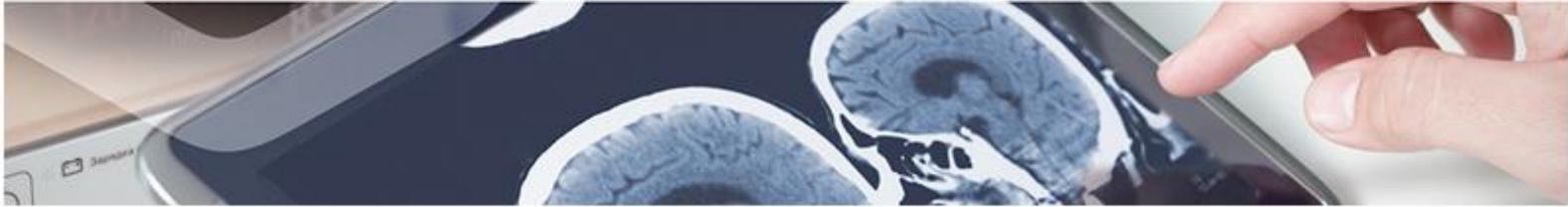


Diagnostics

Biomarker for Subarachnoid Hemorrhage and Vasospasm

TECHNOLOGY TRANSFER OFFICE
Andalusian Public Health System

A research group of the Andalusian Public Health System, in collaboration with the University of Seville, has developed a method based on the use of RhoA as biomarker for the diagnosis, classification and/ or monitoring of Subarachnoid Hemorrhage as well as useful for the prediction or prognosis of suffering cerebral vasospasm after the same.



Description

Hemorrhagic cerebrovascular pathology of aneurysmal origin (aSAH) accounts for about 80% of all extravasated bleeding into the subarachnoid space of non-traumatic origin and it is the most common cause of sudden death from stroke. From the 4th day until the second week, vasospasm could be responsible for neurological deterioration, and even death, of 15-20% of these patients. Thus, the classification of patients with aHSA depending on their risk to develop vasospasm would, on the one hand, optimize their treatment and, on the other, improve the development of new more effective treatments that reduce both alterations as a strategy to reduce mortality and morbidity in these patients.

Currently available tools for the diagnosis of cerebral vasospasm following SAH are based on non-specific techniques, such as transcranial dopler, or unfriendly techniques such as digital subtraction arteriography or perfusion tomography that require the use of a contrast and which, moreover, are not available in all hospitals. Thus, to date, there is no a reliable product at the serological level that accurately indicates the presence of arterial vasospasm after SAH.

In this context, our research group has shown an inverse correlation between RhoA activity in aSAH patients and the onset of vasospasm. The determination of the activity and expression of RhoA in mononuclear cells in humans during the first four days after aSAH could be a biomarker of early diagnosis of vasospasm that may appear from day 5.

Promising results have been obtained in a proof of concept study performed on samples from 29 subjects (14 with severe aHSA and 15 controls).



Advantages

- First time that the use of RhoA protein as a biomarker in peripheral blood mononuclear cells of aSAH patients is described.
- Minimally invasive test requiring blood extraction by one of the vascular catheters already inserted in the patient.
- Does not require administration of potentially toxic substances to the patient (such as the contrast).
- Amount of blood does not exceed that of an additional biochemical determination, without moving the patient.



Intellectual Property

This technology is covered by a Spanish patent application extensible to International patent application (PCT).



Aims

Looking for a partner interested in a license and/ or collaboration agreement to further develop and exploit this technology.



Classification

Area: Diagnostic
Technology: Immunoassay (ELISA)
Pathology: Cardiovascular diseases