A Method for Non-invasive Cerebral and Systemic Cooling and Neuroprotection

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Technology description

Technical Details:
A method for achieving cerebral cooling by expansion of a gas delivered into the patients' nasopharynx is described. The gas is compressed and delivered via a nasal catheter in to the nasopharnx. The gas is allowed to exit via several openings in the catheter inside the nasal cavity. Expanding gas cools the nasopharynx and the air in the para nasal sinuses and convective cooling of the brain stem is achieved. The gas may be an anesthetic (eg., N20, Xenon etc) that additionally may have neuroprotective chemical properties, and systemic effects which may additionally promote systemic cooling. The nasal catheter may have additional lumens to regulate pressure and temperature within the nasal cavity to allow decompression and sufficient cooling. The method described can also be used in other organ systems in particular the pulmonary bed to achieve cooling and neuroprotection.

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