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EFFECTIVENESS OF KUKKUTANDA SWEDA AND ALLIED AYURVEDIC INTERVENTIONS IN BELL'S PALSY: A CLINICAL CASE REPORT

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ABSTRACT

Background: Facial expressions are the universal medium of emotion and communication. In Ardita these features are impaired due to Vāta vitiation, leading to facial distortion and paralysis. It closely correlates with Bell's palsy, an acute lower motor neuron type of facial nerve paralysis. **Aim & Objective:** To evaluate the efficacy of Kukkutanda Sweda and allied Ayurvedic modalities in the management of Ardita (Bell's palsy). **Methods**: A mid-aged female patient without comorbidities presented with left-sided facial deviation, dribbling of liquids, loss of taste, inability to close the left eye, and slurred speech for six days. Assessment was done using the House–Brackmann Facial Nerve Grading System. The treatment protocol included Abhyanga with Mahanarayan Taila, Nadi Sweda with Daśamoola Yavakuta, Pratimarsha Nasya with Ksheerabala 101 Taila (2 drops per nostril), and Kukkutanda Sweda prepared by frying egg yolk and white in Ksheerabala Taila with Saindhava Lavana and Jambira Nimbu. Internal medicines included Ekangaveera Rasa, Maharasanadi Kwatha, and Cap. Ksheerabala 101 Taila. **Results:** Significant improvement was observed in facial symmetry, eye closure, speech, and taste sensation. **Conclusion:** Ardita (Bell's palsy) can be effectively managed through integrated Ayurvedic modalities combining Kukkutanda Sweda, Nasya, and internal medication. This protocol alleviates Vāta doṣa, strengthens facial nerves, and restores motor and sensory functions, offering a promising, non-invasive management approach.

KEYWORDS: *Ardita, Bell's palsy, Kukkutanda Sweda, Ksheerabala Taila, Vatavyadhi, Nasya, Vata-samana.*

INTRODUCTION

Facial expressions serve as a universal medium of emotion and communication; however, these functions are markedly impaired in Ardita. In Bṛhattrayī, Ardita is described as a Vātavyādhi. Ācārya Caraka has classified Ardita under Nanātmaja Vātavyādhi involving Śarīrārdha.[1], whereas Ācārya Suśruta has described it as Mukha-ardha vyādhi, indicating predominant involvement of one half of the face.[2] Ācārya Aruṇadatta explains that Ardita is a disorder caused by excessive aggravation of Vāta doṣa, predominantly affecting one half of the face and resulting in facial distortion.[3] Some later Ayurvedic scholars, such as Śoḍhala, have classified Ardita based on the involvement of Kapha and Pitta doṣa, apart from Vāta. Etiological factors described in the classics include excessive loud speaking, prolonged mastication of hard substances, suppression of natural urges such as sneezing and lacrimation, trauma to marma points, and continuous exposure to cold, all of which lead to Vāta prakopa.[3]

The aggravated Vāta localizes in the nerves, vessels, and muscles of the facial region, resulting in clinical features such as deviation and paralysis of one half of the face, loss of tactile sensation, impaired motor function, slurred or difficult speech, and involuntary movements of the head. Based on these clinical manifestations, Ardita can be correlated with Bell's palsy, an acute lower motor neuron facial nerve paralysis.[4]

Facial nerve paralysis is classified into central and peripheral types. In central facial palsy, the upper facial muscles are spared due to bilateral cortical innervation, whereas peripheral facial palsy results in complete ipsilateral facial paralysis due to lower motor neuron involvement. Bell's palsy, a term coined by Sir Charles Bell in 1821, defined as an acute, idiopathic unilateral

lower motor neuron facial nerve paralysis characterized by rapid onset facial muscle weakness progressing over hours to days involving both upper and lower face. Its exact etiology is unknown, however strongly associated with reactivation of Herpes simplex virus type -1 in geniculate ganglion and inflammatory involvement of the facial nerve within the facial canal proximal to the stylomastoid foramen. It affects men and women equally and most prevalent at 15-45 age group (US Department of Health and Human Services 2023). Clinically patients present with inability to close the eye, raise eyebrows, or smile on the affected side along with flattening of the nasolabial fold, postauricular pain, altered taste sensation over 2/3rd of tongue and impaired lacrimation. Diagnosis is primarily clinical, with neuroimaging reserved for atypical or non-resolving cases and Facial nerve function assessment using House-Brackmann grading system, ranging from Grade 1 to Grade VI, providing a standardized measure of severity and prognosis.[5]

