

## CLINICAL IMPORTANCE OF MARMA ACCORDING TO AYURVEDA

Dr. Harmeet Kour\*<sup>1</sup>, Dr. Sarika Gupta<sup>2</sup> and Dr. Anagha Gaitonde<sup>3</sup><sup>1</sup>Assistant Professor, Department of Prasuti Evum Stri Rog, Jammu Institute of Ayurveda and Research College Jammu(J&K).<sup>2</sup>Medical Officer, P.H.C Hariachak, Jammu and Kashmir.<sup>3</sup>PG Scholar, Department of Rachanashareer, Yashwant Ayurvedic College PGT & RC, Kodoli, Maharashtra.**\*Corresponding Author: Dr. Harmeet Kour**

Assistant Professor, Department of Prasuti Evum Stri Rog, Jammu Institute of Ayurveda and Research College Jammu(J&amp;K).

Article Received on 21/12/2021

Article Revised on 11/01/2022

Article Accepted on 01/02/2022

**ABSTRACT**

Marmas are the vital points of the body where the pranas resides. These are the area where the five anatomical structures ie. Mamsa, sira, snayu, asthi and sandhi resides. Any injury to these points may lead to severe pain, disability, loss of function, loss of sensation and may lead to death sooner or later or serious complications may occur. These points should be carefully dealt during any surgical procedure (Shalyakarma) and these should always be protected from any injury. Sushrut mentioned that knowledge of marmas is half of the knoweledge of surgery (Ardhchikitsa). Knowledge of marmas plays an important role for the surgeons during any surgical procedure over the marma point of the body.

**KEYWORDS:** Marma, vital points, shalyakarma, anatomical structures.**INTRODUCTION**

Marmas are explained in all Samhitas (Charak, Sushrut, Vagbhat). Acharya Sushrut has explained 107 marmas. Acharya Dhalhan explain the importance of marmas as “*Maryantiitimarmani*” that means any trauma to these points may lead to death or may result in disability.<sup>[1]</sup> According to Acharya Charakmarmas are the vital parts and seat of prana or chetna.<sup>[2]</sup> According to Acharya Vagbhat those sites which are painful on application of pressure and which shows abnormal pulsation are known as marmas and are said as a seat of “*jiva*”.<sup>[3]</sup>

Marma points are anatomical sites where muscles, vein, ligaments, bones and joints meet together. Marmas points plays important role in surgery and called as “*Shalya Vishayardha*” ie. half of the surgery.<sup>[4]</sup> Marmas made up of panchmahabhutas and constitute three important vital elements Marut, Tej and Som and they also contain trigunas Satva, Rajh and Tamh. The injury to these marma points may cause serious consequences. The use of marma therapy helps to treat various pathological conditions and the advantage of this therapy is, it is non-invasive. Marma points can help in reducing the pain. Susrut Samhita gives detailed description of marmas like number of marmas their location, structures involved.<sup>[5]</sup>

**Derivation of word Marma**

The origin of word marma according to various ayurvedic texts are as follows:-

**1. Amarakosh**

मृ-, मनिन्मृ+ प्राणत्यागे

According to Amarakosh the word ‘marma’ is derived from the sanskrit word ‘mri- manin’ or ‘mri- pranatyage’, which means that causes death or death like miseries.<sup>[6]</sup>

**2. Shabdhalpadrum**

मृ+ सर्वरधातुभ्योमनिन्

According to Shabdhalpadrum the word ‘marma’ is derived from ‘mri’ dhatu, which means as sandhistan (i.e. joining point of various structures) or jeevasthan (i.e. seat of life).<sup>[7]</sup>

**3. Raj Nighantu**

मृ- मनिन्, जीवस्थाने : संधिस्थानेतात्पर्ये च |

According to Raj Nighantukar the word ‘marma’ is derived from ‘mri-manin’, which means seat of life (jeevasthan) or place where many important structures meet (sandhistan).<sup>[8]</sup>

