



## AYURVEDIC MANAGEMENT OF SHIROMARMA ABHIGHATA (TRAUMATIC BRAIN INJURY)

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### ABSTRACT

*Acharya Charaka* has emphasized 3 important organs which can cause death or major impairment in the functions of the person by injury to them which are termed as *Trimarma*. They are *Shiras*, *Hrudaya* and *Basti*. Among the *Trimarma*, *Shiras* is considered as *Uttamanga* and one among *Dasa-pranayatana*. Injury to this *Shiro marma* due to

external or internal factor is considered as *Shiro-marma abhighata*. *Shiro-marma abhighata* can be considered as one among the Traumatic Brain Injury. Approximately 1.5-1.7 million people are suffering with neurological disabilities every year due to Traumatic brain injury in India. *Shiro-Marma abhighata* is also mentioned as one of the cause for manifestation of various *Vatavyadhi* like *Pakshavadha*, *Sarvanga vata*, *Ekangavata*, etc. Here is a case report of *Shiro-marma abhighata*. Where, a male patient aged about 27 years met with an RTA and was on life support for 7 days at an allopathic hospital. Later he was discharged with necessary conservative treatment but the complaints of weakness of both upper limbs and lower limbs, slurred speech and unable to walk with support persists and for the same he approached SDMCAH, Hassan and got admitted and was rehabilitated with *Panchakarma* (purifactory therapy), *shamanaoushadi* and physiotherapy. After the course of treatment there was reversal of symptoms. The recovery was satisfactory and the results were documented.

**KEYWORDS:** *Shiro-marma abhighata*, Traumatic Brain Injury, *Trimarma*, Panchakarma.

## INTRODUCTION

*Acharya Charaka* has emphasized 3 important organs which can cause death or major impairment in the functions of the person by injury to them which are termed as *Trimarma*. They are *Shiras*, *Hrudaya* and *Basti*.<sup>[1]</sup> Among the *Trimarma*, *Shiras* is considered as *Uttamanga*<sup>[2]</sup> and one among *Dasa-pranayatana*.<sup>[3]</sup> Injury to this *Shiro marma* due to external or internal factor is considered as *Shiro-marma abhigata*.

*Shiro-marma abhigata* can be considered as one among the traumatic brain injury (TBI). The term *Shiras* includes skull or head. The term head injury includes injury to the scalp, skull and/or brain.<sup>[4]</sup> TBI, according to the WHO, will surpass many diseases as the major cause of death and disability by the year 2020. With an estimated 10 million people affected annually by TBI, the burden of mortality and morbidity that this condition imposes on society, makes TBI a pressing public health and medical problem.<sup>[5]</sup> Approximately 1.5-1.7 million people are suffering with neurological disabilities every year due to Traumatic brain injury in India.<sup>[6]</sup> Traumatic brain injury is considered a form of acquired brain injury, and refers to brain damage caused by an impact to the head.<sup>[7]</sup> Acquired brain injury can result in cognitive, physical, emotional, or behavioural impairments that lead to permanent or temporary changes in functioning.<sup>[8]</sup> Consequences of Acquired brain injury often require a major life adjustment around the person's new circumstances, and making that adjustment is a critical factor in recovery and rehabilitation.<sup>[9]</sup>

As per *Ayurveda*, *Shiro-marma abhigata* can be caused by external or internal injury to shiro marma by *Vatadi dosa*<sup>[10]</sup> gives rise to *Manyastamba*, *Ardita*, *Chakshu-vibrama*, *Moha*, *Udveshtana*, *Chestanasha*, *Kasa*, *Shwasa*, *Hanugraha*, *Mookata*, *Gadgadatva*, *Akshinimilana*, *Ganda-spandana*, *Jrimbhana*, *Lala srava*, *Swara-hani*, *Vadana-jihmatva*.<sup>[11]</sup> Further, *Shiro-Marma abhigata* is also mentioned as one of the cause for manifestation of various *Vatavyadhi*<sup>[12]</sup> like *Pakshavadha*, *Sarvanga vata*, *Ekangavata*, etc.

