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Case Study

A CASE STUDY ON BELL'S PALSY AND ITS AYURVEDIC MANAGEMENT

Prerna[1]*, Neetu Tegta[2]
*[1]Assistant Professor, Dept. of Kayachikitsa, Abhilashi Ayurveda Research Institute and College, Chachiyot, Chailchowk, Mandi (H.P.).
[2]Assistant Professor, Dept. of Swasthvrita, Abhilashi Ayurveda Research Institute and College, Chachiyot, Chailchowk, Mandi (H.P.).

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ABSTRACT
Bell's palsy is a neurological disorder of seventh cranial nerve which leads to unilateral facial paralysis. A complete interruption of the facial nerve at stylomastoid foramen paralyses all muscles of facial expression. In Ayurveda it can be compared with *Ardita*, which is *Vata Nanatmaja Vyadhi*. Different *Acharya* attributed root cause of *Ardita* to highly vitiated *Vata dosha* but some also explained the involvement of other *Dosha* in disease manifestation. *Acharya* explained causes of *Ardita* like transferring heavy wt on head, excessive laughing, loudly talking, sudden fearing, sleeping on uneven bed, eating hard food particles other *Vatavardhak ahara vihara* leads to vitiation of *Vata dosha*. This is a case study of a 37-years old female; she came to Kayachikitsa OPD with the complaints of deviation of mouth to left side, numbness in right side of face, feeling of swelling in the lower lip and was unable to completely close her right eye. Diagnosis of the patient was made by typical presentation and with neurological (especially cranial nerve) examination. Lab investigations were not indicative of any underlying pathology. The patient treatment included facial muscle strengthening exercises, eye protection measures and eye drops, *Nasya* with *Anu taila* and Ayurvedic formulations. Referrals were made in *Panchkarma* dept. for regular *Nasya* and *Dhoompan*. Patients got discharged after some recovery in symptoms and in few months with regular follow up patient showed marked improvement in symptoms.

INTRODUCTION
Bell's palsy or Idiopathic facial nerve palsy is a condition that involves any age group and both genders.[1] Bell's palsy is most common in the third decade; its incidence in the general population is about 20 cases per 100,000 populations. Bell's palsy is associated with the presence of herpes simplex virus and its reactivation in geniculate ganglion. A typical patient complaints of facial palsy which evolves over 24 hours to 48 hours, preceded by retro auricular pain. About 80% to 85% patient recovers completely within 3 months.[2] Patient often describes the face as 'numb', but there is no objective sensory loss (except possibly to taste). If the lesion involves middle ear then there is loss of taste sensation in the anterior two third of the tongue. If the nerve of stapedius involved, there is hyperacusis (sensitivity to loud voices).

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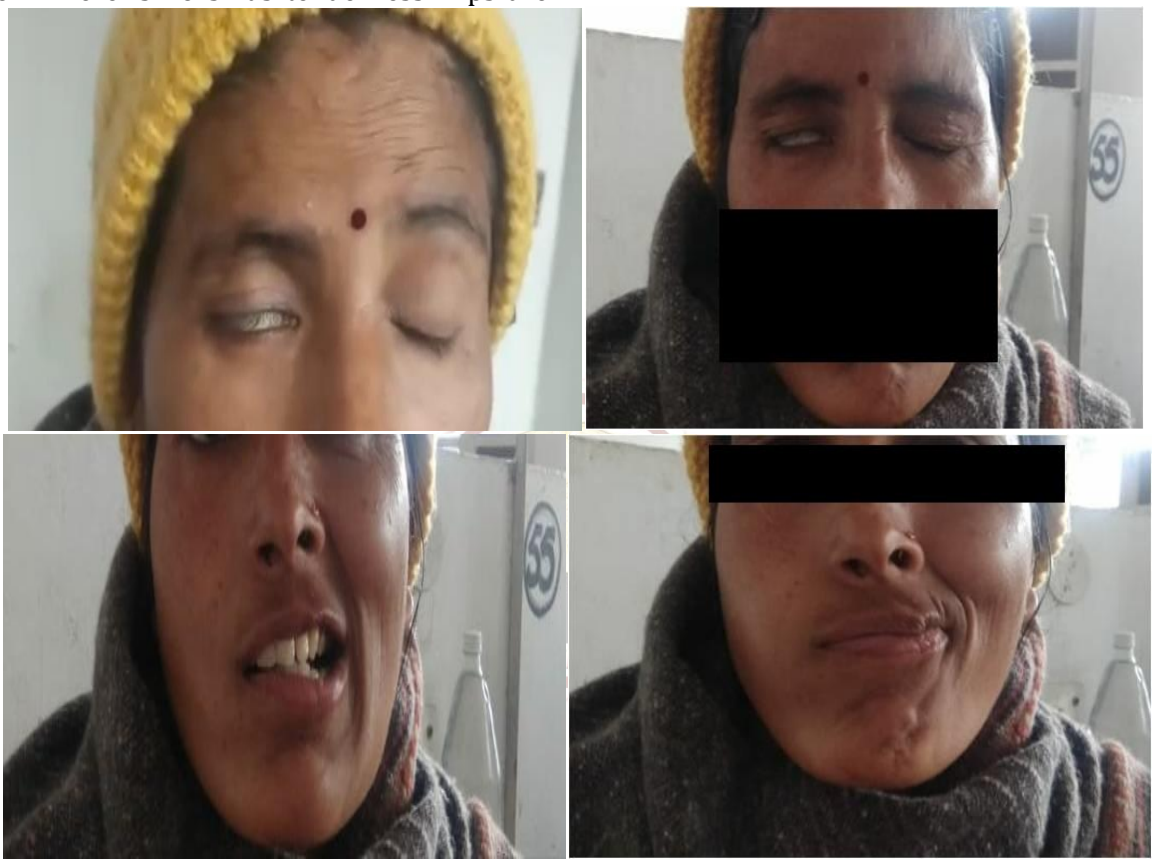
Case History
A 37 years old female patient came to us with the complaint of pain behind the right ear. Pain was dull in nature and radiating to right side of head and pain lasted for about 10-15 minutes. After 15 minutes pain was followed by deviation of angle of the mouth to left side. On enquiry she told that she had numbness in right side of face. She also had feeling of swelling in the lower lip. Patient also told that she was unable to completely close her right eye. On further enquiry she told that she gradually developed difficulty in chewing and swallowing of food. There is no history of dribbling of saliva from mouth and of any discharge from the eyes. Patient didn't have fever and any rash over the skin. There is no history of any similar complaints before and no history/medication for - T2DM, HTN.

