

Management Protocol for Mixed Dysarthria with Dysphagia Secondary to Multiple System Atrophy With Reference to Palliative Care Perspective- A Case Study

Joyanta Chandra Mandal¹, Indranil Chatterjee², Tania Sarkar³

¹Audiologist and Speech Language Pathologist, Ali Yavar Jung National Institute of Speech & Hearing Disabilities (Divyangjan), RC, B.T.Road, Bonhooghly, Kolkata-700090, India.

²Lecturer in Speech and Hearing, Ali Yavar Jung National Institute of Speech & Hearing Disabilities (Divyangjan), RC, B.T.Road, Bonhooghly, Kolkata-700090, India.

³BASLP Student, Ali Yavar Jung National Institute of Speech & Hearing Disabilities (Divyangjan), RC, B.T.Road, Bonhooghly, Kolkata-700090, India.

Corresponding Author: Joyanta Chandra Mandal

ABSTRACT

Introduction: Multiple system atrophy (MSA) is a progressive, fatal disorder that makes muscles stiff (rigid) and causes problems with movement, loss of co-ordination, and malfunction of internal body processes such as blood pressure and bladder control. The Palliative care is an interdisciplinary approach to care for people with chronic disease/disorder or end-of-life conditions.

The study was aimed to provide a documentation of a case with mixed dysarthria secondary to multiple system atrophy and to provide palliative care perspective of the case with reference to Speech Language Pathology.

Methods: A Patient of 63 years/Male had the complaint of speech problem, difficulty in swallowing and movement problem. He was already diagnosed with MSA. In the diagnostic department, after all the assessment, the patient was diagnosed as mixed dysarthria with moderate pharyngeal dysphagia secondary to multiple system atrophy and referred for speech and swallowing therapy. Speech therapy was carried out in a palliative care domain within the patient's limit of participation. After 7 sessions the patient couldn't be able to continue therapy as the patient was admitted in ICU under medical condition.

Discussion: In this MSA patient even after continuous 7 sessions of therapy, no such significant improvement observed although no such deterioration. And that was the main reflection of the goal oriented therapy techniques, that patient's condition was not fall drastically as it was before.

Conclusion: When an SLP is brought into work with a patient nearing end of life, swallowing and communication should be the main concern.

Key Words: Multiple System Atrophy, Palliative care, Dysarthria, Dysphagia, Speech Therapy

INTRODUCTION

Multiple system atrophy (MSA) is a progressive neurodegenerative disorder characterized by a combination of symptoms that affect both the autonomic nervous system and movement. It is a sporadic neurodegenerative disease

characterized clinically by cerebellar dysfunction, Parkinsonism and autonomic failure. [1] The initial symptoms of MSA are include: slowness of movement, tremor, rigidity, incoordination, swallowing difficulty, impaired speech, fainting or light headedness, Bladder control problems,

gradual deterioration of body functions and so on. Dysarthria associated with MSA is mostly seen as mixed type. Dysphagia which is the most frequent complication of MSA is observed a short time after disease onset. Palliative care is an approach to serve patients with life-threatening illness and addressing their physical, psychological, social, spiritual, communication, decision making, and end-of-life care needs. [2] This is provided by a team of physicians, nurses, physiotherapists, occupational therapists, speech-language pathologists and other health professionals who work together to provide additional support. The specific role of speech language pathologist during palliative care is in dysphagia and communication.

Need of the study:

Epidemiologic studies have found the prevalence of MSA to range from 1.9 to 3.4 per 100,000 people. The mean life expectancy following diagnosis is 7 years. [3] It is a progressive and incurable condition that ultimately leads to a state of total functional incapacitation and death. These conditions are "terminal" and, therefore, should be managed with a palliative care approach. The role of SLP in palliative care is to assist in optimizing function related to Dysphagia symptoms in order to improve patient comfort and eating satisfaction and promote positive feeding interactions to family members.

