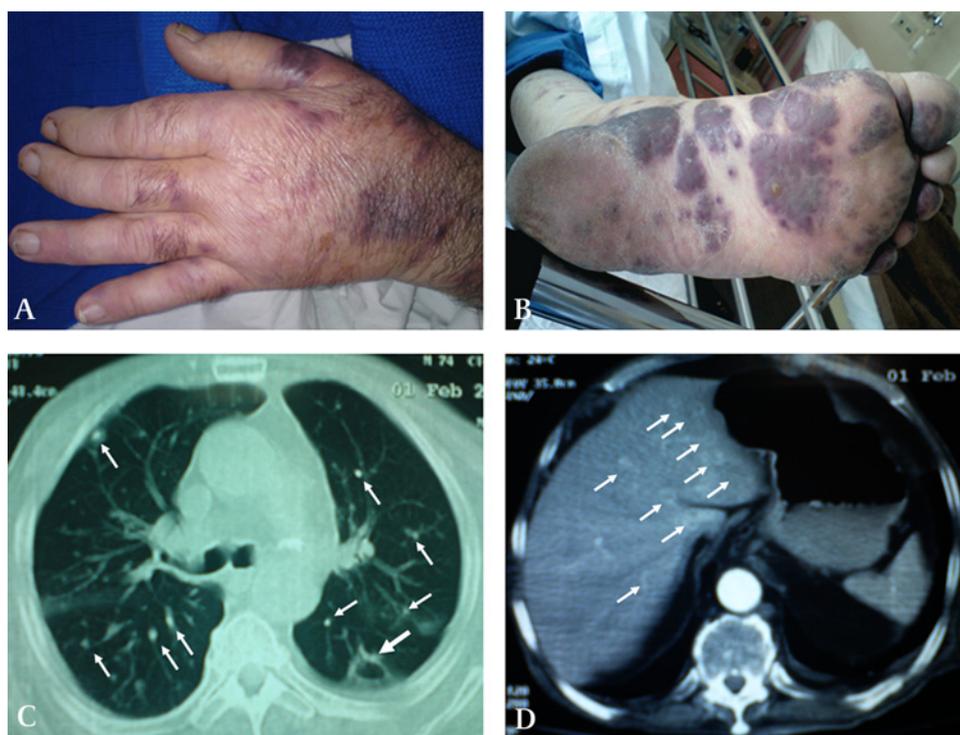


Figure 1 Papules and nodules on hands (A) and soles (B). (C) Chest CT scan showing multiple bilateral solid pulmonary nodules with peribronchovascular distribution and a cavitating nodule in the left lower lobe. (D) Abdominal CT scan showing multiple hepatic ring-enhancing lesions.

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REFERENCES

1. *Closing the Quality Gap: Revisiting the State of the Science Series: Quality Improvement Interventions to Address Health Disparities*. Review Protocol. Rockville, MD: Agency for Healthcare Research and Quality, 2011. <http://www.ahrq.gov/clinic/tp/gapdisptp.htm>.
2. **Headrick LA**, Neuhauser D. Quality health care. *JAMA* 1994;**271**:1711–12.
3. **Cystic Fibrosis Foundation Patient Registry**. 2009 Annual Data Report. Bethesda, Maryland: Cystic Fibrosis Foundation, 2011. <http://www.cff.org/research/ClinicalResearch/PatientRegistryReport>.

4. **Goss CH**, Mayer-Hamblett N, Kronmal RA, *et al*. The cystic fibrosis therapeutics development network (CF TDN): a paradigm of a clinical trials network for genetic and orphan diseases. *Adv Drug Deliv Rev* 2002;**54**:1505–28.
5. **Warwick WJ**, Pogue RE. Cystic fibrosis. An expanding challenge for internal medicine. *JAMA* 1977;**238**:2159–62.
6. **Batalden PB**, Davidoff F. What is “quality improvement” and how can it transform healthcare? *Qual Saf Health Care* 2007;**16**:2–3.
7. *Improvement Methods: Getting Started*. 2011. Cambridge, MA: Institute for Healthcare Improvement. <http://www.ihl.org/IHL/Topics/Improvement/ImprovementMethods/> (accessed 23 Jun 2011).
8. **Quinton HB**, O'Connor GT. Current issues in quality improvement in cystic fibrosis. *Clin Chest Med* 2007;**28**:459–72.
9. *Cystic Fibrosis Center News*. Chicago, IL: Children's Memorial Hospital, 2004; **Volume 10**. http://www.childrensmemorial.org/documents/cfcnews_winter04.pdf.

Pulmonary puzzle

ANSWER

From the question on page 1103

A CT-guided percutaneous core needle biopsy of the left lower lobe cavitory nodule and a skin biopsy were performed. Pathological findings in both cases showed spindle-shaped cells with vascular channels (figure 2A) positive for human herpes virus 8 immunostaining (figure 2B). A final diagnosis of Kaposi's sarcoma (KS) was established, in the absence of positive cultures and stains for bacteria, fungi, protozoa, viruses or tumour cells from aspirated content of the cavitory lesion. The patient rapidly deteriorated and died.

Multiple pulmonary nodules with focal cavitory lesions may represent neoplasms such as bronchogenic carcinomas and lymphomas, or benign lesions including many types of infections or abscesses, immunological disorders such as Wegener granulomatosis and rheumatoid nodules, septic emboli, pulmonary infarcts, progressive massive fibrosis with pneumoconiosis, lymphocytic interstitial pneumonia, localised bronchiectasis and some congenital lesions.¹

Intrathoracic KS, often in the context of AIDS, presents as nodular masses, with characteristic thickening of bronchovascular pathways, often accompanied by pleural effusions.² Cavitation after necrosis of larger nodules is uncommon³ and should

be associated with KS only after other causes, particularly infection, have been ruled out, as in this case. KS should not be thought of as exclusively associated with HIV infection. The emergence of KS in non-HIV persons is a rare but existent clinical condition, involving classic Mediterranean, endemic African and the iatrogenic form in patients on immunosuppressive medications⁴ as in this case. Corticosteroid immunosuppression can be significant even at moderate doses, as evidenced in this case and a previous report of non-HIV KS in an old person with giant cell arteritis.⁵

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REFERENCES

1. **Ryu JH**, Swensen SJ. Cystic and cavitory lung diseases: focal and diffuse. *Mayo Clin Proc* 2003;**78**:744–52.
2. **Khalil AM**, Carette MF, Cadranell JL, *et al*. Intrathoracic Kaposi's sarcoma. CT findings. *Chest* 1995;**108**:1622–6.
3. **Lai KK**. Pulmonary Kaposi's sarcoma presenting as diffuse reticular nodular infiltrates with cavitory lesions. *South Med J* 1990;**83**:1096–8.
4. **Hiatt KM**, Nelson AM, Lichy JH, *et al*. Classic Kaposi Sarcoma in the United States over the last two decades: a clinicopathologic and molecular study of 438 non-HIV-related Kaposi Sarcoma patients with comparison to HIV-related Kaposi Sarcoma. *Mod Pathol* 2008;**21**:572–82.
5. **Kuttikat A**, Joshi A, Saeed I, *et al*. Kaposi sarcoma in a patient with giant cell arteritis. *Dermatol Online J* 2006;**12**:16.

Figure 2 High-power photomicrographs of left lower lobe cavitory nodule, showing spindle-shaped cells with vascular channels (A) and positive nuclear immunoreactivity for HHV-8 stain (B). HHV, human herpes virus.

