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Original Research Article

Clinical Spectrum of Madhyama Rogamarga: A Cross-Sectional Study Analysing Predominant Manifestations

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Abstract

Background: Rogamarga is one of the fundamental principles in Ayurveda that describes the pathway or site of disease manifestation. Madhyama Rogamarga comprises of Marma, Asthi, and Sandhi. It encompasses a wide spectrum of clinical conditions mainly involving vital structures, bones, joints, movement, and functional activity. Although classical texts describes diseases associated with Madhyama Rogamarga, clinical evidences regarding the predominance of individual symptoms/manifestations remains limited. ***Objective:*** To identify and assess the most predominant clinical manifestations in participants affected with Madhyama Rogamarga diseases. ***Materials and Methods:*** A cross-sectional observational study was conducted among patients attending the OP, IP & Medical camps of Sri Sri College of Ayurvedic Science and Research Hospital, Cuttack, Odisha. Eligible participants were assessed using structured questionnaire developed following an extensive review of Ayurvedic literature and validated by experts of Ayurveda Siddhanta and Samhita. A total of 511 participants were screened, out of which 320 were identified with Madhyama Rogamarga involvement. Clinical manifestations were analysed using descriptive statistics, and frequencies and the percentages were calculated. ***Results:*** Among the 320 participants with Madhyama Rogamarga involvement, Sthambha was observed as predominant manifestation (61.3%), followed by Cheshtanasha (42.8%), Shotha (26.3%), Janusandhi Shula (25.6%), and Katishula (23.1%). Sthambha was seen a nearly comparable distribution between mild (31.6%) and moderate (29.7%) grades. ***Conclusion:*** Sthambha was the most predominant clinical manifestation among participants affected with Madhyama Rogamarga, followed by Cheshtanasha, Shotha, Janusandhi Shula, and Katishula. Systematic assessment of these clinical manifestations helps for a clearer clinical understanding and characterization of Madhyama Rogamarga.

Keywords: Rogamarga, Madhyama Rogamarga, Ayurveda.

INTRODUCTION

Ayurveda explains the manifestation and progression of disease by several fundamental concepts that facilitate the understanding of *Samprapti* and guides in clinical assessment. [1] Among these, Rogamarga represents the pathway or site through which a disease get manifested in the body. The identification of Rogamarga involved is considered relevant for understanding the localization of disease, its clinical presentation, prognosis, and to plan therapeutic approach. [2,3]

Acharya Charaka classified Rogamarga into three categories: Bahya Rogamarga, Madhyama Rogamarga, and Abhyantara Rogamarga. Madhyama Rogamarga comprises of *Marma, Asthi,* and *Sandhi*. Classical descriptions include conditions like *Pakshavadha, Graha, Apatanaka, Ardita, Shosha, Rajayakshma, Asthi-Sandhi Shula,* and diseases involving *Shiras, Hridaya,* and *Basti* in Madhyama Rogamarga.[2] Thus, the spectrum of Madhyama Rogamarga comprises of diverse clinical conditions involving vital structures, bones, joints, and disturbances in movement and function. [4,5]

The clinical manifestations associated with Madhyama Rogamarga varies depending on the structures involved and the nature of the underlying disease process. Features like *Sthambha, Shula, Shotha,* impairment of *Cheshta,* and functional limitation may be observed in different clinical presentations. However, classical texts predominantly describe Rogamarga through conceptual definitions and examples of diseases, and there is limited clinical observational evidence

regarding the relative predominance of individual manifestations in patients with Madhyama Rogamarga disorders.

Systematic assessment of these manifestations might contribute to a clearer clinical understanding of the Madhyama Rogamarga and helps identifying the features mostly encountered in clinical practice. Documentation of the frequency and severity of these manifestations may also provide an observational basis for interpreting the classical Ayurvedic concepts in contemporary research setting. Therefore, this study was undertaken to identify and assess the most predominant clinical manifestations among participants classified under Madhyama Rogamarga.

MATERIALS AND METHODS

Study Design

A cross-sectional observational study to identify and assess the most predominant clinical manifestations observed among participants classified under Madhyama Rogamarga.