Aim and objective:

The aim of the study is to provide a documentation of a case with mixed dysarthria secondary to multiple system atrophy and to incorporate adequate research on Palliative care domain and to set up tele-rehabilitation platform in liaisoning with hospital setting (ICU) for the patient under end-of-life care model. The objective is to provide palliative care perspective of the case with reference to Speech Language Pathology.

METHODS

Patient's background:

A case of 63 years/ Male came to speech and language diagnostic department of AYJNISHD, RC, on 23/08/2019 with the complaint of voice problem since last 6 months. He had difficulty in swallowing, drooling was also present and had movement problem. His speech was also unintelligible. The patient was reported of having high blood pressure and neurogenic problems and had under medication for that. He was already diagnosed with MSA. The patient also had an accident in 2013. MRI of brain revealed Cerebellar degeneration (MSA-Cerebellar type), Right corona radiate focal infarct, cerebral sub-cortical and deep white matter, multifocal ischemic lesion, diffuse cerebral atrophy. MRI of lumbo sacral spine revealed lumber spondylosis with degenerative disease. Also Flexible laryngoscopy showed right-vocal cord bowing and angiomatous polyp right vocal cord near anterior commissure. The patient was taking Syndopa for Parkinsonism and home-based physiotherapy.

Assessment:

Patient's mode of communication was verbal for comprehension and expression. His reading skill was adequate but writing skill was inadequate due to muscle weakness. Screening for aphasia showed no aphasic components. Dysarthria assessment showed functions of lips like puckering and retraction were affected and intermittency observed but in appearance it was normal. Tongue movements like protrusion, lateralization, elevation, and retroflexion were affected. Normal structure and function of teeth, hard palate and soft palate were observed. Gag reflex was present. Uvula was not assessed due to head drooping. The functions of mandible including opening and closing were affected. Breathing pattern was restricted thoracico-abdominal breathing. Articulation and supra segmental was grossly distorted and poor intelligible speech. Speech Intelligibility Rating was 5 (can understand with effort if content is known). Cranial

nerve assessment revealed affected trigeminal, facial, glossopharyngeal, vagus and spinal accessory nerves. Frenchay

dysarthria assessment (FDA-2) revealed all the parameters of motor speech functions were affected (shown in figure-1).

