

Role of *Ksheera Dhooma* and *Nasya* in the management of *Ardita* (Bell's palsy): A Case Study

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ABSTRACT:

Ardita is one of the neurological condition explained in Ayurveda associated with the imbalance of *Vata Dosha* which refers to facial paralysis or Bell's palsy. The present case study was carried out to evaluate the effectiveness of *Ksheera Dhooma* (Medicated fumigation with milk) and *Nasya* (Nasal administration of medicated oil) in the management of *Ardita*. The case focused on a 41-year-old male patient diagnosed as *Ardita* presented at the IPD, Ayurveda Teaching Hospital-Borella and Sri Lanka with left-side weakness on the face for two weeks. The study was a single case study. Before the commencement of the treatment, written consent was obtained and all the clinical findings were recorded. The treatment regimen includes of *Shad Bindu Taila Nasya* followed by the application of *Ksheera Bala* Oil on the face and *Ksheera Dhooma* externally for 21 days without internal drugs. The House – Brackman facial nerve grading system was used to assess the clinical features before and after the treatment. The result showed significant improvement in motor functions and asymmetry of face. After the treatment gradation improved from grade 4 to grade 1. Based on the results, the study concluded that comprehensive management with *Nasya*, *Abyanga* and *Ksheera Dhooma* is effective in managing *Ardita Roga*.

KEY WORDS: Ayurveda, *Ardita*, Bell's palsy, *Ksheera Dhooma*, *Nasya*.

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INTRODUCTION:

Ardita is considered as one among the *Vata Nanatmaja Vyadhi* [1]. When *Vata* is functionally normal, it is responsible for stimulation sense organs in the body [2] but when it is in abnormal state, it can cause morbidity and mortality [3]. Etiological factors for this particular disease are described in Ayurvedic texts as transferring

heavy weight on head, excessive laughing, loudly talking, sudden fearing, sleeping on uneven bed, eating hard food particles etc. [4]. Clinical features according to Ayurvedic classics are half sided facial deformity including nose, eyebrows, forehead, eyes, tongue and chin regions on affected side, slurring of speech, trapping of food particles between gums and cheeks, deafness [5],

partial closure of eyes [6], disturbed smell sensation, pain in supraclavicular part of body [7]. On the basis of these clinical features, this disease has similarities with the disease Bell's palsy. Bell's palsy is an acute, idiopathic, commonly unilateral Lower motor neuron type of facial nerve involvement due to non-supportive inflammation of nerve within the facial canal above the Stylomastoid foramen [8]. Bell's palsy has an incidence of 23 cases per 100,000 population per year, or about 1 in 60 to 70 people in a lifetime [9]. The facial nerves control a number of functions, such as blinking and closing the eyes, smiling, frowning, lacrimation, salivation, flaring nostrils and raising eyebrows, sensation of taste in the anterior 2/3 of the tongue which are affected in Bell's palsy [10].

Approximately 80-90% of patients recover without noticeable disfigurement within 6 weeks to 3 months [11]. The recurrence rate of Bell's palsy is 4- 14% [12]. Treatment mentioned in Ayurvedic text are *Nasya* (instilling medicated oil through nostrils), *Murdha taila* (oleation of head), *Santarpana Ahara* (Diet increasing strength and weight), *Nadi sweda* (Sudation), *Upnaha* (Bandaging) [13], *Mastishkya Shiro Basti* (pouring of medicated drugs on head), *Dhooma* (Medicated smoke to the desired area), *Snehana* (Oleation), *Ksheera Taila* (*Pana* and *Abhyanga*) [14], *Shrota-Akshi Tarpana* (instilling medicated oil/ghee into ears and eyes) and purification procedures [15]. Keeping all these efficacious treatment modalities in mind, the present case study was carried out to evaluate the effect of *Ksheera Dhooma* and *Nasya* in the management of *Ardita*.

CASE REPORT:

A 41-years-old male patient, who attended the Indoor Patients Department of National Ayurvedic Teaching Hospital, Borella, for treatment of muscle weakness in left side of

the face and deviation of the mouth in to right side for two weeks was selected. Deviation of mouth towards the right side. On examination, Left eye ball moves upwards and inwards when the patients attempt to close it along with incomplete closure of eyelid (Bell's phenomenon), Pain and Lacrimation from left eye, Dribbling of saliva on left angle of mouth and food contents during eating and Nasolabial fold loss on left side was noticed. Patient was conscious & well oriented to time, place & person. Higher function like intelligence, memory, behaviour, emotions are normal. Superficial & deep reflexes were normal. All the cranial nerves are intact except VII nerve i.e. facial nerve.

The study was conducted at I.P.D., Department of Kayachikitsa, for a period of 21 days. Haematological Investigations such as FBC, FBS, Lipid Profile and ESR were taken and findings were within normal limits. Signs and symptoms of the *Ardita* were recorded before and the after the treatments.

