

Improving Patient Outcomes Through a Comprehensive Care Platform in MOVING-MS – A Case Study

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Background

The Octave platform is a multifaceted approach to MS care management between physician visits that includes a multi-protein serum Multiple Sclerosis Disease Activity (MSDA) test, quantitative MS-specific MRI reports, and Clinical Insights (CI). The MSDA panel measures 18 protein biomarkers to attain an MS disease activity score. CI is a remote human-tech program consisting of a mobile app where persons with MS (pwMS) record medication administration, symptoms, and communicate with their nurse care partner, an MS-certified nurse, every 2-4 weeks.

Objectives

To demonstrate the clinical utility of the Octave platform in a case series of a pwMS enrolled in the prospective, 12-month, randomized wait-list controlled trial MOVING-MS (Measuring Outcomes and Value: an Integrated, Novel solution for Generating insights in MS) study while collecting MSDA, MRI, and CI.

Methods

We present a case series of pwMS enrolled in the randomized waitlist controlled MOVING-MS trial who experienced clinically actionable events captured by repeat evaluations with MSDA, MRI, and CI. MRI was collected as standard-of-care (1 per year) and evaluated by the platform's algorithm including quantification of T2 lesion burden and brain volumes. Notes from clinical evaluations through the CI mobile application and nurse care partner virtual visits every 2-4 weeks, treating neurologist notes, and enhanced MRI reports were compared to MSDA results.

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Results

In a series of participants (ages 27 to 53) with relapsing remitting MS on disease modifying therapy, we demonstrated the longitudinal changes in protein biomarker, radiographic, and clinical profiles of the following MS case scenarios: Figure 1) clinical and radiographic stability, Figure 2) longitudinal clinical management Figure 3) relapse prediction, and 4) disease-modifying therapy (DMT) switch. In each of the cases, a clinical action to either continue or modify treatment course was able to be taken based on data captured between visits with the Octave multifaceted platform. The patients who were without relapse activity stayed within the low range within repeated measurements, and stayed within the established confidence limits of analytical variance.¹ MSDA was not used to make clinical decisions in this study.

