

Controlled hypothermia and recovery from postanoxic encephalopathy in near-drowning victim

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Dear Sir,

De Pont and colleagues¹ describe a case report of a near-drowning victim who was comatose after resuscitation due to cardiac arrest, who completely recovered from post-anoxic status epilepticus with controlled hypothermia. We highly appreciate the effort and thoroughness of the authors in conducting this well documented case report and it supports the hypothesis that controlled hypothermia may offer neuroprotection in patients with post-anoxic encephalopathy.

We would like to describe our experience with a near-drowning victim and controlled hypothermia with the use of venovenous extracorporeal life support (ECLS).

A 28-year-old woman was submersed in water for 30 minutes after an attempted suicide. She was found pulseless, resuscitation was started, and she was brought to hospital.

On arrival the Glasgow Coma Score was 3 and her core temperature 28.5 °C. Her pupils were dilated, not reactive to light and there were no corneal reflexes.

Laboratory results showed lactic acidosis (pH 6.51, lactate 17.0 mmol/l). She was taken to the operating room to start venoarterial ECLS. However, on arrival in the operating room she had a return of spontaneous circulation and the intended venoarterial ECLS was switched to venovenous ECLS to support oxygenation on suspicion of extreme

pulmonary oedema after near-drowning. On arrival on the ICU her body temperature was 28.4 °C. The venovenous ECLS had a blood flow of 3.5 litres/hour. Gradually the patient was rewarmed to 32.5 °C after 24 hours and 35 °C in 48 hours. After three days she was weaned off the venovenous ECLS.

On day 5 she still scored an EMV of 1-1-tube, pupils reactive to light, positive corneal reflexes with rhythmic movement of mouth and extremities. Electro-encephalography showed a severe encephalopathy pattern, there were no indications of status epilepticus. The patient slowly recovered her consciousness, with maximal EMV on day 8. She was extubated on day 10. Five weeks after admission she was discharged without any neurological deficits.

After our experience, we support the hypothesis that controlled hypothermia can be used for near-drowning victims who are comatose after resuscitation for neuroprotection even with concurrent use of venovenous-ECLS.

REFERENCE

1. de Pont AC, de Jager CP, van de Bergh WM, Schultz MJ. Recovery from near drowning and postanoxic status epilepticus with controlled hypothermia. *Neth J Med.* 2011;69:196-7.