In acute stage, the patient can be managed by allopathic medical science, but there are no much treatment modalities to treat the residual spasticity of a chronic patient of *Shiro-marma abhigata*. As per *Ayurveda*, *Acharyas* described the involvement of *Vatadi dosa* in the pathogenesis of the disease, so patient can be managed with *Snehana*, *Svedana*, *Usna upanaha*, *Abyantara snehapana*, *Nasya* and *Dhoomapana*<sup>[13]</sup> etc., In this regard a shiro-marma abhigata case has been taken and adapted Panchakarma procedures.

## CASE STUDY

A male patient aged about 27 years met with an RTA on March 26<sup>th</sup> 2015 at Belur. He was on life support for 7 days at an allopathic hospital as he was unconscious with nasal bleeding, wound on the temporal region and loss of strength of both lower limbs and in left upper limb. After regaining conscious, he shifted to ward and discharged with necessary conservative treatment but the complaints of weakness of both upper limbs and lower limbs, slurred speech and unable to walk persists and for the same he approached SDMCAH after 2 months. Haematological and biological reports were within normal limits at that time. His CT- brain and spine was normal and revealed only fracture of nasal bone. No past history of Epilepsy, Diabetes and Bronchial Asthma. Patient was non smoker, non alcoholic and not having any allergy to any drug or food item.

At the time of examination patient vitals were normal and patient was conscious, oriented and responding to vocal commands but had slurred speech and not able to stand and walk without support (Table.1)

<b>Table.1</b>		
Motor Examination	<b>(LEFT)</b>	<b>(RIGHT)</b>
Muscle tone	Clasp knife rigidity (UL)	Normal
Muscle power	Grade 3	Grade 3
Deep reflex		
Supinator	Exaggerated Grade -4	Normal
Biceps	Grade -4	Normal
Triceps	Grade -4	Normal
Knee	Grade -4	Exaggerated
Ankle	Slightly exaggerated Grade- 3	Slightly Exaggerated
Superficial Reflex		
Corneal	Positive	Positive
Abdomen	Negative	Negative
Plantar	Negative	Negative
Foot pressure	6.25( by sitting)	6.3

## METHODOLOGY

- The diagnostic and assessment criteria have shown that the degree of TBI patient suffers is of moderate type. The treatment was planned in order to improve the overall condition of the patient.

- Also, the symptoms were in relevance to the *Shiro-marma abhigata* described in *Ayurveda* which is a *Vataja* disorder and thus the treatment was planned on the line of *Vatavyadhi Chikitsa*.
- 10 days of treatment had significant improvement in the condition of the patient.
- First line of treatment given was *Bhrumana chikitsa* as patient was in *Nirama Avasta*

### Treatment

SL. NO	TREATMENT GIVEN	MEDICINE	No of days
1	Sarvanga abyanga	Maha Masha Taila	1 <sup>st</sup> - 10 <sup>th</sup> day
2	Sarvanga pariseka	Bala moola ksheera paka	1 <sup>st</sup> - 5 <sup>th</sup> day
3	Shastika shali pinda sweda	Shastika Shali, Masha	5 <sup>th</sup> - 10 <sup>th</sup> day
4	Matra basti	Pippalyadi Taila 80ml	1 <sup>st</sup> - 10 <sup>th</sup> day
5	Shirodhara	Ksheera Bala Taila	1 <sup>st</sup> - 10 <sup>th</sup> day
6	Physiotherapy	Arm exercise, finger grip exercise and pedalling exercise	1 <sup>st</sup> - 10 <sup>th</sup> day

