Case Study

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AYURVEDIC MANAGEMENT OF BELL'S PALSY IN CHILDREN: A CLINICAL CASE STUDY

Radhika Injamuri *, Suryanarayana Mudadla
Associate Professor, Postgraduate Department of Kaumarabhritya, Shree Jagadguru Gavisiddheswara Ayurvedic medical college and Hospital, Koppal, Karnataka, India

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***Corresponding author**
E-mail: radhikainjamuri.17@gmail.com

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ABSTRACT

Bell's palsy is the most common, acute unilateral lower motor neuron nerve palsy and is characterized by sudden onset of weakness in the facial muscles to one side of the face controlled by the facial nerve due to uncertain post infective autoimmune disease. Incidence is approximately 40-75% and the cause is obscure. The therapeutic approach in children often involves a multidisciplinary team comprehending pediatrician, neurologist and physiotherapists. A 4 years old male child with chief complaints of deviation of mouth to left side for one day while attempt to speak and smile and partially opened right eye while sleeping since few hours associated with excessive lacrimation of right eye without any cause. Then the case has been diagnosed as Bell's palsy based on clinical examination and internal medication along with Nasya procedure is administered there by child improved with this experience same treatment is being practiced in few more cases. In Ayurveda present condition can be compared with Ardita vata under one of Ashta mahagada i.e. under Vata vyadhi. Ardita vata is the broad term which includes all the kinds of facial palsies including Bell's palsy. There is no exclusive treatment for Bell's palsy but treatment mentioned for Ardita vata can be adopted like abhyanga, pata sweda and Nasya along with few internal medicines and considering these concepts treatment protocol has been made and executing in hospital of SJG Ayurvedic medical college and getting satisfactory treatment out come within 1-2 weeks without steroidal, antiviral and physiotherapy.

Keywords: Bell's palsy, Ardita vata, Children, Nasya.

INTRODUCTION

Review on Bell's palsy

Bell's facial paralysis, named after Sir Charles bell, known for his studies on the nervous system and brain, in 19th century discovered that lesion of the 7th cranial nerve causes facial paralysis[1]. Bell's palsy or acute idiopathic unilateral lower motor neuron facial paralysis is characterized by sudden onset paralysis or weakness of the muscles to one side of the face controlled by the facial nerve, presumed immune mediated phenomenon, possibly with an infection as the main event without associated other cranial neuropathies or brainstem dysfunction. It is common disorder at all ages from infancy through adolescence affects male and female equal incidence rate of 11 - 40 / 100000 /year around the globe[2].

Etiologies of acute peripheral facial palsy

Idiopathic reactivation of herpes simplex virus in the geniculate ganglion is common.

Other viruses like Herpes simplex virus type 1, Varicella-Zoster virus, rarely polio virus also can trigger the post infectious autoimmunity[3]. Other less common causes like Otitis media, Lyme disease, cytomegalic virus, Mumps, Intra nasal influenza vaccine and Mycoplasma.

Pathophysiology

Onset of bell's palsy is acute, and it usually develops abruptly about 2 weeks after systemic viral infection, half of the cases attain maximum paralysis in 48 hours, Post-infectious allergic or immune demyelinating facial neuritis and not due to active viral invasion. Oedema occurs in facial nerve in the narrowest part of the facial canal which leading to Ischemia due to compression of the facial nerve and common location of compression is facial canal, first portion of canal is labyrinthine segment is a narrowest part of canal, diameter is 0.66 mm. Palsy may develop in a multistep process beginning with inflammation leading to edema and swelling. This, in turn, can lead to compression of the nerve in the fallopian canal, where the normal nerve passes through its narrowest bony enclosure (the nerve occupies 99% of the cross-section of the canal in adults, but only 80% in children); hypoperfusion (strangulation) of the nerve ensues, leading to damage of axons and myelin sheaths and to nerve dysfunction[4]

Clinical features

Motor

- Weakness or paralysis of the upper and lower facial muscles of the affected side
- Drooping of ipsilateral eyelids
- Inability to close the eye completely
- Xerosis due to opened eye.
- Drooping of the corner of the mouth on the affected side.
- Deviation of mouth towards healthy side.

Sensory

- Taste on the anterior 2/3 of the tongue is lost on the involved side in approximately 50% cases.
- Dribbling of saliva.

- Altered sensation on the affected side of the face pain in or behind the ear.
- Increased sensitivity to sound (hyperacusis) on affected side if stapedius muscle is involved.
- Numbness and paresthesia don't usually occur; pain behind the ear may precede weakness.[5]

Complications

Motor Synkinesis (involuntary movement of muscles occurring at the same time as deliberate movement, e.g. involuntary mouth movement during voluntary eye closure).

Crocodile Tears (tears when eating due to misdirection of regenerating gustatory fibers destined for the salivary glands, so that they become secretory fibers to the lacrimal gland and cause ipsilateral tearing while the patient is eating).