Kukutanda Sweda is a specialized form of Snigdha Pinda Sweda, a type of Shankara Sweda, a compound therapy that integrates heat (Sweda), nourishment (Brimhana), and mild oleation (Snigdha) effects to pacify aggravated Vāta and Kapha Doṣas.[6] It is classically indicated in conditions where muscle stiffness, heaviness, and loss of movement predominate, which are cardinal features in Vāta Vyadhi such as Ardita (Bell's palsy), Janusandhigata Vata (osteoarthritis), Avabahuka, and similar neuromuscular or joint disorders.[7] In this case study, Kukutanda Sweda has been successfully incorporated as part of Sthānika Abhyanga and Swedana in Ardita cases, showing reduction in stiffness, improvement in facial muscle mobility, and symptomatic relief when combined with other therapies.

MATERIAL AND METHODOLOGY

I. STUDY DESIGN

a] Type of study- Single case study
b] Study setting –OPD of Kayachikitsa
c] Study duration – 30 days

II. CASE STUDY

S.N	Chief Complaint	Duration
1	Reduced movement and sensation of left side of face	6 days
2	Deviation of angle of mouth towards right side	
3	Dribbling of water while drinking from left side	
4	Unable to chew & accumulate food between the gums & left cheek	
5	Hampered taste sensation	
6	Inability to close left eye completely	
	Associated Complaint	
1	Irregular Bowel	2-3 months
2	Disturbed Sleep	2yr
3	Anxiety	2yr (after her husbands death)

History of Present Illness

A female patient aged 30 year working as Airport ground staff was apparently fine but,11 days ago she developed cold and fever and got recovered from it and 6 days ago when she woke up, she noticed slight deviation of mouth towards right side and was unable to smile properly. On the same day at lunch time while drinking she experienced dribbling of water and difficulty in chewing & accumulation of food between the gums & cheeks and taste sensation was also hampered. On next day she suffered from loss of sensation, reduced movement of left sided eyebrow and inability to close left eye completely. She was suffering from Calcific band Keratopathy in her right eye since childhood.

Past Medical History: K/c/o Calcific band Keratopathy in right eye since childhood & Anxiety since 2yr No H/o HTN, T2DM, fall or trauma.

Personal History: Diet- Mixed, Sleep- Irregular and disturbed, Bowel- irregular, Bladder- Normal Addiction- none.

Family History: Not significant.

Examination

1. General Examination

General condition- fair, Built-moderately, Nourishment-moderately nourished, Pulse- 84b/min, BP- 110/80 mmhg, Temp- Afebrile(98F), Pallor-absent, Icterus-absent, Cyanosis-absent.

2. No significant abnormalities were observed in Systemic Examination.

3. Central Nervous System Examination

- Higher Motor Examination: Intact Consciousness, Well Oriented to time, place & person and Intact memory (recent & remote)
- Cranial Nerve Examination
  Neurological examination of all Cranial nerves were performed and found intact except facial nerve.
  Cerebellar examinations were also within normal limits.

7th Cranial Nerve Examination

a) Motor Function

Examination	Observation
Forehead frowning	Not possible on left side
Eyebrow raising	Not possible on left side
Eye closure	Bells phenomenon (left eyeball moves upward and inwards when the patient attempts to close it along with incomplete closure of eyelid)
Clenching of teeth	Not possible on left side
Blowing of Cheek	Not possible on left side
Nasolabial fold	Loss of nasolabial fold at left side
Hyperacusis (decreased tolerance to loud sound)	Absent
Smile	Deviated towards right side
Bell's phenomenon	Present on left side
Drooping of Angle of Mouth	Towards right side

b) Sensory Function: Anterior 2/3rd of tongue was hampered

- Deep Reflex such as Biceps, Triceps, Supinator, Knee jerk, Ankle jerk and Plantar reflex were normal
- Muscle Power and Tone of all the 4 limbs were normal.

Investigation: RBS – 108mg/dl, Hb%- 9%, TSH- 2.9 ml/UL

CT Brain- It was advised to be taken for excluding other possible causes of Bell's Palsy. The report showed no significant abnormalities.

