ISSN: 2322 - 0902 (P)
ISSN: 2322 - 0910 (O)

International Journal of Ayurveda and Pharma Research

Case Study

EXPLORATION OF AYURVEDA IN THE MANAGEMENT OF BILATERAL FACIAL PALSY

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Article info

Article History:
Received: 21-12-2024
Accepted: 12-01-2025
Published: 07-02-2025

KEYWORDS:
Bilateral Facial Nerve Palsy, *Ardita*, *Navana, Vatavyadhi* Treatment, House and Breckmann Assessment Scale.

ABSTRACT

Facial nerve palsy is the weakness of the facial muscles resulting from damage to the cranial nerve VII (Facial nerve). Unilateral facial palsy is the most common form. Bilateral facial nerve palsy is exceedingly rare and represents 0.3-2% of all facial palsies. A similar description of the weakness of the face is mentioned in Ayurveda as "*Ardita"*, a *Vata vyadhi*. Acharyas included *Ardita* under 80 *Nanatmaja vyadhi* of *Vata*. *Ardita* management include *Navana* (nasal administration), *Murdhni taila* (application of oil on head), *Tarpana* (nourishing therapy), *Nadi sweda, Anupa pisita upanaha* (poultice prepared with meat of aquatic animals) and general *Vatavyadhi* treatments. This report is on a case study of a 36-year-old female patient with bilateral facial nerve palsy for 17 days presented with difficulty in opening mouth, pain behind both ears, difficulty in closure of bilateral eyelids, difficulty in speech for 17 days in the outpatient department of Kayachikitsa, Govt. Ayurveda College, Thiruvananthapuram, Kerala, India. Additionally, she reported pain over both sides of the neck for 14 days. Initial management was done at a hospital near patient's home, but no significant improvement was noted. She was admitted in our hospital and treated with *Ardita* line of management initially, gradually attained the recovery from facial palsy in 3 weeks but the neck pain persisted. Then the general line of treatment of *Vata vyadhi* i.e., *Sneha* (oleation) *Swedas* (sudation) were given and got complete recovery from the pain and facial weakness. Assessment was done with 'House and Breckmann' assessment scale before and after the treatments. The result showed improvement from grade V to grade I. This case report shows classical *Ardita* treatment and general *Vata vyadhi* treatment can be considered in bilateral facial palsy where no serious underlying causes are present.

INTRODUCTION

"The face is the mirror of mind and eyes without speaking confess the secrets of the heart" St. Jerome.

There are 20 main facial muscles essential for chewing and making facial expressions. The Facial nerve, the 7th cranial nerve, controls these. The Facial nerve is a mixed nerve having a motor and a sensory part, the motor nucleus is situated in the pons. "The course of the Facial nerve is such that once exiting from the pons it enters the internal auditory meatus with acoustic nerve. Then continues the course in the facial canal and exits from the skull via the stylomastoid foramen. Then it passes through the parotid gland and subdivides to supply the facial muscles."[1] An interruption of the facial nerve in its course results in facial muscle weakness or facial palsy (FP). Facial palsy may be unilateral or bilateral, UMN type or LMN type, the most common type is the unilateral LMN type, which is known as Bell's palsy. The incidence is 11.5 – 53.3/ 100,000 persons per year and 6.1 / 100,000 children between 1 and 16 years.[2] 70 % of unilateral facial palsies do not have an underlying etiology. It has a self-limited course and 70 % recover at 6 months without any treatment.[3] Bilateral facial palsy is an uncommon form of FP. It represents 0.3 to 2% of all the FPs.[4] Unlike unilateral FP, bilateral FP has some identifiable etiology. Bilateral facial palsy is commonly seen in Guillain-Barre syndrome, sarcoidosis, Hansen's disease, tick bite, poliomyelitis, vasculitis, infections such as borreliosis, etc.[5]

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Quick Response Code

https://doi.org/10.47070/ijapr.v13i1.3553

"Ardita" described in Ayurveda; the traditional Indian system of medicine has similar features to Facial palsy. It is considered as a *Vatavyadhi.* Some of the important clinical features mentioned for *Ardita* by Acharya Susruta are: "*Vakreebhavati vaktrardham*" (deviation of half of the face), "*Vaksanga*" (difficulty in speech), *Netradeenam vaikrtam* (abnormal appearance of eyes), *Manya hanugraha* (catching pain and stiffness in side of neck and lower jaw)[6]. There are no classification for *Ardita* mentioned in classical Ayurveda texts, but in Bhava prakasha three types based on *Dosha* predominance is mentioned: *Vata* predominant, *Pitta* predominant and *Kapha* predominant. Features are as follows:

