

Hypothermic lung edema after accidental hypothermia with out of hospital cardiac arrest

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An unconscious 57 year old man lying on the road under the highway was sent to our emergency department by the emergency medical service with out-of-hospital-cardiac arrest status.

On arrival, core body temperature was 21 degrees Celsius and pulse, blood pressure were all undetectable.

After endotracheal intubation, cardio-pulmonary resuscitation, warm intravenous normal saline (42 degrees Celsius), and the administration of Adrenalin 1mg intravenous every 3 minutes, he recovered spontaneous circulation twelve minutes after arrival.

External rewarming by four heat lamps and internal rewarming by irrigation with 2L warm normal saline via nasogastric tube and Foley were applied.

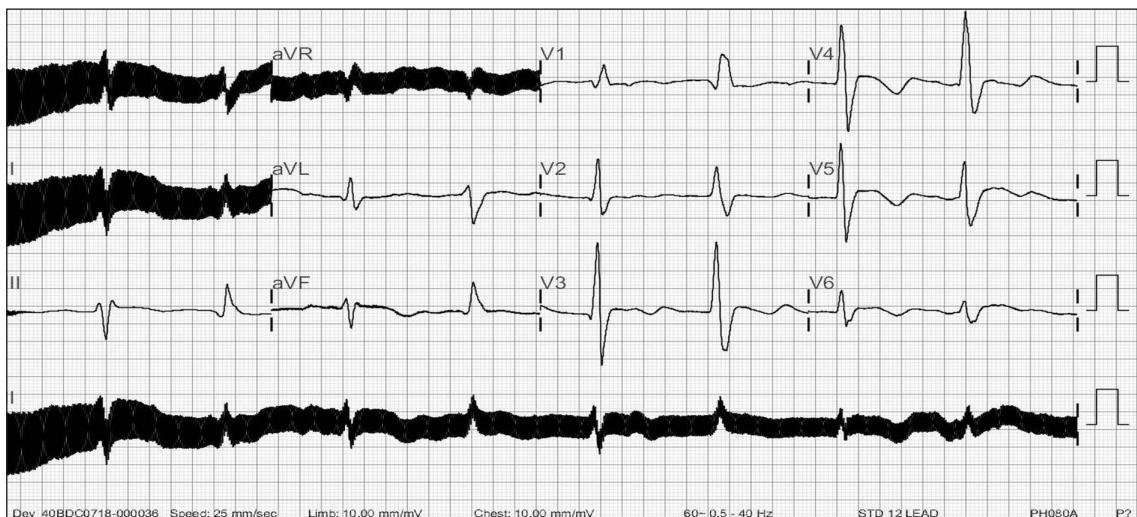


Figure 1 - The electrocardiogram (ECG) showed junctional bradycardia with Osborn J wave.

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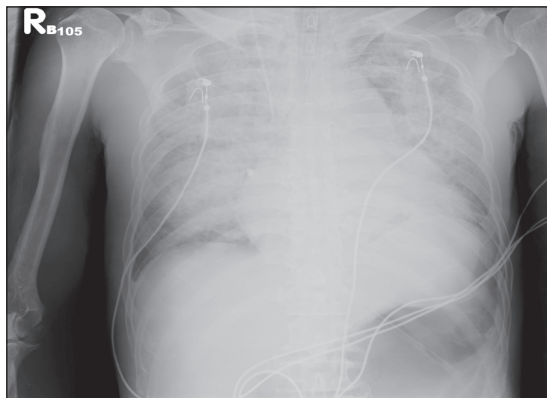


Figure 2 - Chest X ray (CXR) showed increased perihilar infiltrates indicating acute pulmonary edema (APE).

The electrocardiogram (*Figure 1*) showed junctional bradycardia with Osborn J wave. Chest X ray showed increased perihilar infiltrates indicating acute pulmonary edema (*Figure 2*). Ejection fraction was 57% at echocardiogram; plasma Troponin-I level was 0.02 ng/ml and central venous pressure was 28 cm H₂O.

Intravenous Isosorbide Dinitrate 1.2 mg per hour was administered for lung edema. Eighty seven minutes after arrival into the emergency department, his body tempera-

ture was 23.3 degrees Celsius, heart rate 47 per minute, and blood pressure 131/90. The patient was admitted to the intensive care unit and extubated 13 days later. He was discharged twenty-two days after arrival to the emergency department with clear consciousness.

Hypothermic lung edema was seldom discussed in the past and reported by Morales for the first time in 1993 (1). Retention of carbon dioxide and respiratory acidosis have a role (2).

Active external rewarming during experimental and clinical conditions may produce peripheral vasodilatation and hypotension leading to hypothermic lung edema.

Acute pulmonary edema in this patient was attributed to severe hypothermia since on presentation to the emergency department he had no evidence of acute coronary syndrome or congestive heart failure.

REFERENCES

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