
Case Report

Post Stroke Depression with Somatic Symptoms - A Case Report

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ABSTRACT

Post-stroke depression (PSD) is considered as the most frequent and imperative neuropsychiatric consequence of a stroke. Approximately one-third of the stroke survivors experience major depression as per studies. Numerous emotional and behavioral disorders occur subsequent to cerebrovascular accidents. The psychiatric disorders following cerebrovascular accident reduces patient autonomy and amplifies caregiver burden, especially in the elderly. In Ayurveda classics, the interrelation between body and mind and the psychological impact of physical ailments and vice versa have been explained with utmost consideration. Acharya Charaka opines, “*Sareeram hyapi satwamanuvidheeyate, satwam ca sareeram*”- The ailments occurring to the mind cannot be separated from that of the body and is absolutely inseparable.

A 68-years-old male patient with a history of stroke attended our OPD with the complaints of pain and burning sensation in the left side of the body along with weakness of right side of the body. On thorough patient interview and examination, a psychiatric disorder was recognized which was identified as post stroke depression with somatic symptoms. From the Ayurveda perspective the disease was considered as vishada due to pakshaghata. The patient was assessed before and after the management with VAS numeric pain distress scale and Hamilton depression rating scale (HAM-D). Selected Ayurveda protocol was found effective along with *satvavajaya chikitsa* or psychotherapy. The case report illustrates the importance of consideration of psychological factors while treating a physical illness especially when the ache seems not responding as expected.

Key Words: Post stroke depression, somatic symptoms, pakshaghata, vishada, HAM-D

INTRODUCTION

Stroke is a frequent ailment reported in the neurology clinic, which causes significant disability and distress to the affected. Worldwide, an estimated 50 million patients who have survived a stroke currently subsist with physical, cognitive, or emotional deficits, and 25% to 74% of these survivors entail a quantity of assistance or are fully dependent on caregivers for activities of daily living. ^[1] Stroke results in a wide range of mental or emotional

disorders, the commonest among is post-stroke depression (PSD). ^[2]

Diagnosis of PSD: DSM-5 defines post-stroke mood disorders as disorders of mood resulting from stroke with depressive features, major depressive like episode, or mixed-mood features. The only disorder in DSM-5 that is specific for cerebrovascular disease is major or minor vascular neurocognitive disorder. A patient with a diagnosis of mood disorder due to stroke with a major depression-like episode must

have depressed mood or loss of interest or pleasure along with four other symptoms of depression lasting 2 weeks or more. They must have depressed mood or loss of interest or pleasure along with at least two but less than five symptoms of major depression lasting 2 weeks or longer. [3]

Prevalence clearly varies over time with an apparent peak 3-6 months after stroke and subsequent decline and reaches about to 50% of initial rates by 1 year. Robinson and colleagues characterized the natural course of major depression after stroke with spontaneous remission typically 1 to 2 years after stroke. However, it was also noted that in a few cases, depression becomes chronic and may persist more than 3 years subsequent to stroke. On the other hand, minor depression appeared to be more variable, with both short term and long term depression occurring in these patients. Post-stroke depression is highly prevalent among both men and women post-stroke, however, it appears that it is more common in women on comparison of prevalence. [4]

The area of diagnostic and therapeutic concern is the neglected relationship linking pain and depression. Most of the times, pain in a post stroke patient tend to be ignored or managed superficially. However, if diagnosed correctly after a detailed interview and also considering the status of mind and the body, precise treatment can be offered thereby reducing patient distress.

In Ayurveda, adhishtana (seat) of disease can be sareera (body), satwa (mind) or both. [5] Relation between body and mind is such that the ghee being heated and poured in to a pot makes the pot also warm (adharadheya bhava). [6] Acharya Chakrapani has explained very brilliantly, the pattern of aggravation of disease as a result of the mind-body interaction. A somatic disease gets aggravated by psychological factors and vice versa. [7] Decline in satvabala and agitation due to an underlying somatic disease are included among the diverse susceptibility factors for manasika rogas including unmada. [8] Mind

and body together with sense organs have been explained as the seat for vedana (happiness and miseries). [9] A case diagnosed as vishada due to pakshaghata managed with a selected Ayurvedic protocol including initial rukshana, snehana, rasayana and satwavajaya therapy is explained.

PRESENTING CONCERNS AND HISTORY

A 68 year old Indian Muslim male patient hailing from Malappuram, who was unable to walk without support, attended our care almost two months back, with the complaints of pain and burning sensation over left upper back region, shoulder and flanks of 1½ years duration. There was weakness in right side of the body following an episode of stroke occurred almost 5 years back. He had been living a life adjusted with the deformity which was confined to left lower limb, developed as a result of poliomyelitis in his infancy. He had worked in UAE for 20 long years. 1½ years back he developed pain originated from left upper back and shoulder radiating to left upper limb and flanks. Pain was present throughout the day but aggravated at noon, evening, midnight as well as early morning. Even though he got slight relief on application of dry heat, episodic kind of pain persisted for 2-3 hours and he often bursts to tears with this.

