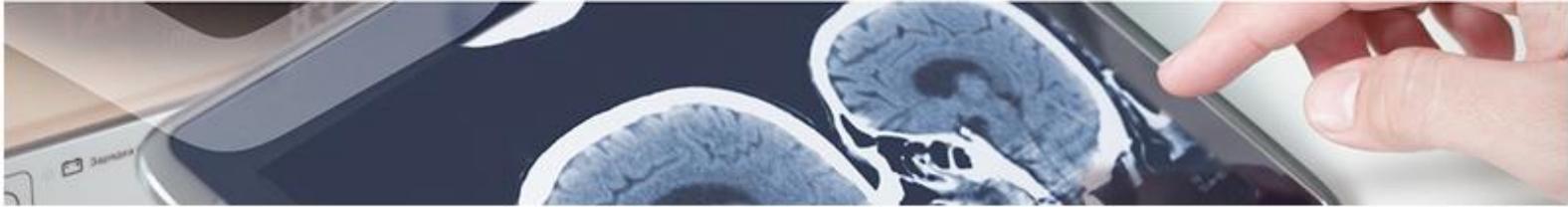


Medical Devices

Device for inducing therapeutic hypothermia

A research group of the Andalusia Public Health System, in collaboration with the University of Seville, has developed a novel device for inducing hypothermia in a patient.



Description

Induced or therapeutic hypothermia, where the core body temperature is reduced to below 35°C, is used often to alleviate various kinds of neurological lesions. Its main objective is to reduce the tissues' demand for oxygen, which has the effect of protecting vital organs, by decreasing the heart rate, increasing blood flow and improving myocardial perfusion, as well as decreasing inflammatory mediators which would further worsen the prognosis.

The devices currently used for this purpose – heat-exchange catheters and thermal blankets – present various drawbacks. A major drawback is the large size of the equipment involved, as both systems involve providing the systems needed to circulate the coolant. Furthermore, in the case of the thermal blanket, the system itself precludes its use in certain types of patients, such as burns patients. Another important drawback of these systems is their high cost.

There is, therefore, an unmet need to provide an improved medical device that enables inducing therapeutic hypothermia in a patient more efficiently, safely and economically, avoiding the disadvantages of current technology.

Presented here is a device for inducing therapeutic hypothermia that solves the said problems by using a blood pump combined with a cooler: the system enables the extracorporeal cooling of circulating blood, and to thereby modify the blood temperature of a patient in a controlled, programmed and dynamic way.

2. The system can be designed to enable both cooling and heating of the blood in a controlled manner, without requiring refrigeration fluids or thermodynamic cycles.
3. The device is small and only requires connection to the mains, with the option of a battery source, thus facilitating use and transportation.
4. The system can be combined with other medical equipment, such as haemodialysis machines, thereby increasing this technology's versatility.



Intellectual Property

This technology is protected by patent.



Aims

We are looking for a partner interested in a license and/or a collaboration agreement to further develop and exploit this innovative technology.



Advantages

1. The blood cooling process is performed directly, enabling a more accurate control of the temperature, resulting in a reduced risk of harm to the patient.



Classification

Area: Medical device