Case Report

Multidisciplinary Management of Bulbar Motor Neuron Disease in a Geriatric Patient: A Case Study

Siddhant Gupta, Pulkit Jain, Ashish Sharma*

Bulbar motor neuron disease (MND), a variant of amyotrophic lateral sclerosis (ALS), predominantly targets motor neurons in the brainstem, resulting in complex clinical manifestations such as dysphagia, dysarthria, and limb weakness. This report outlines the diagnostic and therapeutic journey of a 61-year-old male presenting with progressive aphasia, left-sided weakness, and swallowing difficulties. A multidisciplinary approach was employed, incorporating speech therapy, physiotherapy, dietary modifications, and neurophysiological interventions to enhance swallowing safety and communication. Over a 30-day observation period, the patient demonstrated measurable improvements in dysphagia severity, speech clarity, and activities of daily living (ADLs). This case underscores the necessity of tailored, interdisciplinary strategies to optimize quality of life in bulbar MND patients.

Access this article online

Website: www.cijmr.com

DOI: 10.58999/cijmr.v4i02.196

Keywords: Bulbar motor neuron disease, Dysphagia, Dysarthria, Physiotherapy, Geriatric neurology.

Introduction

Bulbar-onset MND, a subtype of ALS, is a progressive neurodegenerative disorder affecting upper and lower motor neurons in the corticobulbar region. Clinically, it manifests as dysarthria, dysphagia, and facial muscle weakness, often progressing to respiratory compromise. While adult-onset MND is typically sporadic, pediatric cases, such as spinal muscular atrophy (SMA), are frequently genetic. Diagnosis relies on clinical evaluation, electromyography (EMG), and exclusion of mimics. Despite advances, therapeutic options remain palliative, emphasizing symptom management and functional preservation.[1-4]

Case Presentation

A 61-year-old male with untreated hypertension presented to the neurology clinic with a 4-month history of slurred speech, 6 months of bilateral upper limb weakness, and recent dysphagia. Examination revealed left-sided hemiparesis (Table 1), absent gag reflex, and a Glasgow coma scale (GCS) score of E4V1M6. Imaging and neurophysiological studies confirmed bulbar MND.

Table 1: Motor strength assessment (MRC Scale)

Joint	*Left*	*Right*
Temporomandibular	2/5	2/5
Cervical	3/5	4/5
Shoulder	3/5	4/5
Elbow	3/5	4/5
Wrist	3/5	4/5
Hip	3/5	4/5
Knee	3/5	4/5
Ankle	3/5	4/5

Interventions

Dysphagia Management

- Compensatory Strategies: Postural adjustments (chin tuck) and thickened liquids.
- Swallowing Therapy: Mendelson maneuver under speech therapist guidance.
- Sensory Stimulation: Thermal-tactile cues to trigger swallow reflexes.

Dysarthria Rehabilitation

- Rate control techniques and augmentative communication (alphabet boards).

Department of Medicine, RD Gardi Medical College, Ujjain, Madhya Pradesh, India.

Correspondence to: Pulkit Jain, Department of Medicine, RD Gardi Medical College, Ujjain, Madhya Pradesh, India.. E-mail: pulkitjaingwalior@gmail.com

Submitted: 03/06/2025 Revision: 06/06/2025
Accepted: 10/06/2025 Published: 14/08/2025

How to cite this article: Gupta S, Jain P, Sharma A. Multidisciplinary Management of Bulbar Motor Neuron Disease in a Geriatric Patient: A Case Study. Central India Journal of Medical Research. 2025;4(2):39-40.

Weakness Mitigation

- Progressive resistance training for left limbs using resistance bands.

Outcomes

Dysphagia

Improved from Level 2/7 to 5/7 (30-day follow-up).

Dysarthria

Speech clarity declined (5/5 to 3/7), highlighting disease progression.

ADLs

Scores rose from 25/100 to 60/100, reflecting enhanced independence.

Discussion

This case illustrates the challenges of bulbar MND management, where symptom progression often outpaces therapeutic gains. While dysphagia responded well to multidisciplinary interventions, dysarthria worsened, underscoring the disease's relentless course. Recent literature advocates early palliative integration to address evolving needs.[5]

Conclusion

A holistic, team-based approach is critical in bulbar MND to mitigate symptoms and prolong functional capacity. Future research should explore neuroprotective agents to complement rehabilitative strategies.

References

1. Rowland, L. P., & Shneider, N. A. (2001). Amyotrophic lateral sclerosis. New England Journal of Medicine, 344(22), 1688–1700.
2. Arora RD, Khan YS: Motor Neuron Disease. StatPearls. Treasure Island (FL): StatPearls Publishing; 2023. Accessed: Oct. 16, 2023.
3. Zhang X, Yang K, Le W: Autophagy and Motor Neuron Diseases. Adv. Exp. Med. Biol. 2020; 1207: 53–74.
4. Kang X, Quan D: Electrodiagnostic Assessment of Motor Neuron Disease. Neurol. Clin. Nov. 2021; 39(4): 1071–1081.
5. Feldman EL, et al.: Amyotrophic lateral sclerosis. Lancet. Oct. 2022;400(10360): 1363–1380.