Accidental Hypothermia

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Accidental hypothermia; an experience at St. Olav`s Hospital in Trondheim, Norway.

Introduction: Despite a well-established treatment, with Extracorporeal Circulation (ECC)/Extracorporeal Membrane Oxygenation (ECMO), severe hypothermia has a high mortality rate.

Case: A case report based on a canoe overturning, involving three adults and three youths. Outside temperature was 8 °C, water temperature 4-6 °C and windy. Everyone was wearing life vests. The three adults got to the mainland themselves.

Patient 1: observed about 50 minutes after the emergency call; conscious with a temperature at 28 °C, and sent to the nearest local hospital for external rewarming.

Patient 2: found approximately 1 hour after the emergency call was made, submersed with cardiac arrest. He was sent to the nearest hospital which has ECC/ECMO treatment available. First documented nasopharynx temperature is 18 °C, primary blood gas shows pH 6.48, BE -31, Potassium 4.8 mmol/L and lactate 20 mmol/L.

Patient 3: found about 2 hours after the emergency call, submersed with cardiac arrest, and sent to the same hospital as number 2. Nasopharynx temperature 14.5 °C, and primary blood gas shows: Ph 6.56, BE -26.5, Potassium 5.2 mmol/L and Lactate 22 mmol/L.

At the hospital, patient 2 was rewarmed with ECC, and patient 3 with an ECMO. After regaining normothermia, they both needed ECMO treatment.

Conclusion: Good outcome is possible with the use of both ECC and ECMO in treatment of severe accidental hypothermia. Patient 2 and 3 were both discharged to home, mentally adequate, but the coldest one with peripheral neuropathy.

Keywords: Accidental hypothermia, ecmo, extracorporeal circulation