Study Setting and Population

The study was conducted among patients attending the Outpatient Department (OPD), Inpatient Department (IPD) and Health check-up camps of Sri Sri College of Ayurvedic Science and Research Hospital, Cuttack, Odisha.

Inclusion Criteria

Individuals aged 18–65 years, irrespective of gender, religion, caste, or sociodemographic characteristics, who were willing to participate in the study and provided written informed consent were included.

Exclusion Criteria

Individuals below 18 years or above 65 years of age; those with history of organ transplantation or amputation; those are on immunosuppressive or steroid therapy; individuals on multidrug therapy; history of drug allergy; and individuals unwilling to participate were excluded.

Study Tool and Validation

A structured questionnaire was developed through extensive review of the concept of Rogamarga described in Ayurveda books. This was subjected to evaluation and validation by experts in Ayurveda Siddhanta and Samhita from across the country. The study tool was finalized after incorporating the recommendations and suggestions provided by these experts.

Sampling Technique: Direct sampling method.

Data Collection Procedure

Participants were recruited from the OPD, IPD, and institutional health camps after considering the inclusion and exclusion criteria. Eligible participants were assessed using the validated questionnaire. The collected information was recorded and used to assess the clinical manifestations related to Madhyama Rogamarga and to identify the most predominant manifestations among the participants.

Statistical Analysis

The collected data were entered into Microsoft Excel and descriptive statistical analysis was performed. Frequencies and percentages were calculated to summarize the distribution of the observed clinical manifestations.

Ethical Considerations

Ethical approval for the study was obtained from Institutional Ethics Committee of Sri Sri College of Ayurvedic Science and Research Hospital (SSCASRH/IEC/003/22; Dtd. 11 February 2022). Written informed consent was obtained from all the participants.

RESULTS

A total of 511 participants were screened, among which 320 participants were identified in Madhyama Rogamarga. The clinical manifestations were graded according to their recorded severity as absent, mild, moderate, and severe.

Sthambha was the most frequently observed manifestation, with 196 participants (61.3%) showing this symptom. Among them, 101 (31.6%) had mild Sthambha and 95 (29.7%) had moderate Sthambha and 124 participants (38.8%) were graded as having no Sthambha. Thus, Sthambha was observed as the most predominant clinical manifestation.

The second most observed manifestation was Chestanasa, which was present in 137 participants (42.8%). Mild Chestanasa was observed in 80 participants (25.0%), moderate manifestation in 56 (17.5%), and severe manifestation only in one participant (0.3%). Chestanasa was absent in 183 participants (57.2%). This distribution indicates that a substantial proportion of participants had some degree of impairment related to Chesta.

Shotha was observed in 84 participants (26.3%), with 41 participants (12.8%) having mild and 43 (13.4%) having moderate severity. Janusandhi Shula was observed in 82 participants (25.6%); 58 (18.1%) had mild and 24 (7.5%) had moderate severity. Katishula was seen in 74 participants (23.1%), comprising of 63 (19.7%) with mild and 11 (3.4%) with moderate manifestation.

Karmahani was found in 54 participants (16.9%), with mild and moderate manifestations recorded in 26 (8.1%) and 28 (8.8%) participants, respectively. Toda was seen in 48 participants, while

Shabdah (Crepitus) was observed in 41 participants (12.8%) with 11 (3.4%) having mild and 30 (9.4%) having moderate manifestation.

Amshashula was found in 27 participants (8.4%), Urusthambha in 26 (8.1%), Manyasthambha in 20, Sandhishula in 19 (5.9%), and Supta in 16 (5.0%). Bhrama was seen in 11 participants (3.4%), while pain associated with sunlight or sound was present in 10 (3.1%). Difficulty in speech was found in nine participants (2.8%). Facial weakness and Nisthoda were seen in 6 participants (1.9%), referred pain in 5(1.6%), muscle twitching in 4(1.3%), and Sosha in 3 (0.9%) participants.