**Definitions of Marma****According to Acharya Sushrut**

मर्माणिमांससिरास्नाय्वस्थिसन्धिसन्निपाताः,

तेषुस्वभावतएवविशेषेणप्राणस्तिष्ठन्ति।

तस्मान्मर्मस्वभिहतास्तास्तान्भावनापध्यन्तेपधन्तेः॥

Marmas are the points where muscles, veins, ligaments, bones and joints meet. These are the places where the Prana (life) resides naturally.<sup>[9]</sup>

**According to AshtangSangraha**

तत्पुनःमांससिरास्नायुवस्थिसन्धिसन्निपाता

|तेनतस्मिन्पीडेयेमानेवीषेशतःप्राणबाधः||

Marmas are the sites where muscles, veins, ligaments, bones and joints meet. Any trauma or injury to these points may lead to destruction of prana i.e. life.<sup>[10]</sup>

**According to AsthangSangraha**

मांसास्थिस्नायुधमनीसिरासंधिसमागमः|

Marmas are the sites where muscles, bones, ligaments, artery, veins and joints meet. Prana is located there, and if they get afflicted, may causes death.<sup>[11]</sup>

**CLASSIFICATION OF MARMAS**

In the Ayurvedic literature, Marmas have been classified in different ways, such as their location in different

regions of the body, anatomy, size, effect of trauma on these etc. The different types of classification of Marmas are shown in the tables below.<sup>[12]</sup>

**Table no. 1: Shows classification of marma according to Sankhya (Number)**

S.No.	Body Organ	Locations	Prognosis	Dimention
1.	Masa Marma-11	Shakhagat Marma-44	Sadhya Pranhar-19	1/2 Anguli -56
2.	Sira Marma- 41	(Each Shaka 11)	Kalantar Pranhar-33	1 Anguli -12
3.	Snayu Marma-27	KosthagatMarma 26	Vishalyaghn- 03	2 Anguli -06
4.	Asthi Marma-08	(Madhya Sharer)	Vaikalyakar 44	3 Anguli-04
5.	Sandhi Marma- 20	Shiro Grivagat -37 (Shirogat 23, Grivagat- 14)	Rujakar-08	4 Anguli -29

**2. Marmas according to their Location in different Regions of the Body**

- Upper limbs (22)
- Lower limbs (22)
- Abdomen and Chest (12)
- Back (14)
- Supraclavicular region (neck and head) (37).<sup>[13]</sup>
- Mamsa (Muscle)
- Asthi (Bone)
- Snayu (Ligament)
- Sira (Vessel) and
- Sandhi (Joint).<sup>[14]</sup>

**3. Anatomical classification of Marmas according to Acharya Sushrut**

Acharya Sushrut has classified Marmas into five types according to the Dhatu from which they are made. These types are

**Table 2: Marmas in different regions of the body.<sup>[15]</sup>**

UrdhvaShakhagat (Upper limbs) (11X2)	AdhoShakhagat (Lower limbs) (11X2)	Udhargat (Abdomen) & Urogat (Thorax) (12)		Prishthagat (Back) (7X2)	Urdhwajatrugat (Supraclavicular region) (37)	
		Abdomen (3)	Thorax (9)		Neck (14)	Head (23)
Talhridaya-2	Talhridaya-2	Guda-1	Hridaya-1	Amsa-2	Nilā-2	Vidhur-2
Kshipra-2	Kshipra-2	Vasti-1	Stanamul-2	Amsaphalak-2	Manya-2	Phan-2
Kurch-2	Kurch-2	Nabhi-1	Stanarohit-2	Vrihati-2	Matrika-8	Apanga-2
Kurchshir-2	Kurchshir-2		Apalap-2	Parshvasandhi-2	Krikatika-2	Avarta-2
Manibandh-2	Gulph-2		Apastambh-2	Nitambh-2		Utkshepa-2
Indravasti-2	Indravasti-2			Kukundar-2		Shankha-2
Kurpar-2	Janu-2			Katikatarun-2		Sthapani-1
Ani-2	Ani-2					Shringhatak-4
Urvi-2	Urvi-2					Simanth-5
Lohitaksh-2	Lohitaksh-2					Adhipati-1
Kakshadhar-2	Vitap-2					