1. *Vata* predominant: this type is accompanied with excessive salivation, swelling, tremors and pain in lips and limbs.
2. *Pitta* predominant: fever, fainting and excessive thirst is accompanied in this type.
3. *Kapha* predominant: edema, stiffness of cheeks, neck and head is present in this type.[7]

The management of Ardita in Ayurveda includes *Navanam, Murdhni talam, Tarpanam, Nadisweda, Upanaha* with *Anupa mamsa*.[8] Acharya Susruta has mentioned *Sirovasthi* for its management and advised to follow the general principles of management of *Vatavyadhi*.[9]

AIMS AND OBJECTIVES

To assess the role of a selected treatment protocol in the management of bilateral facial palsy.

Study setting

Department of Kayachikitsa, Govt. Ayurveda College, Thiruvananthapuram.

Case Report

Basic information of the patient

Age: 36, Sex: Female, Religion: Hindu, marital status: Married, Socio-economic status: lower middle-class family, Occupation: Homemaker.

Presenting complaints

Difficulty in opening mouth, pain behind both ears, difficulty in closure of bilateral eyelids, difficulty in speech for 17 days.

Pain over both sides of the neck for 14 days.

H/o presenting complaints

36 year old female patient without any comorbidities approached Kayachikitsa outpatient department of Govt. Ayurveda College Hospital, Thiruvananthapuram, with complaints of bilateral facial weakness persists for the past 17 days. The symptoms included the inability to close both eyes, and mouth completely, inability to smile or chew, difficulty in speech, and dryness in the eyes. There was severe pain on both sides of neck and cheek, due to which she couldn't move neck properly.

Patient reported being in her usual state of health until she was exposed to a heavy rain 17 days before. The following day she felt severe pain behind both ears with mild rhinitis. There was no associated fever. A day later she noticed a mild deviation mouth towards left and she approached a nearby hospital. She was admitted there and on the 2nd day of admission, her condition worsened to the inability to complete closure of her left eyelid, slurring of speech, and watering of her eyes. However, there were no changes in taste perception. By the fourth day right side was affected and gradually she couldn't close both her eyes and mouth, lips and eyebrows were not moving, also started pain over both sides of her neck. Doctors advised her MRI screening, hematological investigations, chest x-rays, and other investigations to rule out the causes, but due to financial constraints, the patient didn't complete the investigations. She was prescribed symptomatic treatment and attained mild relief from pain only. Up on further questions, she denied any history of fever, trauma, or previous history of neurological conditions. She stated there were no limb weakness or sensory disturbances. As the pain got severe she stopped all medicines and approached Govt Ayurveda College Hospital, Thiruvananthapuram, Kayachiktsa OP, and was admitted for further Ayurveda management.

H/o past illness

- No known H/o systemic hypertension, Diabetes mellitus or thyroid dysfunction
- H/o: left ovarian hemorrhagic cyst 2yrs before
- H/o: Adenomyosis 1 year before
- H/o: recurrent headaches, UTI.

Surgical history

- Excision of left ovary hemorrhagic cyst (2021)
- Surgery done for adenomyosis (2022)

Drug history

No history of medications prior to the disease condition. Took the following medicines for the present symptoms for 1 week and stopped the medicines

1. T. Acyclovir 400 mg 1-1-1-1
2. T. Prednisolone 20 mg 1-0-1
3. T. Ugpan 40 mg 1-0-1
4. T. Benfonext 1-0-0
5. T. Paracetamol 1 mg 1-0-1
6. Refresh eye drops

Menstrual and obstetric history

Menarche 12 years

Regular cycles (30 days interval)

Moderate flow (3-4 days)

G3 P2 A1 L2 (2x FTNVD)

Family history

No history of neurological diseases in the family

Occupational history

Homemaker

Psychosocial history

Lives with family consisting of husband, 2 children, father and mother. Lives in tune with family, friends and relatives. Stressed due to disease.

Socioeconomic history

Lower middle-class family.

Personal history

Bowel: normal, well-formed, 1/day; Appetite: moderate; Bladder: normal; Sleep: sound; Exercise: moderate; Allergy: Not yet detected; Addiction: Nil. Diet: included more spicy, sour, and salty foods. Excessive use of cool carbonated drinks.

On Examination

The general examination was normal. The patient was conscious, alert, oriented, and afebrile. The respiratory, gastrointestinal, cardiovascular, and musculoskeletal systems- pain over neck, no discoloration or swelling seen, tenderness grade 2 over the occipital and mastoid area. ROM painful. BP: 104/74 mm of Hg, HR: 74 bpm, PR: Regular,74 bpm, RR: 18/min.