Other complications like incomplete recovery, contracture of facial muscles, reduction or loss of taste sensation and problems with dysarthria due to facial muscle weakness.[6]

Investigations

Laboratory and imaging studies are not routinely needed in the diagnosis of Bell's palsy. High resolution MRI may be visualizing the facial nerve within its canal to determine bony anomalies, aneurysms and tumors.

Differential diagnosis

Lyme disease and Ramsay Hunt syndromes can be easily differentiated due to their peculiar clinical features and onset.

Treatment

The main agents used for the treatment of Bell's palsy are steroids. The anti-inflammatory effect of steroids (such as prednisolone) is assumed to minimize facial nerve swelling, compression and damage, therefore reducing the length of time to and increasing the likelihood of recovery.

Oral prednisone (1 mg/kg/day) for one week followed by a week tapering it is more effective if starts within 3 days of onset and less effective after one week of onset to decrease the inflammation of facial nerve/within the facial canal[7].

Anti-viral therapy: Oral acyclovir[8] (80 mg/kg/day) may be effective if it is due to herpes simplex. And some research studies reveal that combined therapy (steroidal and antiviral) is more effective than alone steroidal therapy. Physiotherapy commonly used but there was limited evidence that improvement began earlier in the exercise group. Also, surgical decompression is rarely used.

Prognosis

Functional recovery is excellent; about 70% of Bell's palsy has a favorable prognosis with spontaneous resolution within 3 months from the onset. The paralysis severity at onset can influence the degree of recovery. A severe paralysis hardly obtains a complete recovery of nerve function[9]. Another 5-10% may have mild facial weakness or left with permanent severe facial weakness as a sequel.

Ardita Vata Brief Ayurvedic Review

Ardita is considered as a vata vyadhi according to Bruhatrayi. It is caused by aggravation of vata[10]. It has been enlisted among eighty types of Nanatmaja vata vyadhies and Ardita is also explained as Ekayaama by Ashtanga Hridaya.

According to ancient scholars like Charaka and Vagbhata there is a involvement of Sharira ardha and mukhardha in Ardita. (Half of the body and half of the face), whereas Sushruta there is involvement of mukhardha (half of the face only).

Nidana and Samprapti (Etiology and Pathology of Ardita vata)

If population like Garbhini, Sutika, Bala, Vrudda, Kshina, if they indulge in following activities excessively, those who does speak loudly, Eating hard foods, excessive laughing, yawning, weight lifting and improper posture in bed[11].

Due to the excessive exposure to cold wind, vitiated vata with Kapha are involved in the genesis of the disease. Prakupita vata (aggravated vata) along with Kapha settles in Sandhi (joints of above clavicle) of Shira (head), Nasa (nose), Hanu (mandible), Lalata (fore head) and Netra (eye) Snayu (ligaments) and Kandara (muscles) are affected by the aggravated doshas and presented symptoms on the left half of the face with all the features of Ardita vata[12].

The other symptoms like, Danta chala, stabdha netra, badhirya, svara bheda, Pain in the regions of pada, hasta, akshi, uru, shankha is also seen[13].

Sadhyasadhyata

If the patient is kshina (emaciated), Stabdha netra (inability to close eyes, Sakta bhashinih (Disturbed or slurred speech) and more than 3 years old is incurable[14].

Chikitsa of Ardita vata

As per the Ayurveda classics Nasya, Murdhni tail, Tarpana and nadi, upanaha sweda are the major treatments. The therapeutic options especially oral corticosteroids are the main stay of treatment to counter the inflammation which should be started within 3 days of onset to get good results added with acyclovir if it is because of herpes simplex and surgical decompression of facial nerve is not of much value. Facial palsy also documented in Ayurveda as a common neurological clinical condition ages ago in the name of Ardita Vata which comes under one among vata vyadhi. Ardita vata is a broad-spectrum disease involves half of the body and half of the face too, Bell's palsy can be considered as one of the clinical conditions of Ardita and treatment mentioned for the same, also be considered for the Bell's palsy too. By considering these concepts treatment protocol has been planned and executing for 3 years in our hospital and getting tremendous recovery within 1-2 weeks in majority cases. There is a need of Ayurvedic therapy to increase speedy recovery and increase the percentage of recovery. In the present paper, in the form of single case study an attempt has been made to share clinical experience from among the several cases being treated successfully.

Case study

A 4 year old male child brought by their parents from Kampa sagara village, near Hitnal, Koppal district Karnataka on 23/02/2019 as they were bothering about that their child has deviation of mouth on left side since one day while attempt to speak and smile and partially opened right eye while sleeping since few hours associated with excessive lacrimation of right eye without any cause. Child was apparently normal before the day of consultation. One day before, in the morning parents observed that child had deviation of mouth towards left while talking to them but still they have ignored, by the afternoon when the child was sleeping they observed that there was a partial opened right eye, then they got scared and consulted us in the next day morning in our hospital. History was taken thoroughly but there was no any clinical infection or trauma in the past two months and at the time of examination there was no evidence of ASOM/ CSOM/running nose/tonsillitis/rash/fever/Signs of intra cranial tension.

