

[PICTURES IN CLINICAL MEDICINE]

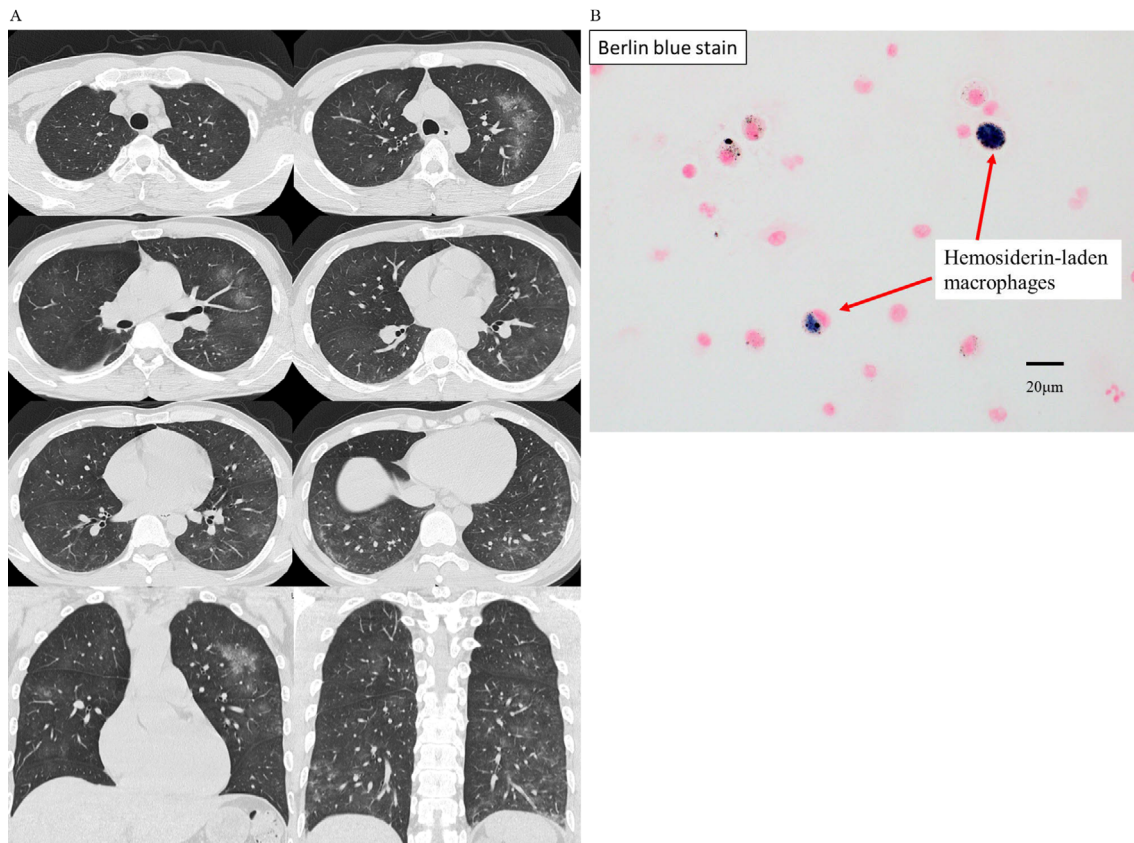
A Case of Smoke Bomb-induced Acute Lung Injury

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Key words: smoke bomb, zinc chloride, acute respiratory failure

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Picture 1.

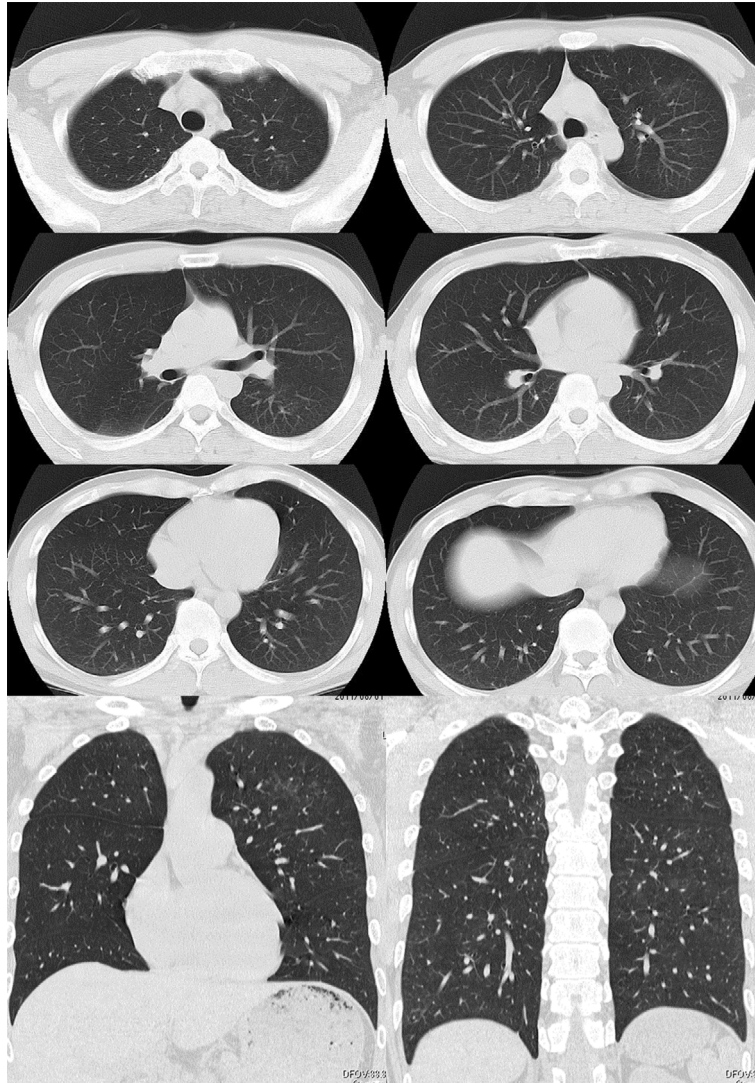
A 37-year-old Japanese man developed dyspnea, nonproductive cough, and a fever soon after inhaling smoke from a zinc chloride-based smoke bomb in a closed room during a fire-fighting drill. Three days later, he visited our hospital with worsening dyspnea, and his oxyhemoglobin saturation was 89% on room air. Chest computed tomography (CT) revealed bilateral patchy ground glass attenuations (Picture 1A). The bronchoalveolar lavage fluid obtained from S¹⁺², which had a recovery rate of 60% (90/150 mL), was

slightly bloody. The cell count was normal ($0.79 \times 10^5/\text{mL}$), including macrophages (74%) (including hemosiderin-laden macrophages), lymphocytes (13%), neutrophils (7%), and eosinophils (6%) (Picture 1B). Bacterial culture was negative. He was diagnosed with acute lung injury with alveolar hemorrhaging. His clinical condition and CT findings completely recovered soon after the administration of methylprednisolone (125 mg/day for 3 days) and subsequent oral prednisolone (30 mg/day for 5 days) (Picture 2). Zinc

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Picture 2.

chloride-based smoke bombs are used in fire and military drills, but a few cases of acute respiratory failure during a fire-fighting drill have been reported (1, 2). Physicians should keep in mind that acute respiratory failure can occur even 24 hours after toxic gas inhalation.

The authors state that they have no Conflict of Interest (COI).

References

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