Table 1: Distribution and severity of clinical manifestations observed on Day 1 among participants classified under Madhyama Rogamarga

Clinical manifestation	Absent, n (%)	Mild, n (%)	Moderate, n (%)	Severe, n (%)	Present, n (%)
Sthambha	124 (38.8)	101 (31.6)	95 (29.7)	0 (0.0)	196 (61.3)
Chestanasa	183 (57.2)	80 (25.0)	56 (17.5)	1 (0.3)	137 (42.8)
Shotha	236 (73.8)	41 (12.8)	43 (13.4)	0 (0.0)	84 (26.3)
Janusandhi Shula	238 (74.4)	58 (18.1)	24 (7.5)	0 (0.0)	82 (25.6)
Katishula	246 (76.9)	63 (19.7)	11 (3.4)	0 (0.0)	74 (23.1)
Karmahani	266 (83.1)	26 (8.1)	28 (8.8)	0 (0.0)	54 (16.9)
Toda	271 (84.7)	21 (6.6)	27 (8.4)	0 (0.0)	48 (15.0)
Crepitus (Sabdhah)	279 (87.2)	11 (3.4)	30 (9.4)	0 (0.0)	41 (12.8)
Amshashula	293 (91.6)	3 (0.9)	24 (7.5)	0 (0.0)	27 (8.4)
Urusthambha	294 (91.9)	5 (1.6)	20 (6.3)	1 (0.3)	26 (8.1)
Manyasthambha	298 (93.1)	13 (4.1)	7 (2.2)	0 (0.0)	20 (6.3)
Sandhishula	301 (94.1)	1 (0.3)	18 (5.6)	0 (0.0)	19 (5.9)
Supta	304 (95.0)	11 (3.4)	5 (1.6)	0 (0.0)	16 (5.0)
Bhrama	309 (96.6)	9 (2.8)	2 (0.6)	0 (0.0)	11 (3.4)
Pain related to sunlight/sound	310 (96.9)	6 (1.9)	4 (1.3)	0 (0.0)	10 (3.1)
Difficulty in speech	311 (97.2)	1 (0.3)	8 (2.5)	0 (0.0)	9 (2.8)
Facial weakness	314 (98.1)	1 (0.3)	5 (1.6)	0 (0.0)	6 (1.9)
Nisthoda	314 (98.1)	4 (1.3)	2 (0.6)	0 (0.0)	6 (1.9)
Referred pain	315 (98.4)	3 (0.9)	2 (0.6)	0 (0.0)	5 (1.6)
Muscle twitching	316 (98.8)	1 (0.3)	3 (0.9)	0 (0.0)	4 (1.3)
Sosha	317 (99.1)	0 (0.0)	3 (0.9)	0 (0.0)	3 (0.9)
Shula	251 (78.4)	44 (13.8)	5 (1.6)	0 (0.0)	49 (15.3)

Predominant clinical manifestations

When the manifestations were ranked according to the proportion of the total participants, Sthambha ranked first, affecting 61.3% of the participants. This was further followed by Chestanasa (42.8%), Shotha (26.3%), Janusandhi Shula (25.6%), and Katishula (23.1%). Together, these constituted the five mostly observed clinical manifestations in participants classified under Madhyama Rogamarga.

DISCUSSION

The concept of Rogamarga is considered important for Ayurvedic understanding of disease localization and manifestation. Among the 320 participants with Madhyama Rogamarga in the present study, Sthambha was the most predominant clinical manifestation and was observed in 61.3% of participants. Mild Sthambha was present in 31.6%, while 29.7% had moderate severity. Sthambha denotes stiffness, rigidity, or restriction of normal movement and is related to disturbance in normal mobility. The predominance of Sthambha observed in the present study is consistent with the classical description of Madhyama Rogamarga, where Asthi and Sandhi constitute the major components. Further, Graha and Asthi-Sandhi Shula, which represent restriction of movements or stiffness and pain involving bones and joints, are also specifically described among the conditions of Madhyama Rogamarga [1, 2]. Thus, the high prevalence of Sthambha may indicate that restriction of movement can be considered as an important clinical expression of Madhyama Rogamarga.

