

Imaging diagnosis

Case 343

2. Pulmonary abscess

[Progress]

Sputum culture revealed infection of gram-positive coccus infection. Draining catheter was inserted to pulmonary abscess with antibiotics administration.

[Discussion]

Both of pyothorax and pulmonary abscess are producing pus indicative of dead remnants of white blood cells and gas producing from bacteria. Common diagnostic images show a mass composing of cavity and fluid level. Their different image is that pulmonary abscess owns acute angle between the lesion and pulmonary parenchyma, while pyothorax owns obtuse angle between them.

Pulmonary cavity emerges from various diseases. In time immediately after World War II, pulmonary cavity meant pulmonary tuberculosis. After anti-tuberculosis medicine such as streptomycin were applied, various lesions with cavity appear.

At present, for infectious diseases with cavity formation, infections with tuberculosis, non-tuberculosis mycobacterium, bacterial abscess, aspergillosis, and cryptococcus are listed. Aspergillosis, at first, appear fungus ball surrounded by grand-glass opacity called halo sign and thereafter, cavity formation is created following necrosis of fungus ball. For tumor with cavity formation, squamous cell carcinoma, adenocarcinoma, and metastatic pulmonary cancer are listed. For immune disease with cavity formation, granulomatosis with polyangiitis (Wegener disease) is listed. For vascular disease with cavity formation, septic emboli are listed (1-3). For congenital disease, pneumatocele followed by inflammation is listed.

When an unknown lesion such as a cavity lesion appears on imaging modality of CT or MRI, making us troublesome, it might be useful for reaching or closing to right diagnosis to think from which category the lesion arises from: inflammation, tumor, immune disease, vessel disease or congenital.

As relatively rare disease, minute pulmonary meningotheliomatosis is listed for minute cavity-like component in minute nodules, mimicking minute metastasis or septic emboli. Histologic examination revealed that meningioma of brain and meningotheliomatosis have the common histologic appearance (4-6). When a patient with meningotheliomatosis has meningioma of the brain, it is reported that meningotheliomatosis might be pulmonary metastasis from brain meningioma.

[Summary]

We presented a case with cavity formation in pulmonary parenchyma: One case with pulmonary abscess was treated by catheter drainage. It is borne in mind that when we encounter an unknown lesion on imaging modality, it might be useful to think that from what a lesion arises: inflammation, tumor, immune disease, vessel origin of congenital. Pulmonary minute meningothelomatosis is a disease whose image minute nodules sometimes with cavity formation and whose histology revealed the same findings as meningioma of the brain. It is a benign disease, mimicking small pulmonary metastases or septic emboli.

[References]

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