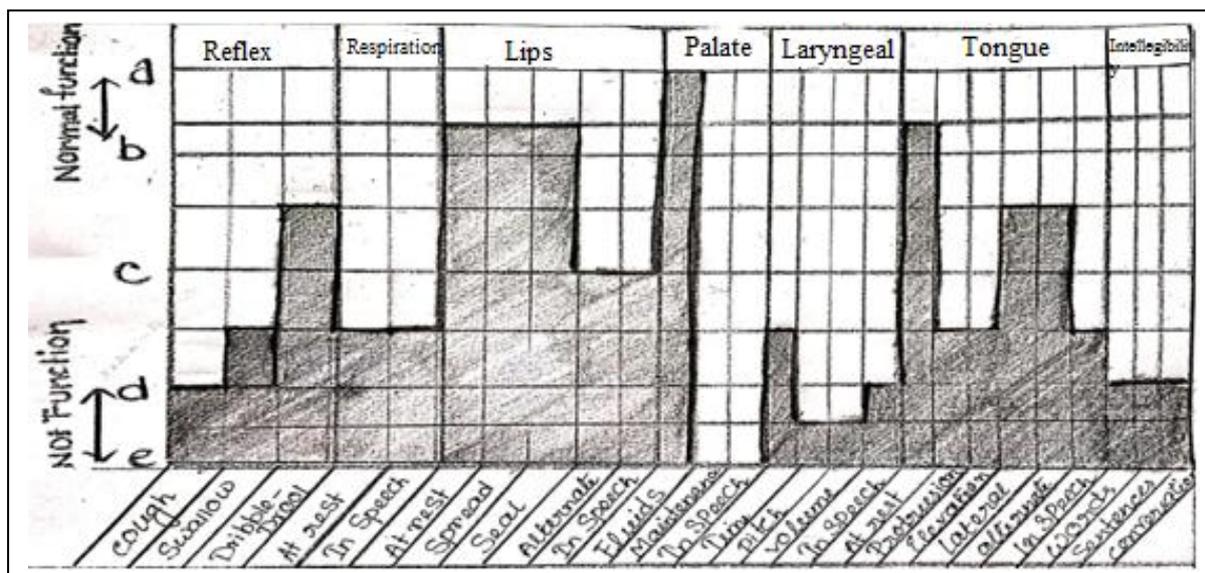


Figure:1- Pre therapy Frenchay dysarthria assessment Proforma

Differential diagnosis (shown in table: 1) interpreted mixed type of dysarthria (Ataxia+Hypokinetic+Spastic).

Table:1- Dysarthria differential diagnosis

	Flaccid	Spastic	Ataxic	Hyper-kinetic	Hypo-kinetic	UUMN	AOS
Anatomical Level							
Supratentorial	-	+	-	+	+	+	++
Posterior fossa (pons, medulla, midbrain, cerebellum)	+	+	+	-	+	+	+
Etiology							
Multiple system atrophy (MSA)	+	++	++	+	-	-	-
Non- Speech characteristics							
Dysphagia	+	+	-	-	+	+	-
Drooling	+	+	-	-	+	+	-
Dysmetric jaw, face, tongue, AMR	-	-	++	-	-	-	-
Head tremor	-	-	+	-	+	-	-
Speech characteristics							
Short phrases	++	+	-	+	-	-	-
Harsh voice	-	++	-	+	-	-	-
Irregular AMR	-	-	++	++	-	-	-
Reduced loudness	+	-	-	-	++	+	-
Overall rate	-	-	-	-	++	-	-
Increased rating segment	-	-	-	-	++	-	-
Excess loudness variation	-	-	++	+	-	-	-

Swallowing assessment showed reduced function of the stages of swallowing such as oral preparatory, oral, pharyngeal and esophageal. He was not able to chew properly due OPM problem. Pharyngeal transition time was increased significantly (more than 5 sec with repeated swallow). Aspiration was also noted. Mann Assessment of Swallowing Ability (MASA) Score was 165. So, he was diagnosed with Moderate pharyngeal dysphagia with mild

aspiration. Perceptually the patient voice had too strained, pitch was too high and loudness was so soft. Perceptual voice assessment-GRBAS scale showed G2R2B2A2S2. Objective voice assessment couldn't be done due to high fluctuation in voice sample. Voice handicap Index (VHI) was done which showed severe handicap.

By compiling all the tests findings, the patient was diagnosed as mixed dysarthria with moderate pharyngeal

dysphagia secondary to multiple system atrophy and referred for speech and swallowing therapy.

Management:

Speech therapy was started with long-term goal to resist the deterioration of symptoms of communication disorder in a palliative care domain within the patient limit of participation. Duration of therapy was 7 sessions in clinic, and same amount of practice sessions were carried over at home. Therapy had short-term goal to adequate breathe support during communication, to support oral skill during production of intelligible speech, to improve the hoarseness of voice, to increase loudness and to facilitate the ease of swallow. All the activities were based on palliative care approach to facilitate and support the patient as well as family members.

Inbreathe support rate control and maintenance of posture methods was used. In rate control technique, the patient was instructed to follow the manual tap to reduce the rate of speech. Maintenance of posture, the client was instructed not to droop his head and voluntary control the head in a static normal posture during communication. The client was instructed to sit in the arm rest and no restriction of clavicular breathing if possible and use of exhalation during speech as sometimes inhalation hinders the activity of exhalation during speaking for maintenance of speech breathing.

Oro-motor exercises were implemented to enhance intelligibility of speech. In lip exercise the client was instructed to hold the tongue depressor horizontally between the lips for 25 seconds, 3 times. During tongue exercise the client was instructed to open the mouth as wide as possible and raise the tongue as front as possible. During jaw exercise the client was instructed to keep the jaw open as widely as possible and to open and move the jaw sideways and hold the extended position about 1 second.

