

Pulmonary infiltration shadows associated with acute aortic dissection mimicking coronavirus pneumonia

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Abstract

A 57-year-old man was diagnosed with acute aortic dissection (AAD), but had marked infiltration shadows in his right lung. Intraoperative findings showed that large subadventitial hematomas had spread from the ascending aorta to the right pulmonary artery, which may have caused the infiltration of the lung. Subadventitial hematoma must be considered in rare cases of AAD with pulmonary infiltration.

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A 57-year-old man was diagnosed with Stanford type A acute aortic dissection (AAD) by computed tomography (CT) (Figure 1). Although he had no fever and no symptoms of pneumonia, remarkable infiltration shadows around the right hilum mimicking coronavirus-associated pneumonia were observed on the lung window setting CT (Figure 2). Since novel coronavirus infection (Covid-19) was just expanding, the possibility of coronavirus pneumonia could not be ruled out. After careful consideration of the surgical indication, lifesaving was prioritized, and an urgent total arch replacement was eventually performed. Intraoperative findings showed that large subadventitial hematomas had spread from the dorsal aspect of the ascending aorta to the right pulmonary artery (PA). The infiltration shadows of the lung were considered to be subadventitial hematomas that spread along the right PA into the right lung. Polymerase chain reaction examination for coronavirus was negative.

Because the ascending aorta and the main PA trunk share the adventitia, hematomas may spread along the PA when the ascending aorta penetrates. In very rare cases, the hematomas may extend beyond the hilum to the lung¹, and more rarely, penetrated hematomas may cause obstruction of the right PA². Regardless of whether the hematomas stay around the main PA or spread toward the hilum, large hematomas are usually observed behind the ascending aorta in such cases. In our case, it was difficult to preoperatively confirm whether the infiltration shadows were related to AAD because only a few hematomas were observed around the ascending aorta. If CT findings similar to those shown here are found in AAD, the possibility of subadventitial hematomas spreading along the PA should be considered.

Reference

1. Sueyoshi E, Sakamoto I, Uetani M, Matsuoka Y, Suenaga E. CT findings of ruptured intramural hematoma of the aorta extending along the pulmonary artery. *Cardiovasc Intervent Radiol* 2007;30:321-323.

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Figure Legends



Figure 1: Contrast-enhanced CT in the mediastinal window setting showed a Stanford type A aortic dissection.

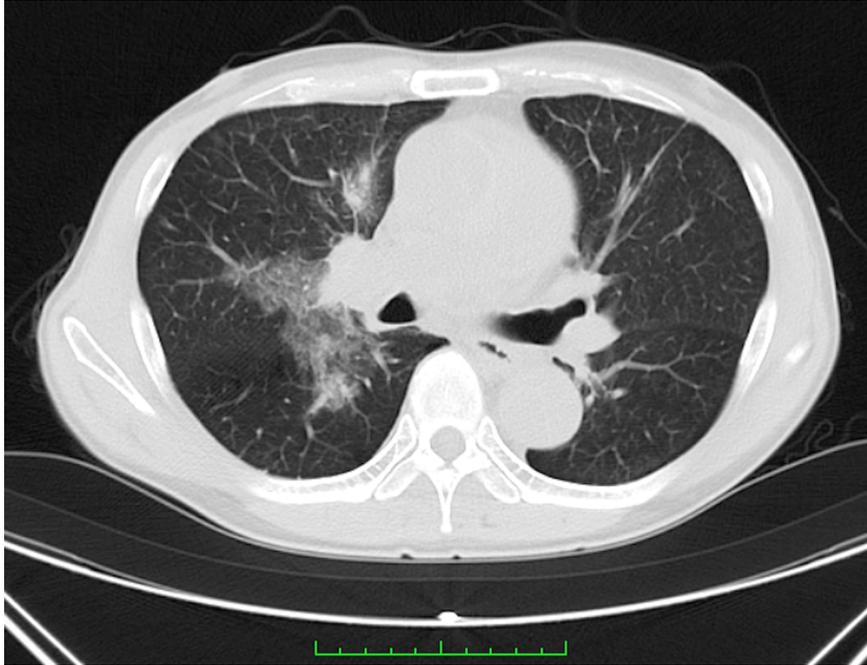


Figure 2: Remarkable infiltration shadows around the right hilum were observed on plain CT in the lung window setting.