III. ASSESSMENT CRITERIA

A. House Brackmann Grading of Facial nerve function score was used for Grading Bell's Palsy.[8,9]

Degree of Injury	Grade	Gross	Motion
Normal	I.	Normal symmetrical function in all areas.	
Mild dysfunction (barely noticeable)		*Slight weakness noticeable only on close inspection *Synkinesis barely noticeable, contracture or spasm absent. *Normal symmetry and tone at rest.	*Forehead- Moderate to good function *Eye- Complete closure with minimal effort *Mouth- Slight asymmetry with maximal effort.
Moderate dysfunction (obvious difference)	II.	*Obvious weakness, but not disfiguring *Obvious, but not disfiguring synkinesis, mass movement or spasm. *Normal symmetry and tone at rest.	*Forehead- Slight to moderate movement. *Eye- Complete closure with effort; May not be able to lift eyebrow. *Mouth-Slightly asymmetric mouth movement with maximum effort.
Moderately sever dysfunction	III.	*Obvious disfiguring weakness *Sever synkinesis, mass movement, spasm *Normal symmetry and tone at rest.	*Forehead-None *Eye-Incomplete closure *Mouth-Asymmetric with maximum effort
Sever dysfunction	IV.	*Motion barely perceptible *Asymmetry at rest *Synkinesis, contracture and spasm usually absent.	*Forehead-None *Eye-Incomplete closure *Mouth-Slight movement at corners of mouth.
Total Paralysis	V.	No Movement. loss of tone, No Synkinesis, Contracture or Spasm	

B. Assessment was done on the basis of scoring of cardinal signs, associated symptoms and Dosh -anubandhita Lakshanaas.[10]

Lakshanaas	Scoring
1. Mukhavakrata	
Complete Mukhavakrata	3
Half Mukhavakrata	2
Mild Mukhavakrata	1
Normal	0
2. Vaksanga	
Complete Vaksanga	3
Pronouncing with great efforts	2

Pronouncing with less efforts Normal speech(whistling)	1 0
3. Netravikriti Complete upwards rolling of eye Half rolling of the eye Partial upwards rolling of the eye Normal	 3 2 1 0
4. Lalasrava Constant (Profuse) Lalasrava Intermittent (moderate) Lalasrava Partial (mild) Lalasrava No Lalasrava	 3 2 1 0

IV. THERAPEUTIC INTERVENTION

1. Internal Medicine for 30 days

S.No	Medicine Name	Dosage	Mode of Action	Reference
1.	Ekangaveer Rasa	1 pill twice daily after meal	It is herbo-mineral compound comprising atiyanta tikshana drugs which has Vata-kaphahara, balaya, rasayana, srotoshodhana & Akshepahara guna. It contains Naga & Vanga bhasma which are snayu shakti vruddikara, Rasasindoor which strengthens the function of motor function and Abhraka which is dhatuposhak.	Brihat Rasaraja Sundara(AFI), Brihat Nighantu Ratnakara Vatavyadhi Chikitsa.
2.	Maharasanadi Kwatha	20ml twice daily after meal	It is a combination of 26 herbal drugs having Vata-kapahashamak guna and maily indicated for vatavyadhi like Pakshaghat, Sarvangakampa, Gridhrasi etc.	Sharangdhar Samhita Madhyamakhanda 2/89-95 & Sahasrayogam
3.	Cap Ksheerabala 101	1 cap twice daily after meal	It is considered as rasayanam which provides strength to the sense organs (indriyanam prasadanam), cures all vata vyadhi and vataasrik roga.	Ashtang Hridaya Chikitsa stana 22/45-46& Sahasrayogam, taila prakarana
4	Tab Zzowin Nutra	1 tab at bed time	It primarily composed of Melatonin a natural sleep promoting hormone and Tagar which relaxes the central nervous system by its anxiolytic and sediative property.	Vedistry Private Limited

2. **Kukkutandaka Sweda for 15 days.**[11,12]

