ITCs/ Software/ Diagnostics

Method for the differential diagnosis of vascular parkinsonism and Parkinson's disease

A research group of the Andalusian Public Health System (SSPA) has developed a computer-implemented method for the differential diagnosis of vascular parkinsonism (VP) and Parkinson's disease (PD) as a clinical decision support tool.

Oficina de TRANSFERENCIA DE TECNOLOGÍA
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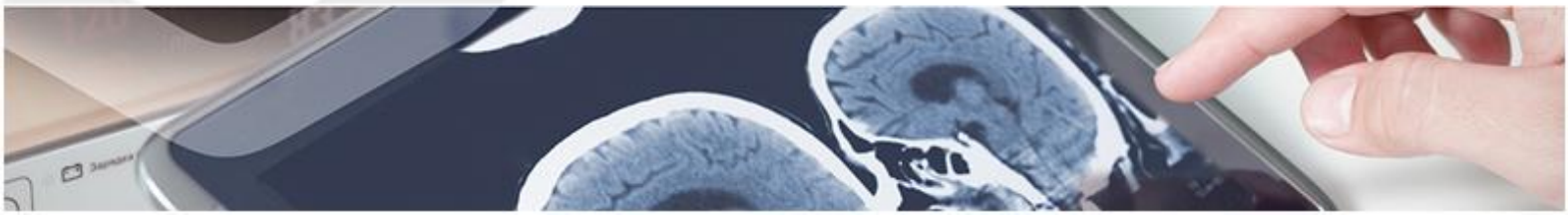

Description of the offer

Vascular parkinsonism (VP) encompasses a heterogeneous group of clinical syndromes where the predominant feature is parkinsonism with different cerebral ischemic lesions demonstrated by neuroimaging, without showing other suggestive degenerative causes of parkinsonism. Although cerebrovascular disease may clearly reproduce elements of parkinsonism, VP concept is still not clearly defined and therefore its clinical spectrum and diagnosis remain to be specified.

VP diagnosis must be clinical, but nevertheless neuroimaging assays are required to demonstrate the presence of cerebrovascular disease. Due to its clinical heterogeneity and the lack of universally accepted diagnostic criteria, it is really difficult to accurately determine the epidemiological characteristics of the disease, although it is believed that the stroke would only be responsible for a small proportion of cases of parkinsonism. Therefore, this technology would be an important milestone for diagnostic nuclear medicine techniques and could have a huge economic and healthcare impact.

This technology is based on a computer-implemented method which has provided accuracies above 90% in discriminating between VP and PD via two common methods for SPECT evaluation: Region-of-interest (ROI) analysis and Statistical Parametric Mapping (SPM). Furthermore, our technology introduces a method for processing voxel-based data: the use of penalized algorithms implemented in R-packages. This approach provides an automated and therefore objective, fast and efficient solution very beneficial for the nuclear-medicine specialist decision-making.

The method has been retrospectively validated in 80 VP patients and 164 PD patients who underwent [123I]FP-CIT SPECT.

Advantanges of the offer

- Currently, conventional structural imaging techniques (CT, MRI) have a limited utility in the diagnosis of parkinsonian patients. However, explorations through Nuclear Medicine (PET, SPECT) can be useful tools for the evaluation of these patients, allowing the study of neurochemical and functional features.
- As far as our knowledge, this is the only existing technology that allows the specialist to diagnose and differentiate PV of PD and make a clinical decision.
- May be applied to other parkinsonisms such as PSP, corticobasal degeneration, dyskinesia, etc... Validation in these pathologies is ongoing.

Intelectual Property

Technology covered by a European patent application.

Objetives

We are looking for a partner interested in a license to commercialize this innovative technology.

Classification

Area: ITC/ Software/ Diagnostics
Patología: Central Nervous System

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