THERAPEUTIC INTERVENTION:

Patient has been advised to follow the treatment for a period of 21 days and signs and symptoms were recorded before and after the treatment and weekly during the period of 21 days (Table-2).

Method of preparation of *Ksheera Dhooma*

Materials - Milk- 500ml

Bala moola kwatha- 500ml

Oil for *Abhyanga*

Rasnadi choorna-5 gm

Blanket

Cotton pad / Lotus Petal

Nadi sweda apparatus

Preparation of medicine - *Bala Kwatha*:

500gm of crushed *Bala moola* is boiled with 2 liters of water, 500ml of milk and reduced

to 500ml. This is used to generate steam for the therapy^[17].

Poorva karma - Patient should be seated in a chair and *thalam* should be applied with suitable oil. Abhyanga is done over the head, face, neck and shoulder area. Abhyanga should be done for 15 to 20 minutes gently and carefully. Eyes should be covered with lotus petal. The head and neck portion are covered from the back with a blanket.

Pradhana Karma: The patient should sit comfortably for the procedure. Then from the apparatus is directed over face, neck, chest and shoulder. Special care should be taken to avoid burns and uniform steam. The procedure is continued up to appearance of sweat. It is done about 15 minutes. Intermittent opening of the mouth is to be done.

Paschat karma: Eye pads are removed and sweat is wiped off. *Thalam* is removed and *Rasnadi choorna* is applied and the patient is advised not to expose to cold wind.

Assessment Criteria

Assessment criteria of seventh cranial nerve by using House-Brackmann Facial Nerve Grading Scale (Table-1)^[18]. Prognosis has been assessed before the treatment and every week after the treatment. Changes of the intensity of signs and symptoms were recorded a Performa. Effect of treatment regimens were evaluated by symptomatic relief based on the grading system during the period of 21 days. Patient was advice to attend clinic after two week for follow up effect of the treatment protocol.

It was observed that 100% relief was found in dribbling of saliva from left corner of mouth, trapping of food between gums and cheek. Forehead frowning, Eyebrow raising, Eye closure, Teeth showing and Blowing of cheek possible after the treatment. Nasolabial fold present in left side. Patient can feel the taste. Before starting the treatment the House Brackmann's grading of facial nerve was Grade 4 and after commencement of 21 days treatment, it was Grade 2. There was no side effect observed during and after the treatment.

Table - 1: Assessment Criteria

Activity /expression	Observations
Forehead frowning	Affected on left side
Eyebrow raising	Affected on left side
Eye closure	Incomplete closure of left eyelid
Teeth showing	Not possible on left side
Blowing of cheek	Not possible on left side
Nasolabial fold	Loss on left side
Taste perception	Affected
Dribbling of saliva	Present
Bells phenomenon	Present on left side
Deviation of mouth	Towards right side

Table -2: External Therapeutic procedure:

Recommended External Treatments	Used Medicines	Dosage		Duration
<i>Mukha Abhyanga</i> (face massage) (Figure-2)	<i>Ksheera Bala Taila</i> ^[16]	50 ml	Morning-9.00am	1 st – 21 st Day
<i>Nasya</i> (Nasal instillation) (Figure-3)	Shad Bindu oil	3 Drops to each nostril	Morning-10.00am At	8 th – 14 th Day
<i>Bala ksheera Dhooma</i> (Figure-1)	<i>Bala kwatha</i> boiled with milk	500ml	Morning-9.30am	8 th - 21 st Day

Table -3: Composition of *Ksheera Bala Taila*:

Ingredients	Part Used	Botanical Name	Quantity
<i>Bala</i>	Roots	<i>Sida cordifolia</i>	10g
<i>Bala</i>	Water decoction	<i>Sida cordifolia</i>	160ml
<i>Ksheera</i>	Milk		160ml
<i>Taila</i>	Sesame oil		40ml

Table 4: House-Brackmann Facial Nerve Grading Scale

House-Brackmann Facial Nerve Grading Scale		
Grade		Defined by
1	Normal	Normal facial function in all areas
2	Mild dysfunction	Slight weakness noticeable only on close inspection. At rest: normal symmetry of forehead, ability to close eye with minimal effort and slight asymmetry, ability to move corners of mouth with maximal effort and slight asymmetry. No synkinesis, contracture, or hemi facial spasm
3	Moderate dysfunction	Obvious, but not disfiguring difference between two sides, no functional impairment; noticeable, but not severe synkinesis, contracture, and/or hemi facial spasm. At rest: normal symmetry and tone. Motion: slight to no movement of forehead, ability to close eye with maximal effort and obvious asymmetry, ability to move corners of mouth with maximal effort and obvious asymmetry. Patients who have obvious, but no disfiguring synkinesis, contracture, and/or hemi facial spasm are grade III regardless of degree of motor activity.
4	Moderately severe dysfunction	Obvious weakness and/or disfiguring asymmetry. At rest: normal symmetry and tone. Motion: no movement of forehead; inability to close eye completely with maximal effort. Patients with synkinesis, mass action, and/or hemi facial spasm severe enough to interfere with function are grade IV regardless of motor activity.
5	severe dysfunction	Only barely perceptible motion. At rest: possible asymmetry with droop of corner of mouth and decreased or absence of nasal labial fold. Motion: no movement of forehead, incomplete closure of eye and

		only slight movement of lid with maximal effort, slight movement of corner of mouth. Synkinesis, contracture, and hemi facial spasm usually absent.
6	Total paralysis	Loss of tone; asymmetry; no motion; no synkinesis, contracture, or hemi facial spasm.