Straw phonation was used to improve the hoarseness of voice. The patient was instructed to blow through the straw into the glass of water by producing /hoo/ sound and maintain the babble formation with reference to homogeneous resistance. Graded loudness technique was used to increase overall loudness where the patient was instructed to count to 5, increasing volume on each number, start in a whisper and end up with a very loud voice.

For chin tuck, patient was asked to put his chin down towards the chest and swallow to move bolus anteriorly to prevent premature spillage and widen the valleculae. Supraglottic maneuver was used to reduce aspiration where the patient was asked to take a deep breath, hold and bear down then make an attempt to swallow.

RESULT

After 7 sessions the patient couldn't be able to continue therapy as the patient was admitted in ICU under medical condition. Doctors had given the dictum of terminality. He was given Ryles tube in a severe dysphagic condition. In this regard 'video calling' with the permission of the family member (wife) had been administered with reference to emotional support and providing information regarding swallowing with and without Ryle's tube. Post therapy FDA showed no such significant improvement in any domain (shown in figure: 2).

The Functional Assessment of Chronic illness Therapy- spiritual Well-Being Scale (FACIT-Sp) was carried out to measure the spiritual well being of the subject. Depending on the last seven days recall periods, the subject self administered the sheet. From all the subtests like Physical Well- Being, Social/ Family Well-Being, Emotional Well- Being, Functional Well-Being, it was observed that the subject had low level of comfort and peace because of the disorder.