Table 3: Names of Marmas included under different anatomical classes.<sup>[16]</sup>

Mamsa Marma (11)	Sira Marma (41)		Snayu Marma (27)	Asthi Marma (8)	Sandhi Marma (20)	Dhamani Marma (9)
Talhridaya(4)	Urvi (4)	Nabhi (1)	Kurcha (4)	Katikatarun(2)	Janu (2)	Guda (1)
Indravasti (4)	Lohitaksh (4)	Nilā (2)	Kurchshir(4)	Nitambh (2)	Kurpar (2)	Apastambh(2)
Stanarohit(2)	Vrihati (2)	Manya (2)	Kshipra (4)	Ansaphalaka(2)	Gulpha (2)	Vidhur (2)
Guda (1)	Parshvasandhi(2)	Matrika (8)	Ani (4)	Shankh (2)	Manibandha(2)	Shringhatak (4)
	Hridya (1)	Shringataka(4)	Kakshadhar(2)		Kukundar (2)	
	Stanamul (2)	Apang (2)	Vitap (2)		Krikatika (2)	
	Apalap (2)	Phana (2)	Ansa (2)		Simant (5)	
	Apasthambh(2)	Sthapni (1)	Basti (1)		Adhipati (1)	
			Utkshepa (2)		Avarta (2)	
			Vidhur (2)			

Table 4: Classification according to the Size of Marmas.<sup>[17]</sup>

Eka anguli pramana (1 finger size) (12)	Dwianguli pramana (2 finger size) (6)	Tri anguli pramana (3 finger size) (4)	Eka hatheli/ mushti pramana (1 palm / fist size) (29)	Ardha-angulipramana (Half finger size) (56)	
Urvi (4)	Gulph (2)	Janu (2)	Kurch (4)	Kshipra (4)	Vrihati (2)
Kurchashir (4)	Manibandh (2)	Kurpar (2)	Guda (1)	Talahridaya (4)	Ansa (2)
Vitapa (2)	Stanamul (2)		Vasti (1)	Indrabasti (4)	Ansaphalak(2)
Kakshadhar (2)			Nabhi (1)	Ani (4)	Krikatika (2)
			Hridaya (1)	Lohitaksh (4)	Vidhur(2)
			Nilā (2)	Apalap (2)	Vidhur (2)
			Manya (2)	Apasthambh(2)	Apanga (2)
			Matrika (8)	Stanarohit (2)	Avart (2)
			Simanta (5)	Katikatarun (2)	Utkshepa (2)
			Shringataka (4)	Kukundar (2)	Shankh (2)
				Nitambh (2)	Sthapani (1)
				Parshvasandhi(2)	Adhipati (1)

**Marmas according to Panchbhautik Guna<sup>[18]</sup>**

Marmas according to panchbhautikguna are as follows:-

1. Sadhyapranharamarmas are agneya.
2. Kalantrapranharmarmas are Saumyagneya (fire and water qualities)
3. Vishalyaghanamarams are Vayavya
4. Vikalyakaramarmas are Saumya
5. Rujakaramarmas are AgneyaVayavya (having fire and air quality).