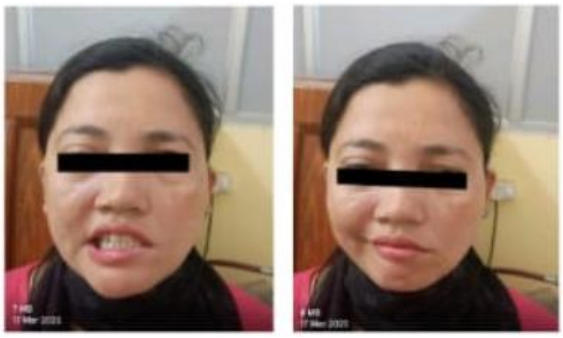
Ingredients Required	Procedure	Remark
Purvakarma: 1. Mahanaryana Taila	Purva Karma: 1.Mukha Abhyanga with Mahanaryana Taila	*The Abhyanga performed before swedan creates, the pressure gradient necessary for the absorption of the sneha amsha and stimulates the sensory nerve endings. It also relaxes the muscles and it's related structures. *Mahanaryana Taila having Vatavyadhi rogaadhikar, has been indicated in lock jaw, shakaashrita-koshtagata vata, ardita, etc.
2.Dashamoola Yavakuta 3. Wet Cotton gauze	2. Nadi swedan with Dashamoola Yavakuta to be given by covering the eyes of the patient with wet cotton gauze.	Nadi swedan is a sagni ekanga sweda, in which induces perspiration by directing Dashamoola steam. This localized application of heat promotes vaso-dilatation increasing blood circulation and promoting the flow of blood & oxygen to tissues and helps in reducing stiffness & inflammation.
Pradhan Karma: 1.Ksheerabal 101 tail	1. Pratimarsha Nasaya : 2-2 drops in each nostril	There is a direct anatomical pathway between the Nasal cavity & Brain. Low-molecular weight lipophillic drug like Ksheerabala 101 taila enter the brain following absorption into the general circulation through the rich capillary network in the Lamina Propria of the respiratory region of Nasal cavity.
1. One egg 2.One Jambhira nimbu 3.Saindhav lavana 5gm 4. Ksheerabala 101 tail	2. Kukkutandak Sweda	Kukkutandaka sweda is a combination of snehana ans swedana. It has brimhana, snigdha quality which help to pacify aggrevated vata dosha. This procedure involves applying egg yolk and egg white fried along with Ksheerabala

5. Musklin cloth 6. Frying pan		101 taila, Saindhava lavana and Jambhira nimbu then made into pottali i.e boluses. Abhyanga i.e massage is done by the warm boluse, which further enchances the circulation and subside pain via Gate –control theory.
Paschat Karma: Towel soaked in warm water	Face is cleaned by Towel soaked in warm water	Avoid cold water as after Kukkutandak sweda sticky substance is left over the face, moreover cold water can more aggravate the vata dosha.

RESULT

By applying the Ayurvedic Chikitsa Sidhant marvelous result were shown within 30 days. Assesment was done on the basis of House Brackmann Grading of Facial nerve function score and cardinal signs, associated symptoms and Doshanubandhita Lakshanaas.

Assesment Criteria	Parameters	Before Treatment	After Treatment
1.House Brackmann Grading of Facial nerve function		5	1
2. Lakshanaas	1.Mukhavakrata (Deviation of Mouth towards Left)	2	0
	2. Vaksanga (Difficulty in speech)	2	0
	3. Netravikriti (uprolling of the eye)	1	0
	4.Lalasrava (Dribbling of water while drinking and salivation)	2	0



Before Treatment

After treatment

DISCUSSION

Ardita is predominantly a Vāta-pradhāna vyādhi associated with Dhātu-kṣaya, wherein impairment of neuromuscular function of the facial region is evident. Classical Ayurvedic texts emphasize Snehana and Swedana as the primary therapeutic measures in such conditions to pacify aggravated Vāta and restore normal function of nerves and muscles. Among various Swedana procedures, Kukkutanda Sweda, described in Bhāvaprakāśa under Vatavyādhi Chikitsā, is considered a Snigdha–Bṛṁhaṇa Swedana, especially indicated in Vāta disorders associated with tissue depletion.[13,14]

Kukkutanda Sweda utilizes egg yolk and egg white processed with Kṣīrabala Taila, Saindhava Lavaṇa and Jāmbīra Nimbū, making it a lipid-rich, nourishing fomentation. The therapy possesses Madhura rasa, Uṣṇa vīrya, Madhura vipāka and Snigdha guṇa, along with Bṛṁhaṇa, Balya, Sadyo-balakārī and Vātahara properties, which are antagonistic to the Rūkṣa, Śīta and Khara qualities of aggravated Vāta.[15] These properties help counteract neuromuscular weakness, stiffness and pain commonly observed in Bell's palsy.