Central nervous system examination

Higher motor function: intact

Consciousness: Conscious

Orientation: oriented to time, place, person

Memory (recent, remote, immediate): intact

Intelligent: intact

Speech: slow with mumbled words

Cranial nerve examination

Table 1: Facial nerve examination

wrinkling of forehead and eyebrow raising	• not possible bilaterally • not possible bilaterally
closing of eyes and clenching teeth	• not possible bilaterally • not possible bilaterally
blowing of cheek and naso labial fold	• not possible bilaterally • obliterated bilateraly
Taste perception Bells phenomenon	• Not affected • Present both sides

Motor and sensory examinations of all limbs were normal, reflexes were intact, normal plantar reflexes.

Investigations

CBC, **Lipid profile, LFT, RFT, Urine R/E** were within limits.

MRI Brain and whole spine screening

- No focal lesion in the brain parenchyma, no SOL, No evidence of hydrocephalus, or features of cerebral edema.
- No evidence of vascular insult, no abnormal of the meninges, cortical sulci, fissures, cisternal spaces.
- Milnasolabiald spondylosis with no enhancing cord lesion or meningeal enhancement seen I cervical, dorsal and lumbar spine.

Dasavidha pareeksha

Doosyam

Dosham: Vatakapha pradhana

Dhatu: Rasa, Raktha, Mamsa, Medas

Upadhathu: Sira, Snayu

***Desham**: Bhoomi: Sadaranam Deham: Mukha*

Balam

Rogi: Madhyama

Roga: Pravara

Kalam

Kshanadi: Varsham

Vyadhyavastha: Navam

***Analam**: Mandam*

***Prakriti**: Vatakapha*

***Vaya**: Madhyama*

***Sathwa**: Madhyama*

***Satmya**: Sarva rasa satmyam*

Ahara

Jarana Shakthi- Madhyamam

Abhyavaharana shakthi- Madhyama

Diagnosis

Clinical diagnosis of bilateral LMN facial palsy had been made after history taking and examinations. In *Ayurveda Vama evam Dakshina Ardita* was diagnosed.

Table 2: Treatment protocol

Internal medicine	Procedure	Remarks
Gandhrva hasthadi kashayam 90ml bd bf 6 am, 6 pm Pathyashadangam kashayam 90ml bd bf 11 am, 3 pm Dasamoolarishtam 25 ml bd A/f T. Kaisora guggulu 1-0-1 I tone eye drops	Nasyam with Anutailam 2.5 ml each nostrils. 7 days Mukhabhyanga with bala taila Thalam : Rasnadi churna+ Ksheerabala 21 A Ksheeradhuma Mukhalepa with Rasna jambeera	Mild improvement in pain over mastoid area. Improvement in left side weakness
Danadanayanadi kashayam Dasamoolakadutrayam kashayam Dasamoolarshtam T. Suvarna mukthadi T. Kaisora guggulu	Sankara swedam with Kolakulathadi churna and Dhanyamla Lepanam with Nagaradi lepa churna over mastoid area, neck and cheeks 7 days. Gandusha with Thriphala kashayam. 7 days	Left side neck pain and mastoid pain reduced. Can close left eye, left side of mouth.
Same medicines	Abhyanga and Ushma sweda with shatahvadi tailam Nagaradi lepa continued	Neck pain considerable relief. Improvement in right sided weakness
	Churna pinda sweda Thaila: Karpasasthyadi tailam Thalam: Rasnadi churna + Dhanvantaram 7 A	
	Virechanam with *Nimbamrutha erandam* 30 ml in luke warm water	Weakness almost resolved. Neck pain reduced to a great extend.
Maharasnadi kashayam Dasamoola kadutrayam kashayam T. Suvarna mukthadi T. Kaisora guggulu	*Shirodhara* with *Dhanvantara thailam*	
	Nasyam with *Anutailam* for 3 days	Neck pain and facial weakness on both sides relieved.

Table 3: Assessment done according to House and Breckmann

Grade	Clinical features	Before treatment	After treatment	After follow-up
Grade I	Normal symmetrical function		✓	✓
Grade II	a) Gross: slight weakness noticeable on close inspection; may have very slight synkinesis b) At rest: normal symmetry and tone c) Motion: forehead - moderate to good function; eye complete closure with minimum effort; mouth- slight asymmetry			
Grade III	a) Gross: obvious but not disfiguring difference between two sides; noticeable but not severe synkinesis, contracture, and/or hemifacial spasm. b) At rest: normal symmetry and tone c) Motion: forehead - slight to moderate movement; eye - complete closure with effort; mouth - slightly weak with maximum effort			
Grade IV	a) Gross: obvious weakness and/or disfiguring asymmetry			

	b) At rest: normal symmetry and tone c) Motion: forehead - none; eye - incomplete closure; mouth - asymmetric with maximum effort.			
Grade V	a) Gross: only barely perceptible motion b) At rest: asymmetry c) Motion: forehead - none; eye- incomplete closure; mouth - slight movement	✓		
Grade VI	No movement			

