Improved Processing Method for MRI Contrast Images

Tech ID: 33907 / UC Case 2022-942-0

BRIEF DESCRIPTION

A novel method using Diffusion Tensor Imaging (DTI) combined with Statistical Parametric Mapping (SPM) as an effective diagnostic tool for Traumatic Brain Injury.

FULL DESCRIPTION

Researchers at UC Irvine have developed a novel MRI processing method by strategically combining Diffusion Tensor Imaging (DTI) alongside Statistical Parametric Mapping (SPM) as an effective diagnostic tool for Traumatic Brain Injury (TBI). Their research has shown a maximal Area Underneath the Receiver Operating Characteristic Curve (AUROC) of 1.000, indicating perfect diagnostic capability.

SUGGESTED USES

- Diagnostic tool in medical imaging centers and hospitals
- Research tool in clinical studies focusing on brain injuries
- Adjunct diagnostic methodology in neurology and radiology
- Development of personalized treatment plans for TBI patients

ADVANTAGES

- Non-invasive imaging technique
- Provides a standardized methodology for TBI diagnosis
- Potential for case-specific evaluation to refine diagnosis
- Opens avenues for further validation and optimization based on larger patient cohorts
- High diagnostic accuracy

PATENT STATUS

Patent Pending

RELATED MATERIALS

- Micah Daniel Vinet, Alexander Samir Ayoub, Russell Chow, Joseph C. Wu, Validation of diffusion tensor imaging for diagnosis of traumatic brain injury, Neuroscience Informatics, Volume 4, Issue 2, 2024.

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OTHER INFORMATION

KEYWORDS

Traumatic Brain Injury, MRI, TBI

CATEGORIZED AS

- **Imaging**
  - Medical
  - Software
- **Medical**
  - Disease: Central Nervous System
  - Imaging
  - Software

RELATED CASES

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