On detailed interview, he disclosed about his depressed mood and anhedonia. His daughter stated he has been upset about being completely dependent on others. He was deeply grieved over the demise of his wife nearly 6 months back. Patient was nonsmoker, non-alcoholic and no known allergy to any drug or food item. He has addiction to tea and coffee (5-8 cups/ day). He had been consuming meat, junk foods and soft drinks on a regular basis. He was known hypertensive and was under medication. No family history of psychiatric illness was traced out.

CLINICAL FINDINGS

General physical examination: Patient was obese but observed as unwell.

Pulse: 70 /min, Heart rate: 72 /min, Blood Pressure: 140/90 mm Hg, Respiratory rate: 16/min, Pallor and edema: Absent

Neurologic Examination

Cranial nerve examination: Facial: Grimacing – deviated to right, Vagus: Speech slight slurring, Spinal accessory: Sternocleidomastoid – power reduced - right side, Trapezius - Power reduced - right side, Hypoglossal Tongue movements – Curling not possible

All other cranial nerve functions were found to be intact. Higher mental functions were intact as well.

Motor system examination: Muscle bulk of left lower limb was decreased whereas the tone was rigid in right side with stiff initial movements. All superficial reflexes were intact. Babinski was negative bilaterally. Finger nose test, Knee heel test and Romberg's test couldn't be elicited. Power was diminished in left upper and lower limbs (Grade 4) with a higher degree of decline in right upper limb (Grade 3).

Mental Status Examination: On MSE, patient was not maintaining eye contact, sitting with his head down and of decreased psychomotor activity. Rate, quantity and volume of speech were reduced with decreased productivity. He was much preoccupied with the thought of illness.

Ayurveda clinical examination

Prakriti of the patient was of Pitta kaphaja that of sareera and and rajasa- tamasa type of that of manas. The dosha was identified as Vata with Pitta anubandha, dooshya was traced as shiras, sira and snayu. The disease was of madhyama rogamarga and kala was jeerna (kshanadi), agni was of madhyama, samhanana and sara was also madhyama. The patient was possessing avara satva,

katu-amla-ruksha satmya, with aharasakti as well as jaranasakti of madhyama in nature. Srotas involved was Majja vahasrotas and also the manovahasrotas.

INVESTIGATIONS

The routine blood test results were non remarkable. Random blood sugar was 210mg/dl. MRI brain pointed out to an old infarct in the left temporal lobe.

Present medications He has been taking aspirin, angiotensin 2 receptor antagonist and calcium channel blockers regularly for the past 6 years.

DIAGNOSTIC FOCUS AND ASSESSMENT

Somatoform disorders do not have any adequate physical basis and are not explained by the presence of other psychiatric disorder. ^[10] In this case, a diagnosis of somatoform disorder is unlikely as there exist physical (hemiplegia) as well as psychiatric (depression) disorders. Diabetic neuropathy can be ruled out as the pain presented is not consistent with the features of neuropathic pain.

ICD-10 diagnostic criteria of moderate depressive disorder ^[11] is fulfilled and the Ham D score 16 also is suggestive of moderate depression. The patient had hemiplegia which is consistent with the MRI findings. The lesions are potentially explainable by the presence of hypertension, vasculopathy etc. Since the somatic symptoms are unexplainable by the physical illness it can be associated with depression. ^[12] So the final diagnosis can be confirmed as post stroke depression with somatic symptoms. This is being approached as vishada due to pakshaghata (with association of Vata and Pitta) as there is decrease in function due to apprehension of failure. Dosha predominance of pakshaghata is made out based on the aggravation of symptoms as well as upasaya.

THERAPEUTIC FOCUS AND ASSESSMENT

TABLE 1: MANAGEMENT WITH RATIONALE

Procedure	No of days	Medicine	Rationale	Remarks
Sarvangadhara	2	Dasamola kashaya	Rookshana	Slight relief for pain but burning sensation increased
Sirodhara	3	Dasamoolasidha ksheera	Vatapitta samana, soolahara, manaprasada	Comfortable
Matravasti	3	Madhuyashtyadi taila [13]	Snehana, Vatasamana	Slight relief for pain
Marsa nasya	7	Baladhatryadi taila	Pittasamana, action in oordwa jatrugata roga	Frequency of pain episodes reduced
Sirodhara	7	Kalyanaka ksheera kwatha	Specific action on manovaha srotas, Vata Pittasamana	Pain duration reduced, burning sensation reduced, mood improved
Abhyanga	7	Pindataila [14]	Snehana, brimhana	Pain reduced with occasional exacerbation
Rasayana	12	Sweta sankhapushpi choorna From 3g up to max dose of 20g	Rasayana, Doshahara Action on mood	Depressive mood improved, pain decreased in frequency and duration

Psychotherapy Structured ayurvedic satwavajaya module [15] was adopted for uplifting the mental status of the patient.