Table-5: Effect of clinical sign and symptoms of treatment regime

	Before Treatment	After Treatment
Left side of the face	Grade IV (weakness with asymmetry of mouth, forehead frowning-none, incomplete closure of eyes with efforts) (Figure-4)	Grade I (normal facial function in all area) (Figure-7)
Right side of the face	Grade I (normal facial function in all area)	Grade I (normal facial function in all area)

Images of Treatment procedures



Fig-1: Preparation for Ksheera Dhooma

Images of Observations:



Fig-2: Thaila Abhyanga



Fig-3: Nasya Karma



Fig-4: Before Treatment



Fig-5: After 1st week



Fig-6: After 2nd week



Fig-7: After 3rd week

DISCUSSION

In Bell's palsy, facial nerve dysfunction leads to facial muscle paralysis with impairment of both sensory and motor functions. In *Ardita*, there is mainly vitiation of *Vata Dosha*. *Vata* is responsible for all activities of body. So sensory and motor activities can be attained by normalcy of *Vata*. Here we adopted *Brimhana* (replenishing/nourishing) type of treatment for correcting the vitiated *Vata* as per Ayurveda principles of treatment. It improved the motor function by stimulating and strengthening the facial nerves and muscles.

Bala (*Sida cordifolia*) is considered as *Balya* (Strengthening) *Mahakashaya* by *Acharya*

Charaka and *Vata* alleviating drugs by *Acharya Sushruta*. These properties not only help in alleviation of *Vata* but also provide nourishment to nerves. Due to its ephedrine content, it possesses psycho-stimulant properties, affecting the central nervous system^[19]. *Tila Taila* (Sesame Oil) provides lipophilic base to *Nasya* drug which helps in its better absorption as lipid soluble substances have greater affinity through cell walls of nasal mucosa^[20]. It also possesses anti-inflammatory and anti-oxidant properties. *Acharya Charaka* has indicated it in *Vata* disorders^[21].

Nasya karma is a method of *panchkarma* in which medicated oils are instilled into the

nose, this has an excellent role in improving the function of the facial muscle in cases of Bell's palsy. The *Nasya* dravya medicine acts at *sringataka marma*, from where it spreads into various *strotasas* (vessels & nerves) and brings out all the vitiated *doshas*. The drug by general blood circulation after absorption through mucous membrane, direct pooling into venous sinuses of brain through inferior ophthalmic veins. Absorption directly into the cerebrospinal fluid, many nerve ending which are arranged in the peripheral surface of the mucous membrane, olfactory, trigeminal are stimulated by the *Nasya karma* and impulses are transmitted to the central nervous system.

In *Ksheera Dhooma* drugs include *Ksheera* and *Bala moola*, both have *Snigdha* and *Guru Guna*, these are opposite to that of *Vata*. *Bala moola* has best *Vata shamaka* properties and by using *kwatha* for *Swedana*. *Snigdha Guna* of *Ksheera* helps to relieve *Rooksha Guna* of *Vata*. *Vashpa* of *Bala moola kwatha Ksheera* probably absorb from buccal mucosa and nourishes, stimulate the local sensory nerve endings which include taste buds.

The same moist heat is indicated in Bell's palsy by modern medicine. This effect is ensured by *Ksheera Dhooma* procedure. *Swedana* done properly has the quality of exciting nerve centre powerfully. It also increases the tactile sensibility. Primarily dilatation of capillary vessels is seen due to vasomotor nerve influence. *Swedana* also has the quality of exciting and improving the energy of striated voluntary muscles. The same effect is also observed by doing *Ksheera Dhooma*. Along with *Sneha Sweda* here added effect of *Jihva pratisarana* also obtained. *Ksheera Dhooma* makes the vasodilatation that occurs with due to vasoconstriction in paralysis.

CONCLUSION:

Considering the above findings it can be concluded that the treatment with *Ksheera Dhooma* and *Nasya Karma* protocol is effective in the management of *Ardita*. Treatment modality can be prescribed as a standard procedure considering its effectiveness for the condition. Further clinical studies should be conducted to evaluate the efficacy of the treatment regimen with larger sample to draw a generalized conclusion.

Consent of patient:

Before the commencement of the treatment, written consent was obtained from the patient. He has given his consent for reporting the case along with the images and the other clinical information in the journal.

Limitation of Study:

This was a single case study. Therefore further clinical studies should be conducted to evaluate the effectiveness of the treatment.

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