**Common symptoms of Marmaghata**

भ्रमः प्रलापः पतनं प्रमोहो विचेषष्टनं सलयनोष्णते च ।

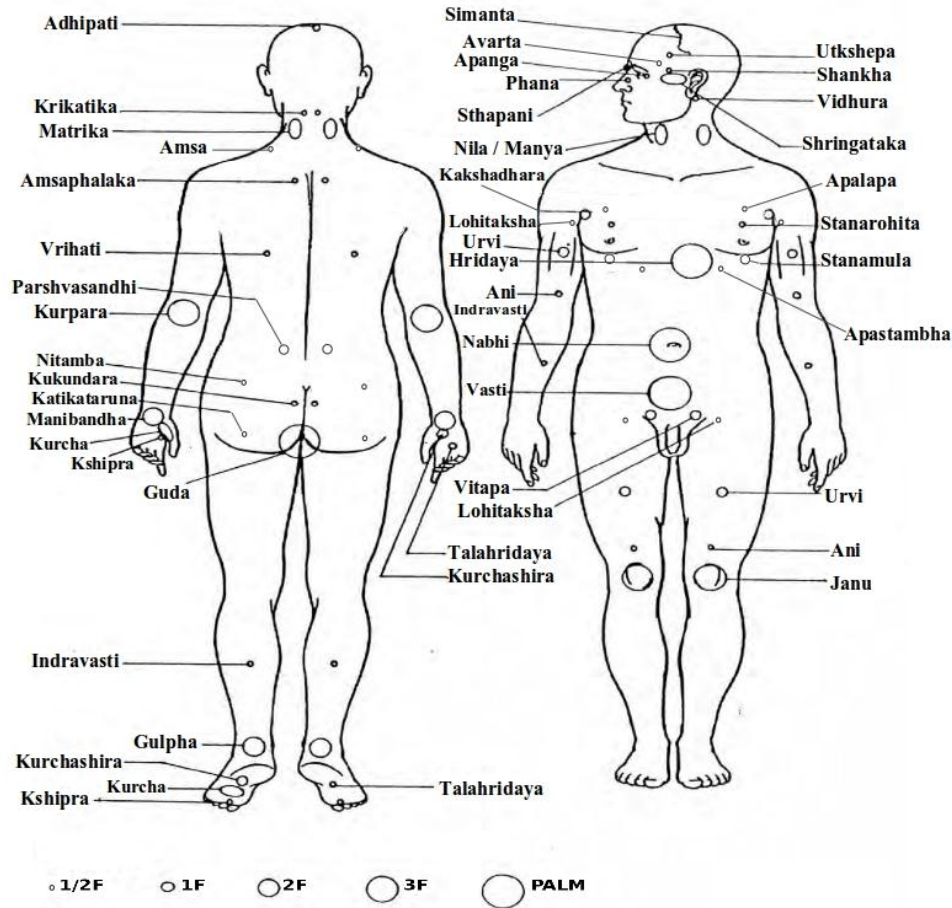
स्रस्ताङ्गतामूर्च्छनमूर्ध्ववास्तीव्रारुजोवातकृताश्च तास्ताः ॥

मांसोदकाभंरुधिरन्च गच्छेत्सर्वेन्द्रियार्थोपरमस्तथैव ।

दशधरसंख्येष्वपि हि क्षतेषु सामान्यतो मर्मसु लिङ्गमुक्तम् ॥<sup>[19]</sup>

- Bhrama (Giddiness)
- Pralap (Delirium)
- Patana (Fainting)
- Pramoha (Delusion)
- Vicheshtana (Loss of activity of the body parts)
- Sanlayana (Semi- consciousness)
- Ushnata (Increase of body temperature)
- Srastaangata (weakness of body parts)
- Murchha (Fainting)
- Urdhwavata (Increased expiration)
- Vatastivraruja (Severe pain caused by Vata).

- Mansadokabhamrudhiram cha gachchheta (Flowing out blood resembling meat washed fluid)
- Sarvendriyarthoparamastathaiva (Cessation of activity of all sense organs) are the common symptoms when all the five vital spots (mamsa, sira, snayu, asthi, sandhi) are injured.



