



## CASE STUDY

### Cleveland Clinic Aims to Improve Multiple Sclerosis Diagnosis By Studying New Central Vein Sign Biomarker



#### Overview

The need for improved diagnostic methods in MS is widely recognized. Although MRI is a longstanding tool for detecting MS lesions, diagnostic inaccuracies persist.

Up to 20% of people diagnosed with MS are later found not to have the disease. The Central Vein Sign was identified as a potential new biomarker to differentiate MS from other white matter lesions.

#### The Challenge

Providing expert neuroscientific support, data storage, transfer, management, protocol and QA analysis of imaging and clinical data in the format of eCRFs, during the course of the project. Implementing AI algorithm analysis of the medical images using a customized workflow.

#### Results

The QMENTA Platform managed data for 500 patients from 10 sites over 2 years, including executing custom advanced imaging analysis and 23 custom eCRF forms. This successful study resulting in the joint publication of a scientific paper on a new MS biomarker.

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“The QMENTA team provided real-time support for all study activities. Database changes and modifications were requested and the team was extremely responsive to all requests. The customer support and engineering support has been phenomenal and the best I have encountered in this industry space. We look forward to working in ongoing projects and new projects with the QMENTA team.”

–Daniel Ontaneda, MD, PhD, Co-principal Investigator, Cleveland Clinic Mellen Center for Multiple Sclerosis

Scientific support, study management and quantitative data analysis using QMENTA’s cloud-based workflow for evaluating the Central Vein Sign for MS diagnosis.



**Data classified and automatically assessed** to confirm adherence with the predetermined protocol, thus helping to reduce preventable errors and delays.



Each site can **securely** and **privately** contribute data.



**A custom algorithm** was developed by QMENTA’s scientific experts and integrated into the platform to update the CAVS-MS workflow.



**Images are analyzed using deep-learning model** for automated white matter lesion segmentation to improve the efficacy and reproducibility of the current lesion detection methods.



**Rich Visual Reporting.** Easy sharing of study results via PDF and CSV files.

#### Results



**Safe, secure data aggregation and integration**



**Customized workflow and 23 custom eCRFs**



**Joint Publication and Custom Algorithm Development**