Patient has history of Abdominal Koch's in 2004 (Took ATT for 6 months).

Examination

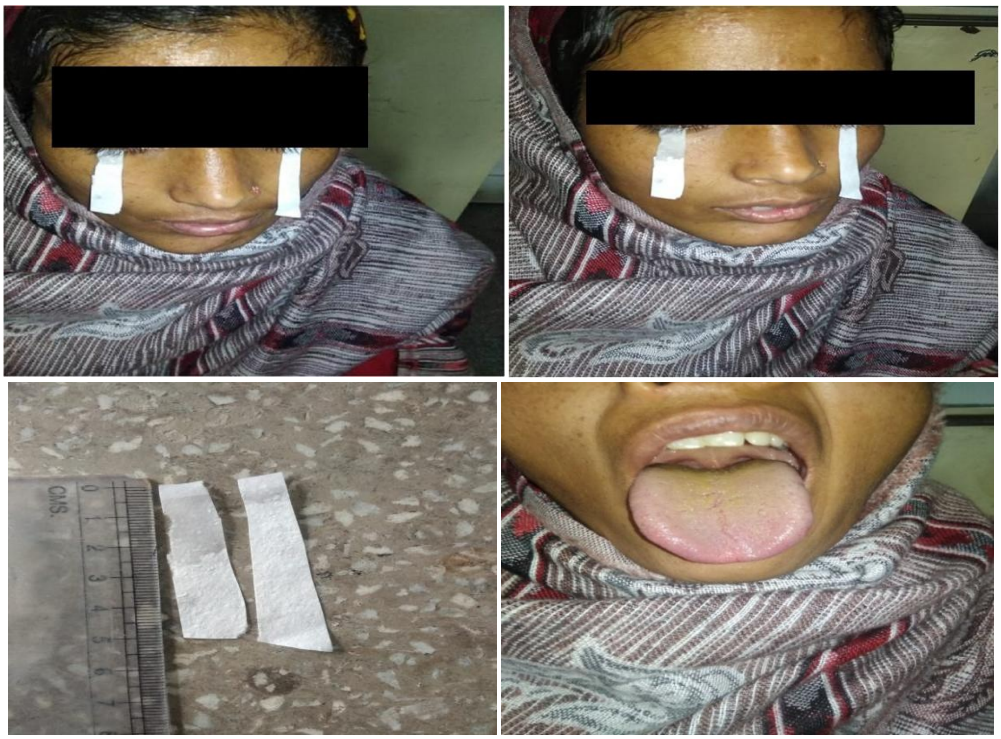
Forehead bilateral asymmetrical and shows decreased wrinkling on the right side. Face bilateral asymmetrical with left sided deviation of angle of the mouth. Inability to close right eye (lagopthalmos). Eyebrows are B/L symmetrical, no loss of lateral 1/3rd of eyebrows. There is no periorbital edema. Bulbar conjunctiva show mild congestion.