**Symptoms of Marma Vidha**

**Table no. 5: Marma Vidha symptoms according to Acharya Sushruta.<sup>[20]</sup>**

S.No.	Type of Marma	No.	Name of Marmas	Marma Vidha Lakshanas
1.	Mamsa Marma	10	Talhridaya, Indravasti, Stanarohit	Loss of sensation, Vipaandutaa (profound yellowish white color of body)
2.	Sira Marma	37	Urvi, Lohitaksh, Vitap, Kakshadhar, Nabhi, Hridaya, Stanamula, Apalap, Parshvasandhi, Vrihati, Nila, Manya, Matrika, Phan, Sthapani	Intense bleeding from the wound, color of blood resembles indragopa (bright red colored like conchial insect), Vata gets aggravated and causes many diseases
3.	Snayu Marma	23	Kurcha, Kurchsira, Kshipra, Ani, Vasti, Ansa, Apanga, Utkshepa	Shortening, debility of body parts, that become unable to perform their actions, excruciating pain, wound healing takes longer time
4.	Sandhi Marma	20	Gulpha, Janu, Manibandh, Kurpar, Krikatika, Kukundar, Avarta, Simanta, Adhipati	profuse swelling, severe pain, loss of strength of joints, splitting pain, oedema, and loss of function of joints
5.	Asthi Marma	8	Katikatarun, Nitambh, Ansaphalak, Shankha	Severe and constant pain during day and night, finds no comfort in any posture, thirst, body weakness, oedema, pain
6.	Dhamani Marma	9	Guda, Apastambha, Vidhur, Shringataka	-----

**Table No. 6: Symptoms of Marmaghata according to vulnerability of Marmas.<sup>[21]</sup>**

S.No.	Type of Marma	No.	Trigunas	Bhutas	Symptoms of Marmaghata
1.	Sadyah Pranahar	19	Rajhas & Sattva	Agni	Loss of sensory perception, abnormalities of mind and intellect, different kinds of severe pain. Immediate death within seven days. When injured, there is sudden depletion of Agni Guna.
2.	Kalantara Pranahar	33	Rajhas & Tamas	Agni & Soma	Dhatukshya (loss or decrease of Dhatus), loss of consciousness. Death within fifteen or thirty days of injury. When injured, there is sudden depletion of Agni Guna, followed by gradual depletion of Soma Guna.
3.	Vishalyaghn	03	Rajhas	Vayu	Vayu escapes when Shalya (foreign material) is removed and results in death. Vayu, mansa, vasa, majja and mastulunga are dried; shwas, kas develops and destroys the life of the person.
4.	Vaikalyakar	44	Tamas	Soma	Sthirattvam (stable) and Shaityam (cold) property of Soma leads to Pranavalambana (holds Prana - that is why it helps in sustenance of life), but results in deformity
5.	Vaikalyakar	08	Rajho Bahulya	Vayu & Agni	Any injury results in pain (Agni is Ashukari - quick acting, and Vayu produces pain)

