

TITLE Detection of impaired brain through magnetic resonance imaging

DESCRIPTION OF THE INVENTION

Medical imaging technics based on magnetic resonance (MR) are advantageous to diagnose and track diseases of the central nervous system, including neurodegenerative diseases, psychiatric disorders or dementias. Advanced structural neuroimaging technics allow detecting those areas of the brain where the tissue differs so slightly from what is considered standard that it cannot be detected qualitatively. Voxel Based Morphometry (VBM), probably the most widely used of these technics, analyses the variation of tissue in every voxel (minimal information unit of a 3D space) of the brain. In particular, VBM compares voxel by voxel the brain of patients against a standard one that is supposed to be normal. By doing this, it is possible to detect those areas in which a gain or loss of tissue has occurred, which may be linked with a disease.

Due to the way VBM statistical analysis is carried out, a main limitation of this technic is the low sensitivity to detect those affected brain areas that have different MR intensity values associate despite having the same likelihood to belong to a certain tissue. As a result, structurally altered areas that may help to diagnose or monitor the patients could be overlooked.

This new method developed in INCLIVA, known as Intensity Weighted-VBM (IW-VBM), significantly improves VBM sensibility, allowing its use for diagnosing psychiatric disorders, neurodegenerative diseases and dementias.

BUSINESS SECTORS OF APPLICATION

Medical Imaging for diagnosis in fields as radiology, neurology, psychiatry, psychology, speech therapy and cognitive rehabilitation.

TECHNICAL ADVANTAGES & BUSINESS PROFITS

This new technology applied to MR equipment increases the sensibility of the current diagnosis methods for diseases of the central nervous system. It has been proven especially advantageous in the case of neurodegenerative, psychiatric diseases and dementias.

DEVELOPMENT OF THE TECHNOLOGY

This method has been tested using specialised manikins as well as synthetic and real human brain images.

INTELLECTUAL PROPERTY RIGHTS

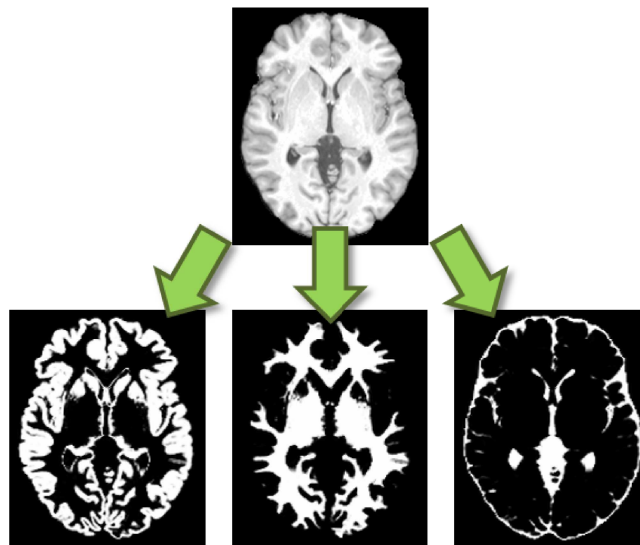
A Spanish patent application has been filled (publication number ES2518690)

SOUGHT COLLABORATION

Licensing/collaboration agreement in order to implement this technology for the routine diagnosis of diseases of the central nervous system.

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RELATED IMAGES



CONTACT

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