The ear, nose, throat and paranasal sinus are clear for any discharge, collection, sign of infection and inflammation. There is no sinus tenderness. Lips are pink in colour. Absence of nasolabial folds on the right side. Oral hygiene is well maintained. There are no palpable and tender lymph nodes. JVP is not raised. Carotid pulsations are not visible. Thyroid gland is not enlarged. Trachea is central. There is no clubbing and spooning of the finger nails. Systemic examination is WNL. Cranial nerve examination shows involvement of seventh cranial nerve (facial nerve) as patient was unable to make furrow over the forehead on the affected side. The eyelids on the affected side do not cover the eye ball properly and firmly, and drooping of the mouth on the affected side.



	Right Eye	**Left Eye**
Visual Acuity	6/6	6/6
Color vision	Normal	Normal
Extraocular movements	Normal	Normal
Bell's phenomenon	present	negative
Schirmer's test	20mm	10mm
Conjunctiva and sclera	Normal	Normal
Pupils	RRR	RRR
Dilated Fundus	WNL	WNL

Schirmer's Test



Laboratory Investigations

CBC Hb- 11.1g/dl

Biochemistry FBS-105 mg/dl

TLC- 12900/mcL B. Urea- 30mg/dl

DLC- L 16.4% Mxd 4.6% N 79% S. Creatinine- 1.0mg/dl

PLT- 241000/mcL SGOT- 18 IU/l

ESR- 58 mm fall in first hour SGPT- 10 IU/l

Urine – NAD

Patient Consent: Written permission for publication of this case study has been obtained from the patient.

Positive findings

- Sudden onset of pain behind the ear accompanied with facial asymmetry (typical presentation).
- Unilateral asymmetry of right side of face.
- No specific etiological cause
- Bell's phenomenon is positive.
- Absence of any cutaneous lesion.
- Normal neurological examination with the exception of facial nerve.

Assessment Criteria

Using the House–Brackmann scale of facial nerve weakness showed that there is grade IV of facial paralysis (weak with incomplete eye closure).

Intervention

S. No.	Drugs	Dose	Duration
1.	*Vishmushti Vati*	125mg 2BD	3 months
2.	*Brihatvata chintamani Ras*	125mg BD	3 months
3.	Methyl cellulose E/D	3hrly	3 months
4.	*Nasya* with *Anu taila*		21 days
5.	*Akshitarpan* with *Goghrita*		21 days
6.	*Ksheera Dhoom*		21 days
7.	Facial exercise		3 months

Outcome Measures and Follow Up

Patient followed the above intervention for the total duration of 3 months with the regular follow up. Patient didn't leave the treatment in this 3 months duration and followed all the advised given to him. Referrals were made in *Panchkarma* dept. for regular *Nasya* and *Dhoompan* during her hospital stay. After discharge patient was advised for *Pratimarsha Nasya* which she could easily do at home. In few months with regular follow up patient showed marked improvement in symptoms.

DISCUSSION

In present case patient came to us with typical presentation of Bell's palsy. One sided facial paralysis of acute onset occurs in patient without any specific cause. Patient typically notices facial paralysis on inspection in the mirror in the morning. Facial paralysis may be heralded or accompanied by pain behind the ear.[4]

Patient had weakness on the one side of face but no hyperacusis and taste sensation was intact. The nerve arises from the two roots from the pontomedullary junction and enters the internal auditory meatus. The sensory part of the nerve is small (the nerve intermedius) and it helps in taste sensation in the anterior two third of the tongue. The motor nucleus of the seventh nerve lies complete its course in its own bony channels passes through parotid gland and lastly subdivides into five branches to supply the facial muscles.

A complete interruption of the facial nerve at stylomastoid foramen paralyses all muscles of facial expression. Which results in drooping of the corner of mouth, the creases and skin folds are absent, the forehead is unfurrowed and the eyelid of affected eye will not close. The lower lid sags and falls away from the conjunctiva, permitting tears to spill over the cheek. The patient complaint of a heaviness or numbness in the face, but sensory loss is rarely demonstrable and taste is intact. [5]

Lower Motor Neuron Disease: As the forehead is affected on one side that means furrows are absent one side on raising the eyebrows, which is a lower motor neuron (LMN) lesion. Lower motor neuron lesion like in Bell's palsy where the facial nerve is damaged, information from the contra lateral and ipsilateral motor cortex is lost for the upper face as well as the information from the contra lateral motor cortex for the lower face. This result in the paralysis of all the muscles on the side of the affected nerve. If underlying problem is in the brain or brain stem before the upper motor neuron cross the midline, it is called an UMN lesion. This causes paralysis of the lower half of the face on the contralateral side as the lesion. However upper half of the face is still receiving some information from the ipsilateral motor cortex.[6]

