AYU

Access this article online
Website: www.ayujournal.org
DOI: 10.4103/0974-8520.96118
Quick Response Code:

Survey Study

Study of *Vaikalyakara Marma* with special reference to *Kurpara Marma*

S. K. Muley[1], N. N. Ingale[2], S. D. Bhingare[3]

[1]Associate Professor and Head, Department of Sharira Rachana, Government Ayurved College, Nanded, [2]Ex Professor and Head, Department of Sharira Rachana, Government Ayurved College, Nagpur, [3]PG Scholar, Department of Sharira Rachana, Government Ayurved College, Nanded, Maharashtra, India

Abstract

This study was undertaken to study *Kurpara Marma* in relation to its *Vaikalyakara* effects when injured. The location of *Kurpara Marma* was found with the help of the description of *Marma* in Ayurvedic texts, dissection of the elbow joint, and with help of X-ray documentation. Total 80 patients having trauma to elbow joints due to various causes such as fall, road traffic accident, direct trauma on elbow joint, history of trauma a year back, and injury due to burn were included in this study. These patients were observed for 3 months for any changes in symptoms. In Sushruta Samhita, it was stated that an injury to the *Kurpara Marma* ends in *Kuni* (dangling of the hand), swelling, loss of power, restricted movements, and muscle wasting and associated symptoms like tingling sensation, heaviness, syncope, sweating, dizziness, and vomiting. After analysis of data, i.e., after analyzing the percentage of all symptoms on admission as well as after 3 months, it was found that all 80 patients, i.e., 100% had swelling and loss of muscle power. A total of 72 patients, i.e. 90% had dangling of hand on admission. After 3 months, 40 patients (50%) still remained with the dangling of hand. Seventy-two patients had restriction in flexion and extension deformity which still remained in 50% of patients. Hence, it was proved that *Kurpara* (elbow joint) is definitely a *Vaikalyakara Marma*. Disabilities like restriction of movements, swelling, and atrophy were remains of an injured elbow joint inspite of best surgical treatment.

Key words: *Ayurveda*, *Kurpara Marma* (elbow joint), *Marma*, *Vaikalyakara Marma*

Introduction

Ayurveda is India's traditional healing system it's a profound system of mind–body medicine and natural living. *Ayurveda*, which means "the science of life,"[1] has become recognized today for its wonderful dietary, herbal, life-style, and yogic therapies that help us live longer, happier, wiser, and more in harmony with the greater universe of life and consciousness. *Ayurveda* is a part of the older spiritual heritage of humanity that contains secret knowledge and profound wisdom.

The science of *Marma* (vital point), i.e., *Marma Vjyaniyam* is an extraordinary and dynamic part mentioned in Ayurvedic texts that has a tremendous value while performing surgery. According to *Ayurveda*, the knowledge of the position of *Marma* and *Marmabhighata* (injuries to vital points) symptoms is essential before performing any surgical treatment.

Address for correspondence: Dr. Shashikant K. Muley, Flat No. 6, Mandakini Apartment, Gurudwara Road, Nanded - 431 601, Maharashtra, India.
E-mail: drskmuley1960@rediffmail.com

Marmas are certain vital points spread all over the surface of the human body. These are the places where the *Prana* (life force) is said to be situated.[2] *Marma*, definitions of *Marmas*, types of *Marmas*, symptoms produced after injuries to these *Marmas*, and their treatment are described by nearly all Ayurvedic texts, especially "*Trimarmiya Siddhi*,"[3] "*Trimarmiya Chikitsa*,"[4] chapters in Charaka Samhita, "*Marma Vibhaga*" chapter in Ashtanga Sangraha,[5] and "*Shariravichaya Sharir*" chapter in Kashyapa Samhita.[6] Many different *Marma* regions are described in Ayurvedic texts along with their specific effects on both body and mind. *Marmas* range in size from very small to very large, from special points along the hands and feet to significant regions on the trunk of the body like the heart or the navel. When manipulated, *Marmas* can alter both the organic functions and structural conditions of the body. Little injuries to these *Marma* points or anatomical areas can be fatal comparing with major injuries at anywhere else in the body, so detailed knowledge of these *Marma* points is crucial for an Ayurvedic physician. In *Ayurveda*, a 107-point *Marma* system was developed by an ancient Indian surgeon Sushruta for helping a surgeon to safely operate on the human body.[7] In the ancient era, even after the best treatment available at that

time, some sort of disability remained at end of the therapy. Nowadays, though super specialty modalities are available, is modern science capable of taking care of these disabilities? To rule out the above question, a study of *Vaikalyakara Marma* is essential.

