

## CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

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### Thoracic Surgery Quiz – Case 7

A 41-year-old man was referred to our hospital due to persistent cough and white sputum. He noted on his past medical history that he had been suffering from arthralgias and myalgias the past 12 months. He was a smoker (26 pack-years). His father died of coronary disease at the age of 52. His mother and his brother suffer from rheumatoid arthritis.

On physical examination his general condition was good, with a heart rate of 80 bpm, blood pressure of 130/70 mmHg and body temperature 36.4 °C. Physical examination of the heart as well as an ECG did not reveal any abnormal findings.

The routine laboratory tests were within normal limits, except high cholesterol levels (Chol 290, LDL 217 and HDL 48). Liver and renal function were very good. Arterial blood gas analysis on admission day was PO<sub>2</sub>: 86, PCO<sub>2</sub>: 39, pH: 7.4, SO<sub>2</sub>: 96.9%, HCO<sub>3</sub>: 23.6. Chest X-ray revealed two bilateral pulmonary nodules and right pleural effusion (fig. 1). The patient underwent a chest CT scan on admission, where the two bilateral pulmonary nodules and right pleural effusion were revealed (fig. 2). Thus, in the thought of potential malignancy, the patient underwent bronchoscope, without any abnormal findings.

Due to the unclear signs and symptoms of the patient, additional laboratory tests were sent; ANA: 1/320, RF: 74 (normal <20), a-CCP: (+), c-ANCA: 1/320, p-ANCA: (-), pulmonary functional examination on spirometry: FEV<sub>1</sub> 93.9, FVC 96, FEV<sub>1</sub>/FVC 97. Mantoux test was positive and the patient started treatment

with isoniazide, methylprednisolone and SMX/TMP. Aspiration of the pleural fluid revealed on examination: Cells: 11,670, polymorphonuclear: 38%, lymphocyte: 57%, LDH<sub>pleural fluid</sub>/LDH<sub>plasma</sub>: 463/270 indicating exudate effusion.

Finally, the patient was referred to our Department for an open lung biopsy to set the diagnosis. The patient underwent under general anesthesia right wedge lung resection biopsy via a left posterolateral mini-thoracotomy (fig. 3). Pathologic examination of the specimen revealed Wegener granulomatosis. The patient started medical treatment with methotrexate and folic acid, continuing also the anti-tuberculosis medication.

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Figure 1

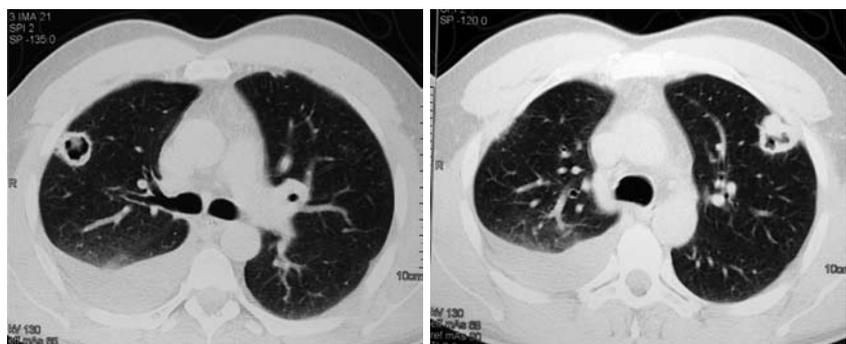
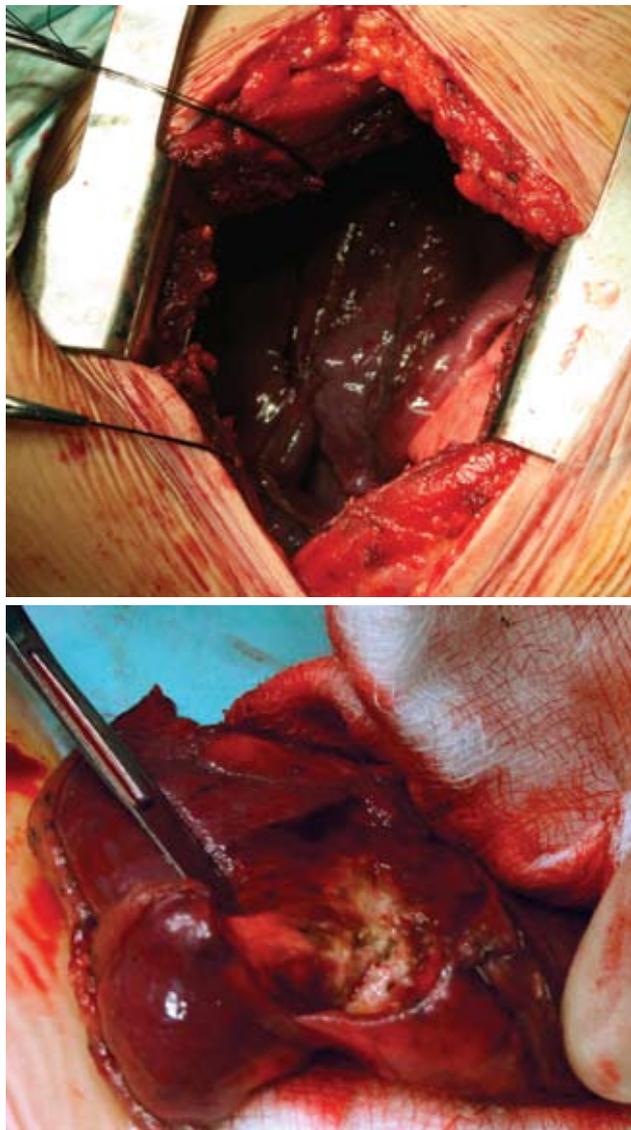


Figure 2



**Figure 3**

### Comment

*Wegener's granulomatosis is characterized histologically by necrotizing angitis, which most commonly involves the upper, lower respiratory tract and kidneys, but may affect any organ system.<sup>1</sup> Pulmonary involvement occurs at some stage of disease*

*in almost all patients, and chest radiographic abnormalities are presented in up to 85%.<sup>2</sup> The most common presenting symptoms related to lower respiratory tract include: cough, chest pain, and hemoptysis. The imaging of pulmonary Wegener's granulomatosis was greatly improved by the introduction of pulmonary computed tomography. The diffuse infiltrates characteristic of florid vasculitic lung disease are depicted by conventional radiography, but high-resolution computed tomography (HRCT) proved to be superior to conventional methods in detecting the more subtle changes. The most common abnormalities are small nodules, septal and non-septal linear opacities and low-attenuation (ground-glass) opacities. Nodules range in size from a few millimetres to 10 cm. Nodules are frequently multiple and tend to increase in size and number according to disease progression, which was shown in our study. They are usually bilateral and tend to be widely distributed, with no predilection for any lung area. Cavitations are common and occur in approximately 50% of cases and presents on CT in most nodules measuring >2 cm in diameter. Cavities are fairly thick-walled and tend to have irregular, shaggy inner margins. Outer margins of the nodule are frequently tagged to the pleura, which were seen in our patients. Air or fluid levels and/or calcification are uncommon. Areas of air-space opacification, consolidation, or ground-glass opacification are a common finding in Wegener's granulomatosis, being seen in approximately 50% of patients.<sup>3</sup> Surgical excision contributes to the diagnosis.*

### References

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