Differential Diagnosis

There are many other causes of acute facial palsy like in Lyme's disease. Lyme disease can cause unilateral and bilateral facial palsies; are likely due to infection with Borrelia burgdorferi. The Ramsay Hunt syndrome, caused by reactivation of herpes zoster in the geniculate ganglion, consists of a severe facial palsy associated with vesicular eruption in the external auditory canal. Facial palsy that is often bilateral occurs in sarcoidosis and Guillian – Barre syndrome. Leprosy frequently involves the facial nerve, and facial neuropathy may also occur in diabetes mellitus and connective tissue diseases.[7]

Ayurvedic correlation

In Ayurveda it is correlated with *Ardita* and it is considered as a *Vata nanatmaja vyadhi* according to *Bruhatrayi*. It is caused by aggravation of*Vata. Acharaya Charaka* has included *Shirodhar*a in *Ardita* and attributed the root cause of *Ardita* to highly vitiated V*ata doshas* whereas *Shodal* classified *Ardita* on *Doshic* influence of *Kapha* and *Pitta* rather than *Vata. Acharaya Shushruta* has considered as the face is only affected in *Ardita.*

Acharya Charaka had explained the *Chikitsa Sidhanta* of *Ardita*: *Nasya, Tailabhyanga* on *Murdha, Santarpan aahar sevan, Nadi svedan* and *Aanup mamsa upanha*. *Acharya Charaka* in *Sutra Sthana* explained the medicine that is put into nostril moves in the channel up to the *Shringataka* spreads to whole of the interior of the head and junction place where all the channels related to the eyes, ears, throat situated together thus shows influence on *Shiras*, *Sandhi, Snaayu* and *Kandra* by removing out the accumulated *Doshas* localized in from all sinuses in the skull and also plays vital role in nourishing the *Panchagnanenrya adhistana* located in *Shiras.* [8]

***Nasya* therapy**

Nasa is the gateway of *Sira*. The drug administered through nostrils reaches *Sringataka Marma*. Distributed in *Murdha* (brain), *Siramukha* (opening of the vessels etc.) of *Netra* (eye), *Kantha* (throat) etc. All *Acharyas* told that *Nasa* is the gateway of *Sira*. It does not mean that some channels connect directly to the brain but they might be connected through blood vessels, lymphatics or through nervous system (olfactory nerve, etc.)

It is experimentally proved fact that, whether any type of irritation takes place in any part of body the local blood circulation always increases. This is the result of natural defence mechanism of the body.

When provocation of *Dosha* takes place in head due to irritating effect of administered drug resulting in increase of the blood circulation of brain. So extra accumulated morbid *Dosha* are expelled out from small blood vessels. Ultimately these morbid *Dosha* are thrown out as nasal discharges, tear and salivation. [9]

Ayurvedic Formulation

Ekangveer Ras is indicated in *Vata Roga, Ardita, Pakshaghata* etc. it mainly deals with *Vata* disorders. So *Ekangveer Ras* do the best in this case. *Dashmool* includes the roots of ten plants named (*Bilva, Agnimantha, Gokshura, Kantkari* etc.). *Dashmool* work on all the three *Doshas; Dashmool Tridoshagnama. Dashmool* is *Tridoshahara*, but it predominantly pacifies *Vata*. It is a part of several Ayurvedic medicines and alone used for pain disorders. *Brihat Vata Chintamani Ras* is in tablet form. *Brihatvata Chinthamani Rasa* (BVCR) a compound mineral preparation, widely used in the management of neuro-psychiatric illnesses in Indian system of medicine. It contains *Bhasma* (ash) of gold, iron, mica, silver, calcium, pearl and mercuric sulphide. The ingredients of compound formulary were indicated as a stimulant, nervine, nootropic and rejuvenate which improves the acuity of mind as well as directly indicated in the management of stroke in Ayurveda.[10]

Thus the treatment includes *Nasya* and *Dhoompan*. *Nasya* is the most important therapy which works on *Udharvajatrugata* diseases. The drug administered through nose as *Nasya* reaches the brain and eliminates only the morbid *Dosha* responsible for producing the diseases. Moreover the drugs used orally and exercise are having additional effect in relieving the signs and symptoms.

CONCLUSION

The case report demonstrates the diagnosis and treatment plan of Bell's Palsy completely with *Nasya* and oral Ayurvedic medicinal intervention. No surgical intervention was given.

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***Address for correspondence**
Dr. Prerna
Assistant Professor
Dept. of Kayachikitsa,
Abhilashi Ayurveda Research Institute and College, Chachiyot, Chailchowk, Distt-Mandi (H.P.).
Phone: 9418159847
Email:
doctorprerna198@gmail.com