**Table No. 7: Specific Symptoms of Marmaghata for Individual Marmas.<sup>[22]</sup>**

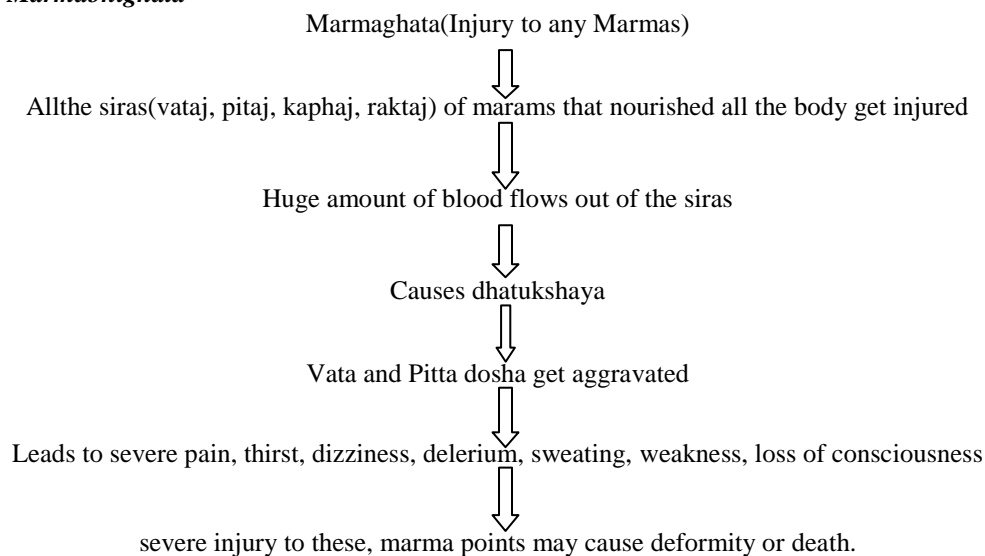
S.No.	Marmas	Effect trauma	Result
1.	Kshipra	Death due to convulsions	Delayed fatal
2.	Talhridaya	Death due to severe pain	Delayed fatal
3.	Kurch	Wrist drop / Foot drop and tremors	Disabling
4.	Kurchashir	Pain and swelling	Painful
5.	Manibandh	Pain, wrist drop and deformity	Painful
6.	Gulph	Pain, restricted ankle movement and deformity	Painful
7.	Indravasti	Excessive haemorrhage and death	Delayed fatal
8.	Kurpar	Non- functioning and deformity of forearm	Disabling
9.	Janu	Non- functioning and deformity of leg	Disabling
10.	Ani	Excessive swelling and dysfunction of limb	Disabling
11.	Urvi	Haemorrhage and atrophy of limb	Disabling
12.	Lohitaksh	Excessive bleeding, paralysis and death	Disabling
13.	Kakshadhar	Paralysis	Disabling
14.	Vitap	Impotency or decreased semen discharge	Disabling
15.	Guda	Immediate death	Immediate fatal
16.	Vasti	Immediate death	Immediate fatal
17.	Nabhi	Immediate death	Immediate fatal
18.	Hridaya	Immediate death	Immediate fatal
19.	Stanarohit	Haemothorax, cough, breathlessness and death	Delayed fatal
20.	Stanamul	Pleural effusion, cough, breathlessness and death	Delayed fatal
21.	Apalap	Pyaeamia, septicemia and death	Delayed fatal
22.	Apastambh	Pneumothorax, cough, breathlessness and death	Delayed fatal
23.	Katikatarun	Excessive haemorrhage, severe anaemia and death	Delayed fatal
24.	Kukundar	Loss of sensation and locomotive activity	Disabling
25.	Nitambh	Atrophy of lower limbs and death	Delayed fatal
26.	Parshvasandhi	Renal injury, retroperitoneal haemorrhage& death	Delayed fatal
27.	Vrihati	Haemorrhagic complications and death	Delayed fatal
28.	Ansaphalak	Numbness and paresis of upper limbs	Disabling
29.	Ansa	Stiff shoulder	Disabling
30.	Krikatika	Instability of head, continuous movement of head	Disabling
31.	Nila	Aphonia, dysphonia and loss of taste	Disabling
32.	Manya	Aphonia, dysphonia and loss of taste	Disabling
33.	Matrika	Sudden death	Immediate fatal

34.	Vidhur	Deafness	Disabling
35.	Phan	Anosmia (loss of smell sensation)	Disabling
36.	Apang	Blindness or Diminution of vision	Disabling
37.	Avarta	Blindness or Diminution of vision	Disabling
38.	Utkshap	Death, if foreign body removed	Fatal after removal of foreign body
39.	Shankh	Sudden death	Immediate fatal
40.	Sthapani	Death, if foreign body removed	Fatal after removal of foreign body
41.	Simanth	Madness, phobia, chittanasha, death	Delayed fatal
42.	Shringatak	Sudden death	Immediate fatal
43.	Adhipati	Sudden death	Immediate fatal

Table No. 8: Symptoms caused by Marmaghata of Trimarmas.<sup>[23]</sup>

S.No.	Marma	Symptoms of Marmaghata
1.	Hridya	Kas (cough), shwas (breathlessness), balakshya (debility), kanthashosh (dryness of throat), traction of kloma, mukhatalushosha (dryness of mucous membrane of oral cavity), jihwanirgaman (protraction of tongue), different types of psychotic disorders like apasmara (epilepsy), unmada (insanity), pralap (delirium), chittanash (emptiness of mind), etc.
2.	Shir	Kas (cough), shwas (breathlessness), balakshya (debility), kanthashosh (dryness of throat), traction of kloma, mukhatalushosh (dryness of mucous membrane of oral cavity), jihwanirgaman (protraction of tongue), different types of psychotic disorders like apasmara (epilepsy), unmada (insanity), pralap (delirium), chittanash (emptiness of mind), etc.
3.	Vasti	Apanavayu-mutra-varchanigraha (retention of flatus, urine and faeces), vankshan - mehan-vastishool (pain in groin, penis and urinary bladder), kundala, udavarta, gulma, vatashthila, upastambh (stiffness), nabhikukshigudashronigraha (spasm in navel, lower abdomen, anus and hip region), etc.