Table 4: Assessment of clinical features

Clinical feature	**Before treatment**		**After treatment**		**After follow up**	
	R	**L**	**R**	**L**	**R**	**L**
Wrinkling of forehead	Absent	absent	present	Present	Present	Present
Eyebrow raising	Not possible	Not possible	possible	Possible	Possible	Possible
Closing of eyes against resistance	Not possible	Not possible	possible	Possible	Possible	Possible
Clenching teeth	Not possible	Not possible	possible	Possible	Possible	Possible
Blowing of cheek	Not possible	Not possible	possible	Possible	Possible	Possible
Corneal reflex	Absent	absent	present	Present	Present	Present
Bells phenomenon	Present	present	absent	Absent	Absent	Absent

Advice on Discharge

1. *Danadanayanadi kashayam* 90ml bd b/f
2. T. *Suvarnamukthadi* 1-0-1 a/f
3. T. *Aswagandha* 1-0-1
4. *Pratimarsha nasya* with *Ksheerabala tailam* 7 *Avarti*

Review after 1 month

Adverse and Unanticipated Events

During the course of the treatment no adverse events were reported. Intervention adherence and tolerability was assessed by direct observation and interrogation of the patient.

RESULT AND DISCUSSION

Bilateral facial palsy is an uncommon presentation of facial palsy. Usually, it has an underlying cause. In this case, no underlying cause was identified due to the patient's financial constraints. Hence, a clinical diagnosis was made. As the upper as well as the lower part of the face were affected Ayurveda diagnosis was made to be *Ardita*. As per Aacharya Sushruta Manya and *Hanu graha* is a feature of *Ardita*, also he consider general *Vatavyadhi* treatment in *Ardita chikitsa*.[9] Hence this line of management was adopted in this case.

The presence of stiffness, and swelling indicate *Kapha* involvement also hence *Vatakapha hara* treatment was adopted initially. For Agni correction and as initial *Langhana* (depletion therapy), *Deepana pachana* medicines were selected. *Gandharva hasthadi kashayam* was selected because it is *Vata kapha hara*, *Deepana, Vatanulomana*. As there was pain around the ear, neck, etc, considering the Urdhva bhaga stithi of *Doshas Pathyashadangam kashayam* was selected and to relieve any inflammatory response in the body *Guggulu* preparation was selected. Externally *Ardita* line of management was adopted - *Nasya, Ksheera dhooma, Rasna Jambheera lepam* was given to reduce the swelling. By the end of this stage of treatment there was mild improvement on weakness on left side: naso labial fold started appearing and the eyebrow were moving slightly, also the pain over ear was reduced. For the next stage disease specific medicine was selected *Danadanayanadi kashaym*. externally general *Vata vyadhi* line of management *Sneha* and *Sweda kriyas* done and for *Dosha harana shodhana* in the form of *Virechana* was done. *Gandusha* was given to give strength to buccal muscles. By the end of these treatments neck pain was relieved to a great extend and she could smile, chew, raise her eyebrows, close her eyes completely. Shiras-specific *Shirodhara* was selected further and the treatment ended with 3 days *Nasya* to remove *Doshas* from the head.

CONCLUSION

Ardita line of management followed by general *Vata vyadhi* line of treatment was selected in this case. The selected treatment protocol was found to be effective in bilateral facial palsy. Hence this treatment can be adopted in bilateral facial palsy in which no serious underlying causes are present.

Patient Perspective

I was unable to close my eyes, move my lips- hence not able to smile, eat or drink properly, I felt like my face is not mine and there was severe pain on both sides of neck and cheek when I reached here. Now after the IP management my complaints got relieved and I am able to smile, eat and drink properly. I can move my face just like earlier. Neck pain is completely gone. I am satisfied with the treatments and the care given to me. I thank all my doctors and staff for their help.

Informed Consent

Informed consent was obtained from the patient for the publication of de-identified medical information.

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Cite this article as:
Rakhi R, Asha Karunakaran K, Suneeshmon M S. Exploration of Ayurveda in the Management of Bilateral Facial Palsy. International Journal of Ayurveda and Pharma Research. 2025;13(1):53-58.
https://doi.org/10.47070/ijapr.v13i1.3553
Source of support: Nil, Conflict of interest: None Declared

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