

Chest computed tomography findings after intravenous injection of mercury

Shaoming Lin¹

Guanle Shen¹

Author details can be found at the end of this article

Correspondence to:
Shaoming Lin;
lhyylsm@163.com

A 29-year-old man, without any symptoms or abnormal physical examination results, went to the authors' hospital for a check up; a chest computed tomography scan was performed at his request. He had attempted suicide by injecting himself intravenously with 12 g metallic mercury 1 year previously but refused to disclose more specific information or the reason he requested the scan. Computed tomography of his chest showed multiple high-density nodules in both lungs and the heart cavity, some of which were aggregated to form a cord (Figures 1 and 2).

The clinical manifestations of mercury poisoning are closely related to the form, entry route, dose and exposure time. The computed tomography findings in this case confirm that elemental mercury particles can pass through capillaries and then fuse into mercury beads, which gather in relevant organs, with relatively stable physical and chemical properties. As a result of the direct entry into the blood via the veins, metallic mercury was not oxidised into divalent mercury, which can cause a serious toxic chemical reaction. Although there was more than the lethal amount of mercury in the blood, the patient did not die.

Author details

¹Department of Pulmonary and Critical Care Medicine, Longhua District People's Hospital, Shenzhen, China

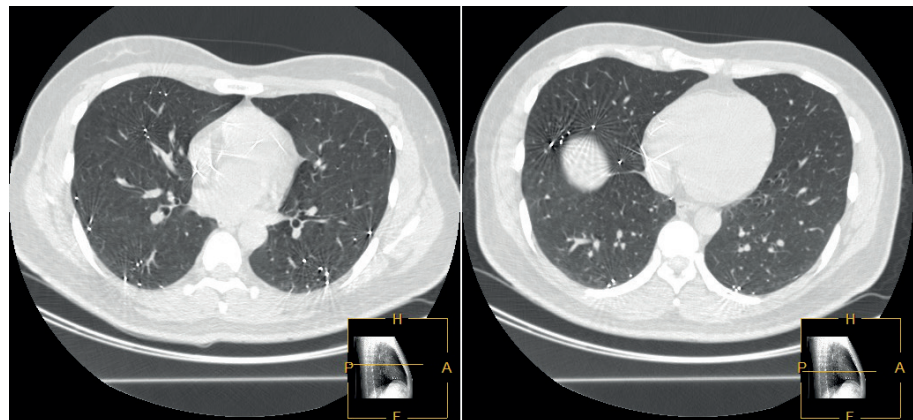


Figure 1. Computed tomography on which granular high-density shadows were observed in the parenchyma of both lungs. The computed tomography value was about 2000HU, and the distribution was mainly in the middle and lower lobes.

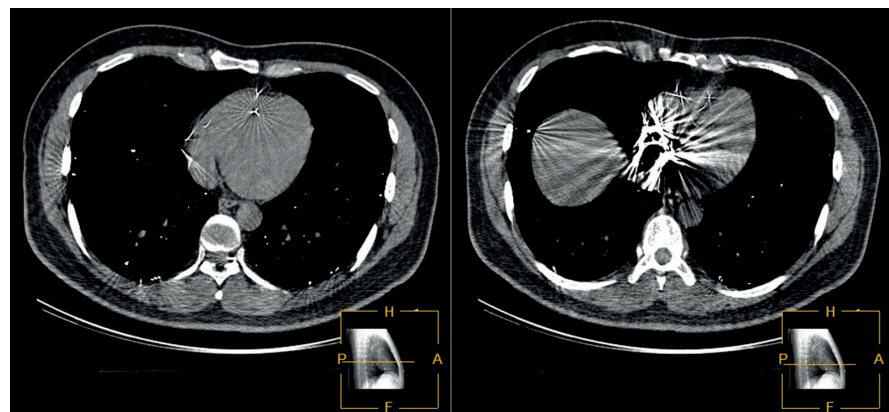


Figure 2. Mediastinal window on computed tomography showing multiple strip-shaped and lamellar dense shadows in the heart cavity, ventricular septum, atrial septum and valve area.

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