

RhinoChill: A novel hypothermia delivery system

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Background and Aims

Hypothermia has proven to be a useful therapy for the treatment of post-cardiac arrest patients and in settings of increased intracranial pressure. It is thought by many that it will be proven to be useful in the different strokes: ischemic, hemorrhagic and subarachnoid hemorrhage. The best means of delivering hypothermia to the brain have yet to be determined. The RhinoChill is a unique device that delivers an inert perfluorocarbon gas directly to the nasal sinus cavity, which is cooling through evaporation. The cooled gas in the cavity cools through direct cooling with close proximity to the brain, and by cooling the highly vascular supply in that region. The aim of the study is to study the safety and efficacy of the RhinoChill device for the delivery of hypothermia.

Methods

Subjects who require hypothermia and require a intracranial pressure monitor without impending surgery and have given informed consent or have a legal surrogate who has given consent will be enrolled into the trial. Brain temperature will be recorded before, during and after the 1-hour induction of hypothermia by the RhinoChill device.

Results

At this point, five patients have been treated and on average have had brain cooling by 1.5 degrees Celsius within 60 minutes. No significant complications have been observed.

Conclusions

The RhinoChill device is another means of delivering hypothermia to the brain, which is quick, simple, non-invasive and safe.