

Sand injuries associated with the landslide

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DESCRIPTION

A 41-year-old woman was involved in a landslide caused by heavy rainfall in July 2018 in Hiroshima City, Hiroshima, Japan. She was trapped in her car and was drifted away by the landslide. She was soaked in earth and sand up to her face, but she managed to escape by herself from her car. She then visited our emergency department complaining of whole body bruising and abrasions. On examination, her blood pressure was 123/82 mm Hg, heart rate was 86 beats per minute and body temperature was 38.8 degrees. Her hip was severely contaminated by sand. After washing her hip injury, we performed whole body CT. CT findings of her trunk showed a skin defect and hyperdense material indicating sand around her left hip and penetration of sand and air into the muscle (figure 1A). Moreover, sand and air extended upward subcutaneously (figure 1B). CT findings also showed sand in the stomach but not in the lung. CT findings of the head showed fluid and sand in the maxillary sinus and sphenoidal sinus (figure 2A) and sand in the external auditory canal and fluid in the mastoid sinus (figure 2B). Antimicrobial therapy was started, and a wide range of debridement was performed for sand injury of the trunk, during which yellow-coloured purulent material and sand were removed. After healing of the trunk injury, she complained of persistent fever and sinus discomfort, and endoscopic irrigation was therefore performed for the maxillary sinus and sphenoidal sinus under general anaesthesia. She was discharged without any complications such as olfactory disturbance.

Sand injuries associated with a landslide are rare but are important and potentially life-threatening traumatic conditions. As in a tsunami disaster, a



Figure 1 (A) CT findings of the trunk showed a skin defect and hyperdense material indicating sand around her left hip (arrowhead) and penetration of air (white arrowhead) and sand into the muscle. (B) CT findings of the trunk showed sand (arrowhead) and air (white arrowhead) that extended upwards from the hip subcutaneously.

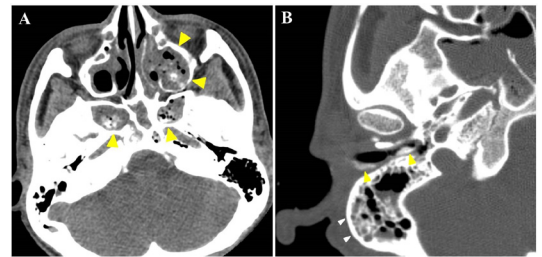


Figure 2 (A) CT findings of the head showed fluid and sand in the maxillary sinus and sphenoidal sinus (arrowhead). (B) CT findings of the head showed sand in the external auditory canal (arrowhead) and fluid in the mastoid sinus (white arrowhead).

Learning points

- ▶ Sand injuries associated with a landslide are rare but are important and potentially life-threatening traumatic conditions.
- ▶ Sand can spread from the body surface into subcutaneous tissue and inside the body and into various luminal organs.
- ▶ Whole body CT and careful evaluation should be performed in patients who have been injured in a landslide.

landslide can cause various injuries over the whole body, and diagnosis might be delayed because of multiple and other severe injuries.^{1,2} Sand can spread from the body surface into subcutaneous tissue and inside the body and into various luminal organs. Therefore, whole body CT and careful evaluation should be performed in patients who have been injured in a landslide.

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