### RESULTS – COMPARISION BETWEEN BT AND AT

	Before treatment		After treatment	
	(LEFT)	(RIGHT)	(LEFT)	(RIGHT)
Muscle tone	Clasp knife rigidity	Normal	Normal	Normal
Muscle power	Grade 3	Grade 3	Grade 4	Grade 4
Deep reflex				
Supinator	Exaggerated / Grade - 4	Normal	Grade - 3	Normal
Biceps	Grade -4	Normal	Grade - 3	Normal
Triceps	Grade -4	Normal	Grade -3	Normal
Knee	Grade -4	Exaggerated	Grade - 3	Grade- 3
Ankle	Slightly exaggerated/Grade- 3	Slightly Exaggerated	Normal	Normal
Superficial Reflex				
Corneal	Positive	Positive	Positive	Positive
Abdomen	Positive	Negative	Negative	Negative
Plantar	Negative	Negative	Negative	Negative
Foot pressure ( by sitting )	6.25	6.3	7.35	7.5

### DISCUSSION

- Injury to the *Shiro Marma* is termed as *Shiro-Marma Abhigata*. *Shiras* includes skull or head so *Shiro-Marma Abhigata* can be considered as the Traumatic Brain Injury (TBI). In acute stage, the patient can be managed by contemporary medical science, but there are no much treatment modalities to treat the stage of residual paralysis of a chronic patient of

*Shiro Marma Abhighata*. Though *Acharyas* described the line of management as *Snehana, Svedana, Usna upanaha, Abyantara snehapana, Nasya* and *Dhoomapana* but in this particular patient, *avasthika chikitsa* adapted.

- Initially the patient was assessed for *ama* and *nirama lakshanas*. As patient was *krusha, durbala* and in *nirama* condition, *Abhyanga* with *Maha Masha Taila*<sup>[14]</sup> followed with *Sarvanga Pariseka* with *Bala moola Kshira Paka* has done for first 5 days later *Parisheka* changed to *Shastika Shali Pinda Sveda* for last 5 days. *Maha Masha Taila* having *bhrumana* and *Vata doshahara* property. It relieves pain, Soothes & enables the nerve to function properly. Benefits of *Snehana* followed by *svedana* is to pacify *vata dosha*, by which stiffness and rigidity was reduced.
- Basti* is the treatment choice for *Madhyama roga marga* and to protect *Marmas*<sup>[15]</sup> so *Matra Basti* was selected as it is *balya, bhrumana, vata rogahara* and simple to administer.<sup>[16]</sup> According to modern pharmacokinetics, it is also proved that rectal drugs administration might exceed the oral value due to partial avoidance of hepatic first pass metabolism. So in *Shiro-Marma Abhighata* when we give *Basti* by *Vatahara* drugs, the nutritive substance of drugs absorb from mucosa layer of gut, and toxic material of body flush out from rectal or intestinal mucosal layer. *Pippalyadi taila*<sup>[17]</sup> is best *anuvasana, vata anulomaka* and *agni vardaka* so it was used in *Matra Basti*.
- Patient was also treated with *Shirodhara*<sup>[18]</sup> because patient was anxious about his condition. Due to continuous pouring of oil, nerve ending of autonomic nervous system are stimulated, relives stress and pacify aggravated *vata*. *Shirodhara* done with *Ksheera Bala Taila* having *rasayana* property and pacifies the aggravated *Vata Dosha* in *Shira* which helps in relaxing the nervous system and also balancing the *Prana Vayu* around the head.

Physiotherapy helps in re-gaining of strength of bilateral lower limbs and left upper limb by exercises. As observed from the results, in 10 days the effect of treatment was success, though minimal, the time interval for sitting and walking with and without support increased and the hyper tonicity decreased significantly, the muscle power increased to grade 4 in both left upper and lower limb.

## CONCLUSION

Thus all these procedures help in regaining muscle strength and patient started walking with support for few distance. Whereas in coming follow ups the treatment is further extended

with *Yapana Basti and Shastika shali pinda sveda* there will be significant improvement in almost all the parameters taken. Though the *Shiro-marma abhighata* (TBI) condition not fully reversed but can be improved to a significant extent especially in case of moderate TBI as in this patient. And with the continuation of the treatment we hope for much better results coming forth. Thus it can be conclude that *Panchakarma* treatment modalities have a great scope in treating the *Shiro marma abhighata* in the stage of residual paralysis.

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