Figure 1. Case Study of Clinical & Radiographic Stability

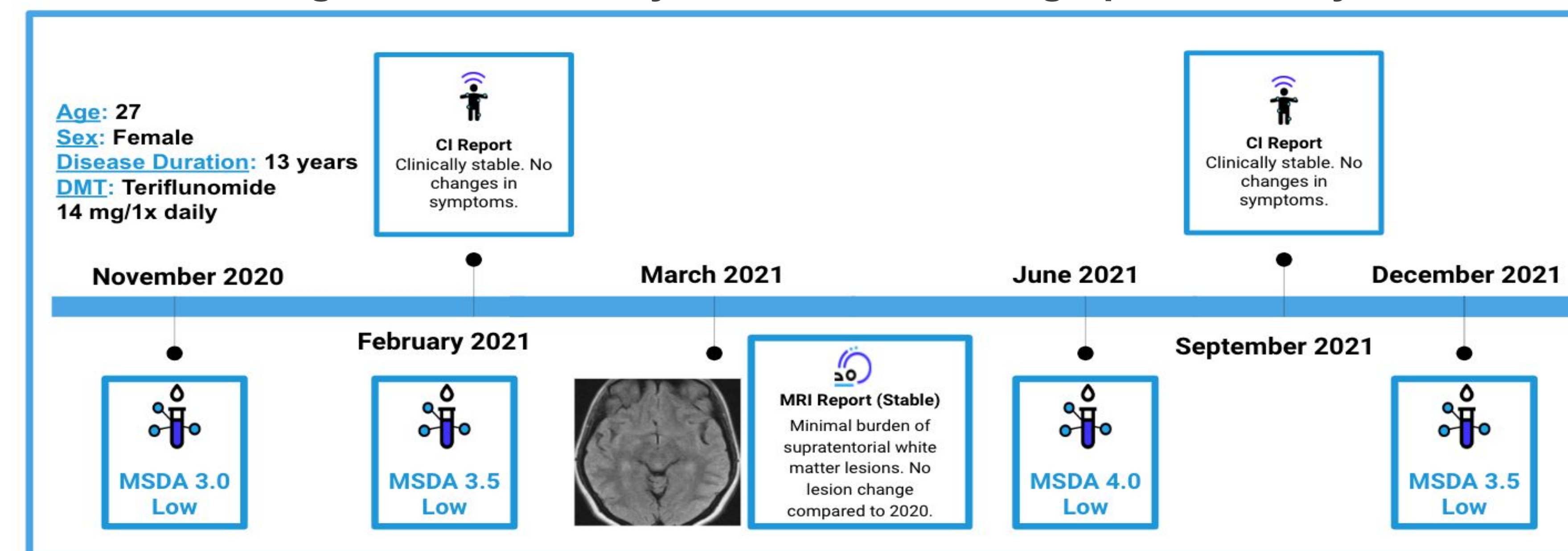


Figure 2. Case Study of Longitudinal Clinical Management

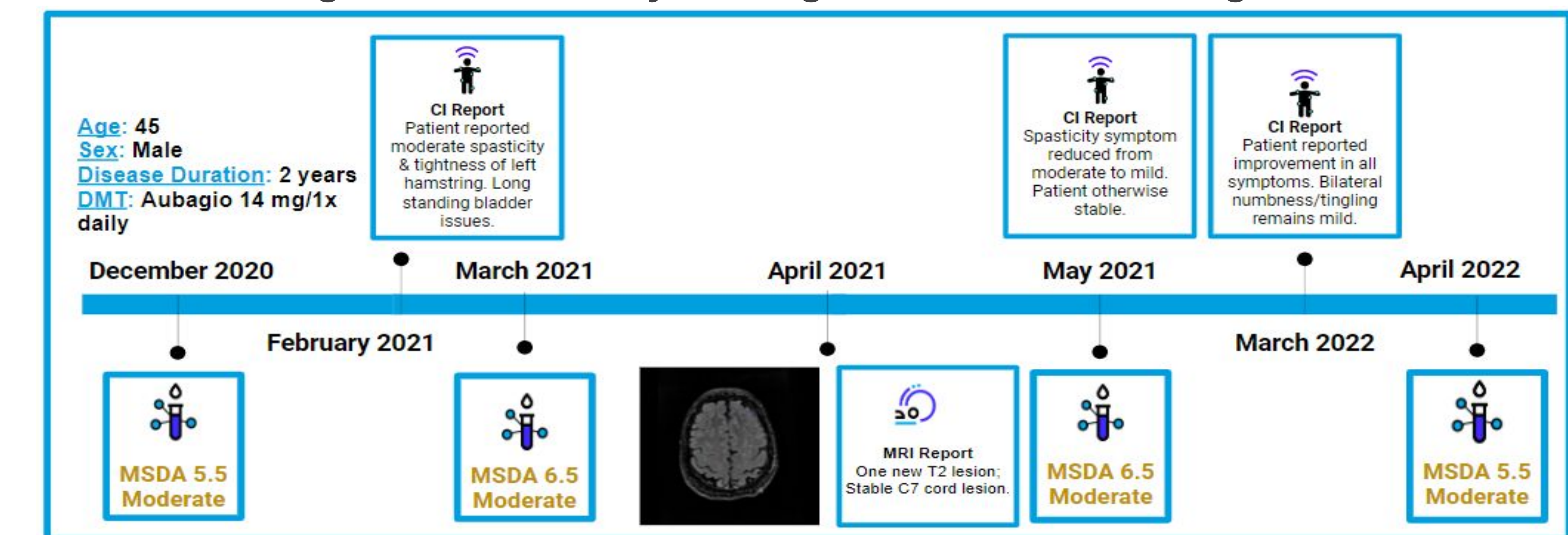


Figure 3. Case Study of Relapse Prediction

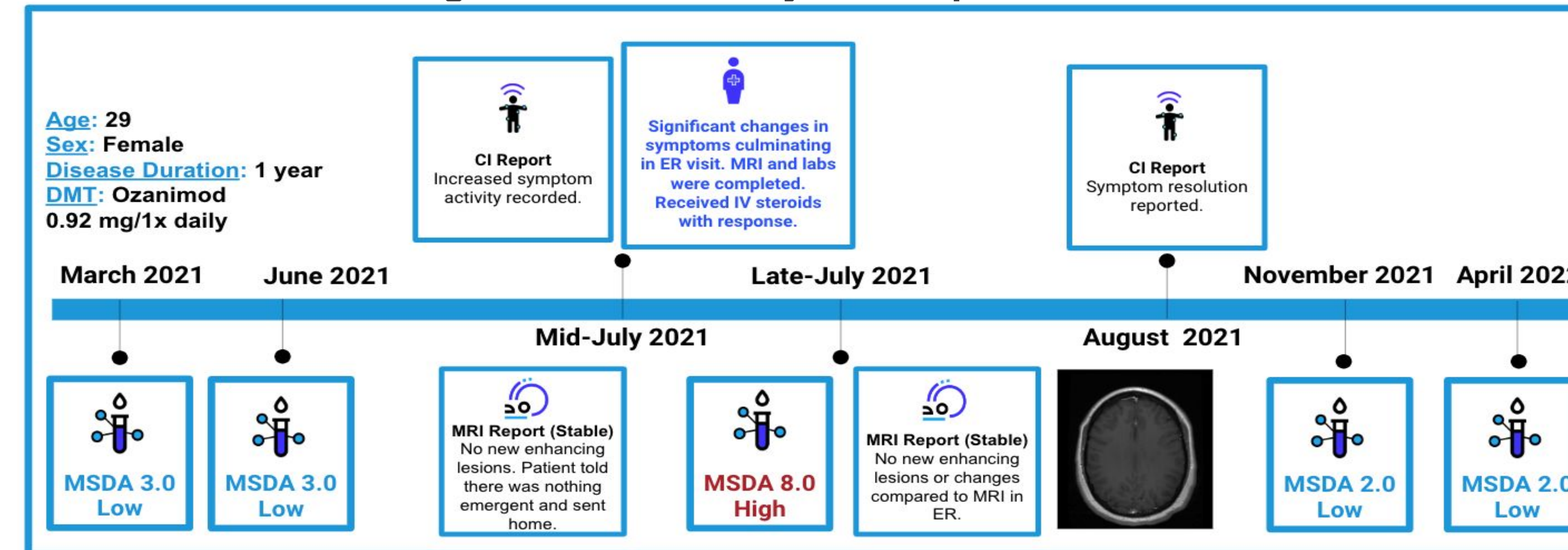
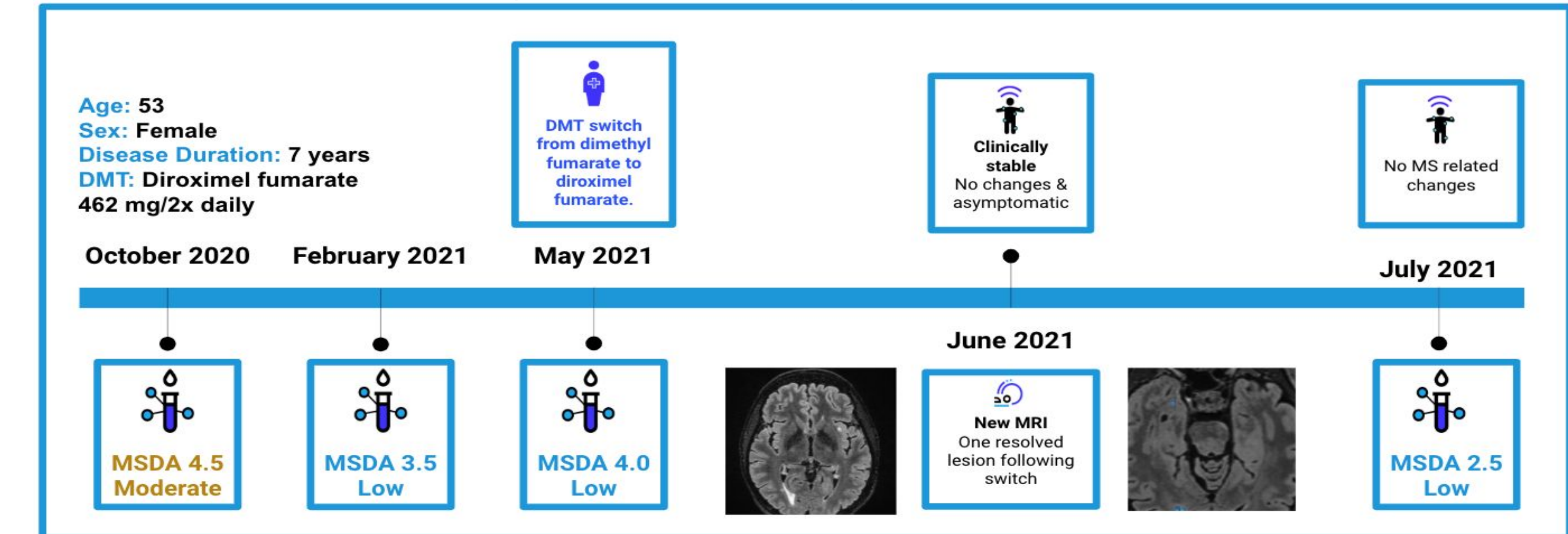


Figure 4. Case Study of DMT Switch



Conclusions

Analysis of individual patient journeys identified evidence of clinical utility of the Octave platform in **clinical and radiographic stability, longitudinal clinical management, relapse prediction, and DMT switch**. Comprehensive monitoring of pwMS between standard visits may create opportunities to intervene for better clinical outcomes. Future analysis of the MOVING-MS randomized trial will quantify potential healthcare utilization cost benefits of proactive, continuous monitoring in this population.