#### Samprapti of Marmabhighata<sup>[24]</sup>



#### DISCUSSION

Description of marma points is found in most of the Ayurvedic texts but the detailed description is found in the SushrutSamhita. Acharya Sushrut has described the locations of the marma points, as well as their influence on prana. According to Sushrut, it is important for the surgeon to have knowledge of these vital points for the purpose of surgical procedures, as injury to these points may prove fatal to the patient's life. Acharya Sushrut has described particular symptoms in view of the organs or components of the body like mamsa, sira, snayu, asthi, sandhi. Injury to mamsamarmacauses continous oozing

of the blood, pallor, loss of perception power of sense organs(indriyas) and eventually death of the patient. Injury to siramarma causes constant flow of thick blood, thirst, giddiness, dyspnoea, dillusion and hiccups which ultimately leads to death. Injury to snayumarma causes ayami.e.contraction or bending of the body, convulsions(akshep), stiffness(stambh), severe pain, inability in sitting, ridding, standing, deformity of body organs and eventually death. Injury to asthimarma causes intermittent bleeding mixed with bone marrow and feeling of pain. Injury to sandhi marma there is feeling of pricking with thorns at the site of injury, shortening of

the organ or part is found even after the healing of the wound, there is loss of strength and movement of the part, atrophy of the effected part and swelling of the joints.

From the above description injury to all type of marmas may prove fatal. There is no marma in the body which may not produce little harm or no harm. The pathological changes occurs after injury at the site of marma are difficult conditions to treat. Even if they are treated with extreme care under the supervision of an expert surgeon, complications are still there.

### CONCLUSION

Marmas are great contribution of Ayurvedic science. Acharya Sushrut has described 107 marmas in various body parts, which should be treated as mirror of surgery while dealing with surgeries as vital energy (prana) resides there. Marma therapy maintain health by cleansing the blocked energy. It removes blockage by giving very light stimulation on the marma points, and this leads to physical and psychological relaxation by opening the energy channels in the body called srotas. Marma therapy pacifies vata dosha and thus relieves pain. Marma therapy is cost effective and safer treatment for relieving pain. There is need of more scientific researches on this therapy.