Table 2: SELECTED SATVĀVAJAYA MODULE

Jñāna (Self Awareness Programme)	Vijñāna (Condition Awareness Programme)	Dairyam (Mental Resilience Programme)
Method - Direct counseling	Method - Direct teaching	1 .Mano nigraha (Self-control programme) 2.Āśvāsanādi cikitsa (Reassurance)
Contents ➤ What are the strengths of the patient? ➤ What are the weaknesses of the patient? ➤ What are the threats of the patient? ➤ What are the opportunities of the patient? ➤ About his position in the family and his responsibilities towards society and family,	➤ Theoretical knowledge. ➤ Disease specific knowledge. ➤ Treatment specific knowledge. ➤ Dos and don'ts and follow up medication. ➤ Psychological stress specific information and general information's regarding sadvṛtta or behavioural corrections	1.Mano nigraha (Self-control programme) Method - Cognitive Behavioral Therapy Exercises • Writing down / recording emotions • Counting up to 100 • Spiritual advices • Deep breathing exercises 2.Āśvāsanādi cikitsa (Reassurance)
Smṛti (Experience Sharing Programme)		Samādhi (Relaxation Programme)
1. Recollecting past experiences through face to face interview 2. Group therapy 3. Video clippings/motivational talk of successful survivors 4. Memory improving exercises • Simple mathematical calculations • Sequential word exercises • Memory sketching exercises 5. Provide general information about memory enhancers		1. Savāsana 2. Joint exercises 3. Tādāsana, Śītalitādāsana, Dandāsana, Śīthiladandasana 4. Prāṇāyāma – Nadiśodhana / Bramari/ Candranulomana 5. Chanting - A-kāra / U-kāra / MA-kāra

Table 3 : ASSESSMENT

Scale	BT Score	AT Score
VAS numeric pain distress scale [16]	10	3
Hamilton Depression Rating Scale [17]	16	8

DISCUSSION

Subjects affected with pakshaghata turns out to be akarmanya (physical dysfunction) and vicetana (decreased mental strength) resulting from the derangement in the functioning of Vatha. [18] Prana, vyana

as well as udana Vata dysfunction is outstanding which leads to further psychological dysfunction or even disorders. [19] Vishada is one among the nanatmaja diseases of Vatha explained. [20] Acharya Susruta had included it beneath the manasika vikaras. It is the inability to function properly resulting from the apprehension of failure. [21] Here avasada

may occur in the case of speech, mind or even body. [22]

Here the physical ailment pakshaghata leads to the condition, vishada which is a vyadhi, affecting mainly the manas. This in due course may lead to the emergence or exaggeration of physical symptoms such as pain, burning sensation and weakness. Vishada is mentioned as the best factor responsible for the aggravation of any disease by the Ayurvedic scholars. [23] Other factors including avarasatwa, tamasa prakriti, virudha ahara etc may definitely contribute for the manifestation of a psychological disease.

Initial approach was aimed at rookshana and agnideepana. Panchatiktaka kwatha [24] which is tikta in rasa and having pachana, pitta samana, and vedanasthapana properties. Kalyanaka ghrita [25] in samana dosage was administered which is having multiple system of action with proven psychological benefits. [26] After performing dhara with Kalyanaka ksheera kwatha, the mood was remarkably improved. When burning sensation was completely relieved by internal medicines and ksheera dhara, medicines with much more vatha hara nature such as Maharasnadi kwatha [27] was given. Ghrita was altered to Mahapaisachika ghrita aiming the action so as to improve sleep. [28] Sankhapushpi choorna was given as rasayana in vardhamana krama starting from a dose of 3g and increasing up to a max of 20g. Studies have concluded with antidepressant, antidiabetic, cardiovascular, anxiolytic, antioxidant, neuroprotective activity for Sankhapushpi. Satwavajaya chikitsa by incorporating the Ayurvedic concepts were administered at regular intervals in addition to the medicines.

After 30 days of treatment VAS pain score reduced from 10 to 3 and HAM-D score from 16 to 8. Quality of life as well as the activity of daily living seems remarkably improved.

CONCLUSION

PSD is constantly overlooked and undiagnosed complication of stroke. It

cannot be categorized as neither purely physical or psychological. So it is imperative to consider psychological factors while managing such patients, even though the presentation is with physical symptoms and vice versa. Ayurveda have its fundamentals regarding mind body interaction in pathology of disease which implies its application in treatment also, in an inseparable manner. Pathology of pakshaghata has a potential to end in psychological conditions such as vishada which leads to enhancement of physical symptoms. A treatment protocol combining mind body interventions was reported to be effective. When assessed with VAS numeric pain distress scale and Hamilton depression rating scale (HAM-D), found improved as well. Further research in exploring new dimensions in the management of such conditions is too crucial in this regard.

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