On examination following signs have been noted. Higher Functions were normal

Child was Conscious, well Oriented to place, time, person,

An extra oral cavity examination revealed left sided facial nerve palsy. The left muscles of facial expression did not participate when the child smiled. The left eye would close only partially.

- Absence of wrinkles over the right forehead.
- Bell's phenomenon is observed.
- Deviation of angle of mouth towards left while trying to speak, laugh, when asked to show his teeth.
- Incomplete closure of right eye when asked
- Excessive lacrimation in the right eye
- Inability to raise eye brow on the right
- Taste is preserved on the 2/3rd
- Sensation is preserved, no numbness

Based on the thorough history and clinical examination present case has been diagnosed as Idiopathic unilateral facial palsy, also known as Bell's palsy.

Present disease was understood in Ayurveda as an Ardita vata based on its etiopathophysiology and clinical features, treatment has been executed as per classical line of treatment of Ardita vata.

The trial was conducted in accordance with ethical principles that have their origin in the Declaration of Helsinki for biomedical research and ICMR ethical guidelines involving human participants (2006), and that are consistent with Indian / ICH Good Clinical Practice (GCP) guidelines. And also Informed Consent was obtained from the Parents and explained about Ayurveda procedures and treatment then below treatment has been executed.

Pancha Karma

Abhyanga, Pata Sweda and Navana nasya for 7 days.

- Shiro abhyanga and Pichu dharana with Ksheerabala taila for 7 days
- Pata sweda – Indirect heat has been applied over the face after abhyanga with towel cloth which was dipped in hot water and twisted to remove water to avoid burns. This procedure was given for 7 days.
- Navana nasya with Anutaila 3-3 drops in each nostril for 7 days

Shamana aushadhis (Internal medication)

Duration: below internal medications are used for 2 weeks

- Brihat vata chintamani Ras ½ tablet twice with kalyanaka ghrita and honey for 14 days
- Dashamoolarishta 5 ml BD with equal water for 14 days.

DISCUSSION

In the present study tremendous recovery has been observed in the first one week and patient was left with minimal residual weakness and he was free from chief complaints and full recovery observed after 2 weeks of treatment. The House–Brackmann scale scoring system was used to document the outcome.[16]

Bell's palsy has good prognosis and even though this condition is gradually resolve over time but needs appropriate timely intervention to prevent irreversible changes. Hence, in conventional therapy, steroid administration as early as possible is considered as the line of treatment. In the current case; treating Bell's palsy without continuing steroid treatment yielded complete recovery within seven days of treatment. While discussing the causative factors for Vata vyadhi (Vata dosha predominant disorders - in present context), excessive exposure to cold wind is considered as one of the causative factors in the vitiation of Vata that was evidenced in the present case.

As there is association of Vata with Kapha, the Vata Kaphahara Chikitsa is to be adopted. Navana nasya (medication of unctuous substance through nose), Murdhni taila (oil application overhead), Tarpana Chikitsa (nourishing procedure), Nadi sweda (type of Agni sweda in which sudation is done by steam from a tube like instrument), Upanaha (sudation with application of paste which is pre-warmed as in saṅkara sweda) and Anoopa mamsa sevana (consumption of meat of animals residing in Marshy area) is the line of treatment mentioned for Ardita.[17]

Navana nasya with Anutaila and Sthanika sneha and Pata sweda have been adopted to remove Urdhwajatrugata doshas. To subside the remaining doshas, oral medications combating Vata and Kapha Dosha have been selected. Anu tail helps to keep all the three dosha in its balance state which helps to maintain the harmony in the body especially of supraclavicular parts of the body[19].

Abhyanga with Ksheerabala taila, (Kshira + Bala + Taila) Bala is the main ingredients, it is not only alleviation of vata but also provide nourishment to nerves. It suppresses nerve inflammation due to its Sheeta veerya, promotes nerve regeneration and gives strength to muscles by its balya brahmana property. It stimulates nerve endings, it liquifies the Dosha, muscle relaxant, open the micro channels below skin level due to which the nasya drug is better absorbed.

Nasya mode of action

Drug administered through nostrils as nose is said to be the doorway to Shira hence it reaches the Shringataka Marma of Shira, which is a sira marma and formed by the siras of netra, nasa, kanta, srotas and may bring the changes[16].

The ingredients of Brihat vata chintamani rasa are swarna, rajata, abhraka, loha, pravala, mukta bhasma, kumari etc. Having the

properties like anti-inflammatory, analgesic and neuro protective[18]. Hence can be used in all ischemic /inflammatory condition related to central nervous system.

CONCLUSION

Bell's palsy case has been diagnosed based on its clinical presentation and thorough examination, which was understood as per Ayurveda classics, then treatment has been planned like Shiro abhyanga, Pichu and Navana nasya along with few oral medicines. It was observed that this particular treatment has provided maximum speedy recovery in this case within less time and without any side effects and while this treatment doesn't include any conventional drugs. Hence this same protocol is being practiced in acute Bell's palsy cases in our institute.

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