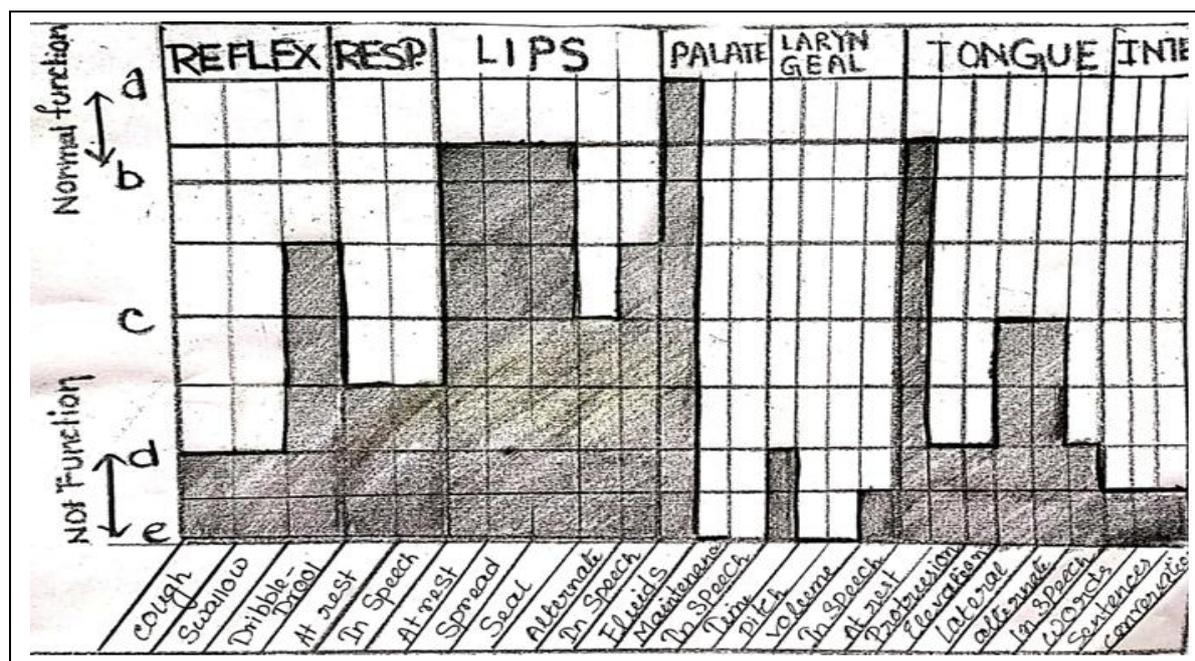


Figure 2: Post therapy Franchay dysarthria assessment

DISCUSSION

Neurodegenerative conditions need palliative care are; Alzheimer's disease, Parkinson's disease, multiple system atrophy, etc. These mentioned conditions are progressive and incurable conditions that ultimately lead to a state of total functional incapacitation and death. In this MSA patient even after continuous 7 sessions of therapy, no such significant improvement observed although no such deterioration. And that was the main reflection of the goal oriented therapy techniques, that patient's condition was not fall drastically as it was before.

So, here role of SLP in palliative care was to provide consultation to patient, families and members of the hospice team in the areas of communication, cognition and swallowing function. And to develop strategies in the area of communication skills in order to support the patient in decision making to maintain social closeness, and to assist the patient in fulfilment of end-of-life goal. Also to assist in optimizing function related to dysphagia symptoms in order to improve patient comfort and eating satisfaction and promote positive feeding interactions to family members. And finally to communicate with

members of the interdisciplinary hospice team, to provide and receive input related to overall patient care.

The end of life (EOL) care is quiet complicated and a unique area of health care. Working in this area requires a large focus on person-centred approach to care. Recognizing that when a person is palliated, does not necessarily mean that death is so close that intervention is no longer warranted. SLPs have previously been seen as a non-essential service in palliative cases.^[4] However, there has been increasing opinion that SLPs should be recognized as a part of multidisciplinary palliative care team where there is a mutual awareness of the roles of each member and the contributions of SLPs can make a relatively new and valued addition to the palliative care team.^[5] This may require a considerable change in the training procedures for SLPs, including but not limited to; appropriate supervision during placement rotations-including opportunities for reflective practice with specialist support.^[6]

CONCLUSION

Many speech-language pathologists working in health care will at some time, be presented with a patient nearing the end of

life. These patients introduce complex clinical and ethical issues around feeding and communication that impact the role of the SLP and other health care professionals. SLPs are an integral member of the health care team and contribute significantly to the care of patients nearing end of life. When an SLP is brought into work with a patient nearing end of life, swallowing and communication should be the main concern.

REFERENCES

1. Gilman S, Wenning GK, Low PA, Brooks DJ, Mathias CJ, Trojanowski JQ, Wood NW, Colosimo C, Dürr A, Fowler CJ, Kaufmann H. Second consensus statement on the diagnosis of multiple system atrophy. *Neurology*. 2008 Aug 26;71(9):670-6.
2. Bruera E, Hui D. Conceptual models for integrating palliative care at cancer centers. *Journal of palliative medicine*. 2012 Nov 1;15(11):1261-9.
3. Hemphill III JC, Greenberg SM, Anderson CS, Becker K, Bendok BR, Cushman M, Fung GL, Goldstein JN, Macdonald RL, Mitchell PH, Scott PA. Guidelines for the

management of spontaneous intracerebral hemorrhage: a guideline for healthcare professionals from the American Heart Association/American Stroke Association. *Stroke*. 2015 Jul;46(7):2032-60.

4. Pollens RD. Integrating speech-language pathology services in palliative end-of-life care. *Topics in Language Disorders*. 2012 Apr 1;32(2):137-48.
5. Roe JW, Leslie P. Beginning of the end? Ending the therapeutic relationship in palliative care. *International Journal of Speech-Language Pathology*. 2010 Aug 1;12(4):304-8.
6. Eckman S, Roe J. Speech and language therapists in palliative care: what do we have to offer? *International journal of palliative nursing*. 2005 Apr;11(4):179-81.

How to cite this article: Mandal JC, Chatterjee I, Sarkar T. Management protocol for mixed dysarthria with dysphagia secondary to multiple system atrophy with reference to palliative care perspective- a case study. *Int J Health Sci Res*. 2020; 10(6):173-178.
