A 35-year-old man with no significant past medical history suffered from relapsing infections of the upper respiratory tract and episodes of nasal bleeding for five months. Chest radiography, which was performed in a local hospital, showed a big infiltrate in the right upper pulmonary field. Fiberoptic bronchoscopy was performed twice and a Staphylococcus aureus strain and a Klebsiella pneumoniae strain grew from bronchial samples. The patient had no clinical improvement despite the anti-bacterial and anti-tuberculous treatment that he received for a month.

The patient refused to be operated on for the postulated diagnosis of a pulmonary abscess. He was admitted in an infectious diseases department of another hospital for the management of a persisting pulmonary abscess despite the antimicrobial treatment that he received. Physical examination on admission in our hospital showed fever up to 38.80 C. There were small blood clots in the nose. The examination of the chest showed ronchi in the upper right lung field.

Laboratory tests on admission revealed white blood cell count (WBC) of 13,230/cubic mm (neutrophils = 77.9%, lymphocytes = 12.9%), hematocrit (Ht) =36.3%, platelets =588,000/cubic mm, C-reactive protein = 21.74 mg/dl (normal values < 0.50 mg/dl), and erythrocyte sedimentation rate (ESR) = 105 mm/first hour (normal values 0-20 mm).

Laboratory tests for cancer indices and renal function, including urinalysis, did not show abnormal findings. Chest radiography and computed tomography of the thorax showed a big infiltrate with a central cavitation in the right upper pulmonary field (figure 1 and 2). Craniofacial computed tomography revealed ethmoid sinusitis.

Differential diagnosis
Differential diagnosis of a pulmonary abscess like lesion in an imaging test should mainly include infectious diseases (mixed bacterial etiology, tuberculosis, Pneumocystis carinii pneumonia, nocardia, actinomycosis, fungi, and others) or diseases of non-infectious causes like neoplasms, vasculitis or lung artery embolism.

The presence of signs and symptoms from the upper respiratory tract such as relapsing otitis, rhinitis, and sinusitis accompanied by bloody discharge led to the conclusion that a systemic disease was the initial cause of the patient's symptoms and signs.

Diagnosis
The diagnosis was suggested by a significantly increased titer of the cytoplasmic-type antineutrophil cytoplasmic antibody (c ANCA = 65.3 units, normal value up to 30 units) and was confirmed by histopathological examination of excised nasal mucosa specimens.

The diagnosis was Wegener's granulomatosis.
Therapy
The initial treatment includes high doses of corticosteroids and cytotoxic agents (e.g. cyclophosphamide) for periods of 3 to 6 months. Once the disease has been controlled, the focus of therapy shifts to maintaining disease remission with lower doses of corticosteroids and less toxic alternatives to cyclophosphamide (e.g. methotrexate or azathioprine) for periods lasting from 12 to 18 months or longer.

Useful remarks
- The biopsy specimen was taken from the region with prominent symptoms and the easiest access.
- Early diagnosis of Wegener's granulomatosis can prevent renal involvement and finally death from renal failure.
- Clinical evidence shows that chronic nasal carriage of the bacterium Staphylococcus aureus is approximately three times higher in patients with Wegener's granulomatosis and that Staphylococcus aureus is a risk factor for disease relapse. Prophylactic treatment with co-trimoxazole reduces the incidence of disease relapses.

References

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