



→ Abstracts

Technology-enabled assessments to enhance multiple sclerosis clinical care and research

Background Comprehensive and efficient assessments are necessary for clinical care and research in chronic diseases. Our objective was to assess the implementation of a technology-enabled tool in MS practice.

Methods We analyzed prospectively collected longitudinal data from routine multiple sclerosis (MS) visits between September 2015 and May 2018. The MS Performance Test, comprising patient-reported outcome measures (PROMs) and neuroperformance tests (NPTs) self-administered using a tablet, was integrated into routine care. Descriptive statistics, Spearman correlations, and linear mixed-effect models were used to examine the implementation process and relationship between patient characteristics and completion of assessments.

Results A total of 8,022 follow-up visits from 4,199 patients (median age 49.9 [40.2–58.8] years, 32.1% progressive course, and median disease duration 13.6 [5.9–22.3] years) were analyzed. By the end of integration, the tablet version of the Timed 25-Foot Walk was obtained in 89.0% of patients and the 9-Hole Peg Test in 94.8% compared with 74.2% and 64.3%, respectively, before implementation. The greatest increase in data capture occurred in processing speed and low contrast acuity assessments (0% prior vs 78.4% and 36.7%, respectively, following implementation). Four PROMs were administered in 41%–98% of patients compared with a single depression questionnaire with a previous capture rate of 70.6%. Completion rates and time required to complete each NPT improved with subsequent visits. Younger age and lower disability scores were associated with shorter completion time and higher completion rates.

Conclusion Integration of technology-enabled data capture in routine clinical practice allows acquisition of comprehensive standardized data for use in patient care and clinical research.

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PSP-like syndrome after aortic surgery in adults (Mokri syndrome)

Background A rare progressive supranuclear palsy–like syndrome seemingly triggered by aortic surgery was first described in 2004. This largest case series to date describes the features of this syndrome.

Methods We searched the Mayo Clinic electronic medical records using the advanced cohort explorer search engine for patients evaluated for neurologic symptoms after cardiac-aortic surgery in the past 30 years. Data were extracted to Microsoft Excel from the identified patients and included clinical and neuroimaging features and outcomes.

Results Twenty-five patients met the inclusion criteria. All surgeries were performed under thoracic aortic bypass and deep hypothermia. Surgery included aortic aneurysm, aortic valve repair, and/or aortic dissection repair. Surgical records were unavailable, although surgery was documented in the Mayo record as uncomplicated in 60% of cases. In the remaining cases, no particular intraoperative or postoperative complications were documented at a high frequency. A typical triad was documented: supranuclear gaze palsy (SNGP; 100%), gait imbalance (80%), and dysarthria (96%). Part or all of the triad was observed before hospital discharge and stabilized over the course of days-weeks. A second phase of symptom worsening plus new symptoms developed up to a year later; this decline continued for up to several years before stabilization. Delayed epileptic seizures occurred in 32% of patients. Brain MRI revealed only nonspecific findings.

Conclusion This syndrome following adult thoracic aortic bypass surgery with deep hypothermia remains unexplained. It follows a biphasic course and is characterized by the triad of SNGP, unsteady gait, and a predominantly ataxic dysarthria.

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