Cheshtanasha was the second predominant manifestation, affecting 42.8% of the participants. Mild Cheshtanasha was observed in 25.0%, moderate manifestation in 17.5%, and severe manifestation in 0.3% of participants. Cheshta basically denotes movement or functional activity, while Cheshtanasha represents the loss or impairment of movement or activity. The prominence of Cheshtanasha, and Sthambha, indicates that the disturbance of movement and functional activity was the major clinical pattern among participants with Madhyama Rogamarga in the current study. This finding is also conceptually compatible with the classical conditions such as Pakshavadha, Ardita, Apatanaka, and Graha explained in Ayurveda which are characterized by varying degrees of impairment of movement or motor functions [2, 4].

Shotha was observed in 26.3% of participants, making it the third frequent manifestation. In Ayurveda, Rogamarga classification is primarily based on pathway and site of the disease manifestation rather than exclusive association of symptoms with a single Rogamarga. Therefore, the occurrence of Shotha among participants with Madhyama Rogamarga may represent swelling associated with the structures or disease processes involving thr Marma, Asthi, and Sandhi. However, as the present study did not analyse the association of Shotha with specific diseases or anatomical sites, further interpretation may require disease-specific assessments.

Janusandhi Shula was present in 25.6% and Katishula in 23.1% of participants. The high occurrence of Janusandhi Shula is particularly relevant in the current study because Asthi and Sandhi are explicitly included under Madhyama Rogamarga, and Asthi-Sandhi Shula is specifically mentioned among the clinical presentations [2, 3]. This finding therefore demonstrates a clear correspondence between the classical description and observed prevalence of joint-related pain. Katishula was also frequently observed, suggesting that regional musculoskeletal pain was an important component in the clinical manifestation pattern of the study population.

Karmahani was observed in 16.9% of participants. When considered along with Sthambha and Cheshtanasha, the occurrence of Karmahani also highlights the functional dimensions of Madhyama Rogamarga involvement. Sthambha represent the restriction of movement, Cheshtanasha denotes the loss or impairment of movement or activity, and Karmahani indicates the impairment of normal functions. The predominance of these manifestations suggests that altered mobility and functional limitation constitute an important clinical pattern in Madhyama Rogamarga.

Other manifestations like Amshashula, Urusthambha, Manyasthambha, Sandhishula, Supta, Bhrama, difficulty in speech, facial weakness, muscle twitching, Nisthoda, and referred pain, were observed at comparatively lower frequencies. This lower prevalence may not be interpreted as indicating a lack of association with Madhyama Rogamarga. The classical spectrum of the Madhyama Rogamarga is broad and includes diseases involving Marma, Asthi, and Sandhi and conditions affecting the head, heart, and urinary bladder [2, 3]. Therefore, the individual manifestations might vary according to the specific site and nature of disease involvement.

Overall, the findings demonstrate a predominant stiffness–movement impairment–pain pattern in the participants with Madhyama Rogamarga. Sthambha emerged as the most observed manifestation, followed by Cheshtanasha, Shotha, Janusandhi Shula, and Katishula. The predominance of Sthambha and Cheshtanasha indicates that restriction and impairment of movement were the major clinical characteristics, and the frequent occurrence of Janusandhi Shula supports the classical inclusion of Asthi and Sandhi within the Madhyama Rogamarga. These findings provides a clinical observational basis for the classical description of Madhyama Rogamarga and suggests that the systematic assessment of Sthambha, Cheshtanasha, functional impairment, and site-specific pain is useful in its clinical evaluation.

CONCLUSION

The present study observed Sthambha as the most predominant clinical manifestation among participants affected with Madhyama Rogamarga, followed by Cheshtanasha, Shotha, Janusandhi Shula, and Katishula. The predominance of Sthambha and Cheshtanasha highlights the restriction and impairment of movement and functional activity constitute prominent clinical features of Madhyama Rogamarga. The frequent occurrence of Janusandhi Shula and other musculoskeletal manifestations further aligns with the classical inclusion of *Asthi* and *Sandhi* under Madhyama Rogamarga.

The findings provide a clinical observational perspective on the manifestation pattern of Madhyama Rogamarga and highlight the importance of assessing symptoms like stiffness, movement impairment, functional limitation, swelling, and site-specific pain during clinical evaluation. Further multicentric and analytical studies are required to validate these findings and explore the association of these manifestations with specific disease conditions and other Ayurvedic clinical parameters.

Conflict of Interest: The authors declare no conflict of interest.

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