From an Ayurvedic perspective, the Uṣṇa and Tīkṣṇa guṇa of Kukkutanda Sweda facilitate Srotomukha viśodhana, enhance local circulation and stimulate Bhrajaka Pitta, thereby improving the absorption of nutrients through the skin. The Snigdha nature of the therapy prevents further Dhātu-kṣaya and promotes Dhātu-puṣṭi, particularly of Māṁsa and Majjā Dhātu, which are crucial for nerve and muscle integrity.

From a modern physiological viewpoint, Swedana therapy leads to a localized increase in skin and subcutaneous temperature by approximately 2–3°C, resulting in vasodilatation, increased blood flow and enhanced lymphatic drainage. This helps reduce edema and inflammation around the facial nerve within the facial canal, a known pathological mechanism in Bell's palsy. Improved circulation enhances oxygen and nutrient delivery to ischemic nerve tissues, facilitating nerve regeneration and functional recovery. Egg yolk and egg white used in Kukkutanda Sweda are rich sources of high-quality proteins, essential amino acids, phospholipids, ovotransferrin, chondroitin sulphate, glucosamine and hyaluronic acid, all of which play a supportive role in myelin repair, neuromuscular

transmission and connective tissue nourishment The lipid medium of Kṣīrabala Taila acts as an effective transdermal carrier, enhancing penetration of bioactive molecules into deeper tissues.[16]

Additionally, Saindhava Lavaṇa, known for its Sūkṣma, Snigdha and Tridoṣaghna properties, facilitates deeper tissue penetration and reduces stiffness without causing irritation.[17] Jāmbīra Nimbū, possessing Kapha-Vātahara and Uṣṇa properties, aids in relieving muscle spasm and enhances local metabolic activity. The combined formulation thus provides analgesic, anti-inflammatory, neuroprotective and Bṛṁhaṇa effects, which are essential in the management of Bell's palsy. When administered following Abhyanga and Nāḍi Swedana, Kukkutanda Sweda acts more effectively due to prior softening of tissues and opening of microchannels (Srotas), allowing optimal drug absorption.[18] The observed clinical improvement in facial muscle strength, reduction in deviation, and restoration of motor function in this case can be attributed to the synergistic effect of Kukkutanda Sweda with Nasya and internal medications, addressing both local pathology and systemic Vāta imbalance.

Thus, In the present case Kukkutanda Sweda emerges as a safe, economical and effective Bṛṁhaṇa Swedana therapy in the management of Ardita (Bell's palsy), offering a holistic approach by integrating classical Ayurvedic principles with plausible modern physiological mechanisms.

CONCLUSION

The present case study demonstrates that Ardita (Bell's palsy), a distressing Vātavyādhi affecting facial symmetry and expressions, can be effectively managed through a holistic Ayurvedic approach. The combined therapy of Kukkutanda Sweda, Pratimarsha Nasya with Ksheerabala 101 Taila, Abhyanga with Mahanarayan Taila, Nadi Sweda with Dashamoola Yavakuta, and internal administration of Ekangaveera Rasa, Maharasanadi Kwatha, and Cap. Ksheerabala 101 Taila produced significant clinical improvement. After the complete course of treatment, the patient showed marked recovery — restoration of facial movements, reduction in deviation of mouth angle, improved eye closure, normalized taste sensation, and better articulation. The House–Brackmann grading improved from Grade V to Grade I, indicating near-complete functional recovery.

The Uṣṇa, Snigdha, and Bṛṁhaṇīya properties of the selected drugs helped pacify Vāta doṣa, enhanced local circulation, reduced stiffness, and strengthened the neuromuscular components through transdermal and systemic action. Thus, the combination of internal medication, Nasya, and Kukkutanda Sweda was found highly effective in restoring facial nerve function and improving the patient's quality of life, establishing Ayurveda as a potent therapeutic approach in managing Ardita (Bell's palsy).

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