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CLINICAL IMAGE

Tuberculous shadow in *Klebsiella oxytoca* pneumonia: An unexpected denouement

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Abstract

Urgent response is required in suspected pulmonary tuberculosis (PTB) cases for infection control, and chest image is the first step to suspect PTB. This case shows an unexpected exception and importance of molecular testing for definite diagnosis.

KEYWORDS

cavity, *Klebsiella oxytoca*, pneumonia, tree-in bud, tuberculosis

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This patient was suspected of having pulmonary tuberculosis (PTB) based on radiological findings. However, the final diagnosis was *Klebsiella oxytoca* pneumonia. Although information regarding its radiological features was lacking, a case of *K. oxytoca*-induced pneumonia mimicking PTB has been reported. Tuberculous shadows may be characteristic findings for *K. oxytoca* pneumonia.

A 53-year-old man with diabetes mellitus and hyperuricemia visited our hospital after 3 days of fever, yellow sputum, and occasional hemoptysis. The initial diagnosis was a common cold; he was prescribed antipyretics. After 3 days of sustained symptoms, chest radiography showed consolidation with a cavity in the upper right lung field; computed tomography showed consolidation, thick-walled cavity, and multiple small nodules indicating

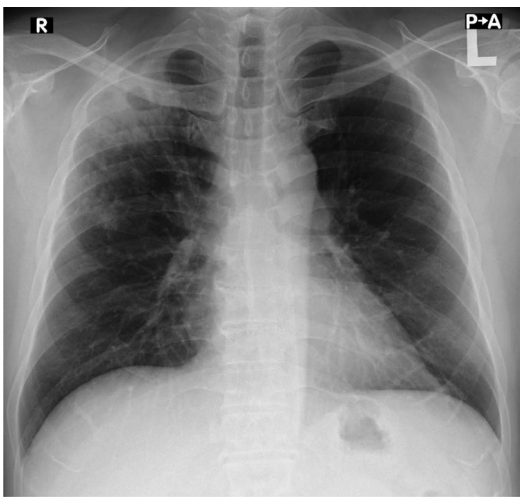

FIGURE 1 Patient's chest radiograph. Cavitated consolidation indicating lung abscess was seen in the upper right lung field

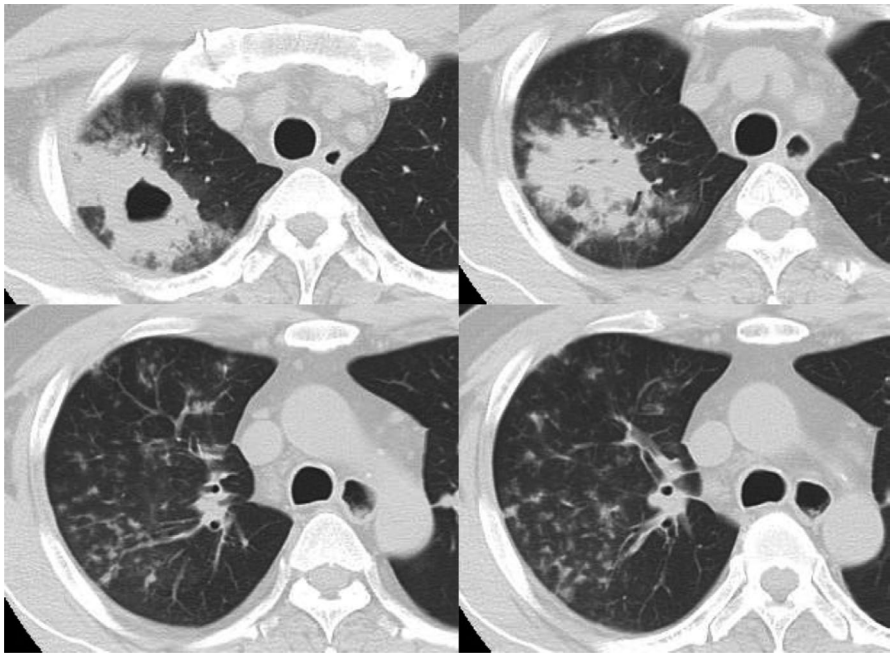

FIGURE 2 Computed tomography findings of the chest. Consolidation, thick-walled cavity (lung abscess), and multiple small nodules indicating a tree-in-bud appearance were observed in the right upper lobe. These findings suggest pulmonary tuberculosis

a tree-in-bud appearance (Figures 1 and 2). However, sputum acid-fast stain/culture and molecular testing for *Mycobacterium tuberculosis* were negative. Thereafter, *Klebsiella oxytoca* alone was identified from the sputum culture. The patient's pneumonia was resolved by a 14-day treatment with parenteral penicillin containing a β-lactamase inhibitor.

Urgent response is required for infection control in suspected pulmonary tuberculosis (PTB) cases. Radiological testing is indispensable and informative in suspected PTB; coexistence of consolidation, cavity, and a tree-in-bud appearance strongly indicate PTB. However, the current case demonstrates an unexpected exception. *K. oxytoca* rarely causes community-acquired pneumonia (CAP) and was identified in only 1.9% (10/520) of CAP cases.[1] Although information regarding its radiological features is lacking, a case of *K. oxytoca*-induced pneumonia mimicking PTB has been reported.[2] Therefore, tuberculous shadows on chest imaging may be characteristic findings for *K. oxytoca* pneumonia.

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CONFLICT OF INTEREST

The authors declare that there are no conflict of interest.

AUTHOR CONTRIBUTIONS

TK, YH, AN, and JF: wrote the draft and approved the manuscript for submission.

ETHICAL APPROVAL

Written informed consent was obtained from the patient for the publication of this clinical image.

CONSENT

Published with written consent of the patient.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

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