### REFERENCES

1. Acharya Yadavji Trikamji. Sharir Sthan Chapter6, Verse 26 Sushrut Samhita with Nibandhasangraha commentary of Dalhanacharya. Reprint edition Varanasi (India): Chaukhamba Sanskrit Sansthan; 2010; page no55.
2. Charaka. Charak Samhita. Brahmanand Tripathi, editor. 1st edition. Varanasi: Chaukhamba Surbharti Prakashan; 2007, page no 695.
3. Ashtang Hridayam, Kaviraj Atrideva Gupta, editor 1st edition 2011, Chaukhamba Varanasi Prakashan(Hindi commentary), page no 266, 270.
4. Acharya Yadavji Trikamji, NR, Sushrut Samhita Nibandhasangraha commentary, Chaukhambaorientalia, Varanasi; 1997; Sushrut Sharir Chapter 6, Verse 35, page no 375.
5. Acharya Yadavji Trikamji, Sushrut Samhita with the Nibandh Sangraha Commentary of Shri Dalhanacharya and the Nyayachandrika Panjika of Sri Gayadasacharya on Sharir, Varanasi, Chaukhamba Sanskrit Sansthanreprint 2012, page no 369.
6. Hargovind Shastri, Amarkosh. 3rd edition Varanasi, Uttar Pradesh, India: Chaukhamba Sanskrit Sansthan; 1997.
7. Raja Radha Kanta Deva, Shabda-kalpdrum part 1, 3rd edition, Varanasi, Uttar Pradesh, India, Chaukhamba Sanskrit Sansthan 1967.
8. Sankhyadhar SC. Raj Nighantu - Shri Narhari pandit (English translation with critical commentary). Sankhyadhar D (compiled). Varanasi, Uttar Pradesh, India, Chaukhamba Orientalia; 2017.
9. Sushrut Samhita, Sharirasthanadhyaya 6/16, edited with Ayurveda Tatva Sandipika, Hindi Commentary by Ambika Dutt Shastri Chaukhamba Prakashan 2011, page no 69.
10. Kaviraj Atrideva Gupta, Ashtangsangraha (with Hindi commentary) (Hindi). part 1, 2. Varanasi, Uttar Pradesh, India: Chaukhamba Krishnadas Academy; 2016.
11. K.R. Srikanta Murthy, Ashtangsangraha of Vagbhata, volume II -Sharir, Nidhan, Chikitsa and Kalpasthana. Varanasi, Uttar Pradesh, India: Chaukhamba Orientalia; 2018.
12. Sushrut Samhita, Sharirasthanadhyaya 6/4, edited with Ayurveda Tatva Sandipika, Hindi Commentary by Ambika Dutt Shastri Chaukhamba Prakashan 2011, page no 67.
13. Sushrut Samhita, Sharirasthanadhyaya 6/5, edited with Ayurveda Tatva Sandipika, Hindi Commentary by Ambika Dutt Shastri ChaukhambaPrakashan 2011, page no 67.
14. Sushrut Samhita, Sharirasthanadhyaya 6/3, edited with Ayurveda Tatva Sandipika, Hindi Commentary by Ambika Dutt Shastri Chaukhamba Prakashan 2011, page no 67.
15. Sushrut Samhita, Sharirasthanadhyaya 6/6, edited with Ayurveda Tatva Sandipika, Hindi Commentary by Ambika Dutt Shastri Chaukhamba Prakashan 2011, page no 68.
16. Sushrut Samhita, Sharirasthanadhyaya 6/7, edited with Ayurveda Tatva Sandipika, Hindi Commentary by Ambika Dutt Shastri Chaukhamba Prakashan 2011, page no 68.
17. Sushrut Samhita, Sharirasthanadhyaya 6/29-30, edited with Ayurveda Tatva Sandipika, Hindi Commentary by Ambika Dutt Shastri Chaukhamba Prakashan 2011, page no 76.
18. Sushrut Samhita, Sharirasthanadhyaya 6/17, edited with Ayurveda TatvaSandipika, Hindi Commentary by Ambika Dutt Shastri Chaukhamba Prakashan 2011, page no 68-70.
19. Sushrut Samhita, Sutrasthanadhyaya 25/343-35, edited with Ayurveda Tatva Sandipika, Hindi Commentary by Ambika Dutt Shastri Chaukhamba Prakashan 2011, page no137.
20. Sushrut Samhita, Sutrasthanadhyaya 25/36-40, edited with Ayurveda Tatva Sandipika, Hindi Commentary by Ambika Dutt Shastri Chaukhamba Prakashan 2011, page no 137.
21. Sushrut Samhita, Sharirasthanadhyaya 6/24, edited with Ayurveda Tatva Sandipika, Hindi Commentary by Ambika Dutt Shastri Chaukhamba Prakashan 2011, page no71-72.
22. Sushrut Samhita, Sutrasthanadhyaya 6/25,26,27,28, edited with Ayurveda Tatva Sandipika, Hindi Commentary by Ambika Dutt Shastri Chaukhamba Prakashan 2011, page no72,73,74,75.
23. Charak Samhita, Siddhistanadhyaya 9/6, volume I, II. Varanasi, Uttar Pradesh, India: Chaukhambha Orientalia; 2008.

24. Sushrut Samhita, Sharirsthanadhyaya 6/38,39,40,41, edited with Ayurveda Tatva Sandipika, Hindi Commentary by Ambika Dutt Shastri Chaukhamba Prakashan 2011, page no77-78.