Objectives

The study had the following objectives:

1. To collect the literature of *Vaikalyakara Marma* from *Ayurveda* text books.
2. To locate the appropriate position of *Kurpara Marma* and study its structure.
3. To study *Marmaghata* signs and symptoms of *Kurpara Marma* (injuries to the elbow joint) and their *Vaikalyakaratva* (deformities formed after injuries or surgical treatment).

Materials and Methods

For the structural study of *Kurpara Marma*, the following things were needed:

1. X-ray instrument
2. Elbow joint of cadaver
3. Scalpel
4. Surgical scissor
5. Plain and tooth forceps
6. Retractors
7. Camera.

For the survey of *Kurpara Marmabhighata* (study of *Marmaghata* symptoms), the following things were needed:

1. CRF of *Kurpara Marmaghata* (injuries to *Kurpara Marma*)
2. Goniometer
3. X-ray film and their reports
4. Camera.

Structural study of *Kurpara Marma*

For the study of the structures which are included at the site of *Kurpara Marma*, it is essential to determine the appropriate location of *Kurpara Marma*, for the conveniences in the dissection as well as during clinical study. In *Ayurveda* text book, the measurement of *Kurpara Marma* is mentioned to be about three *Angula* (three digits).[8]

Method

According to *Vagbhatacharya*, *Marma* is the place where *Vishama Spandana* is felt and there will be tenderness after applying pressure. After palpating the elbow joint (medially to bicipital aponeurosis), pulsation of the brachial artery is felt and after stroking behind the medial epicondyle of the humerus, tenderness and tingling sensation are observed.

To study structures in this three *Angula* area on the elbow joint, healthy adult volunteers having all proportionate body parts were selected. Fully extended index, middle, and ring fingers of one hand, kept parallel on the fully extended elbow joint, from above downward anteriorly. The anterio-posterior radio figure in the above situation shows "three finger area" which is the location of *Kurpara Marma* [Figures 1-4].[9]

Clinical study

A total of 80 patients of *Kurpara Marmaghata* in the orthopaedic OPD were selected for the present study irrespective of their age, sex, religion, occupation, etc. A detailed history was taken according to the proforma prepared for the study incorporating all the relevant points from both Ayurvedic and modern views:

1. Inclusion criteria:
   (a) A history of trauma at either elbow joint
   (b) A history of trauma in either sex
   (c) Registered patients
2. Exclusion criteria:
   (a) Unconscious patients
   (b) Mute and dumb patients
   (c) Patients with Psychotic disorders
   (d) Poliomyelitis patients
3. Assessment criteria for symptoms of *Kurpara Marmaghata* (injuries to elbow joints)
   (a) For pain, tenderness, and swelling (mild+, moderate++, and severe+++ grading has been provided)
   (b) Patients with symptoms like swelling, loss of activities, muscle wasting, and restricted movements before and after surgical treatment were reassessed by the demonstration of X-ray to find structural deformities after injuries.

Observations

A total of 80 patients, registered at OPD/IPD, were assessed on symptoms such as *Kuni*[10] in Samhita which means flexed elbow, *Sankuchita Bahumadhya*, *Prabahu Panyanguli Kubjata*, restricted flexion, and extension deformities. The following observations were made and noted.

According to the cause of injury, in majority of patients *Kurpara Marmaghata* was the consequence of fall from height (72 patients). The other causes included were road traffic accidents, trauma (direct/indirect), trauma caused 1 year back, post-operative trauma, burns, etc.

After reviewing major and associated symptoms after elbow injuries, it was found that majority of patients had symptoms like loss of muscle power, restricted movements, swelling and dangling of hand after injury to the elbow joint, but no one had palm drop. Those patients observed after previous treatment were found with unchanged symptoms even after treatment [Figures 5–8].

Table 1 shows that out of 80 patients, 100% patients had swelling and loss of muscle power followed by 90% patients having dangling of hand, *Sankuchita Bahumadhya*, *Prabahu-Panyanguli Kubjata*, and restricted flexion and extension, and 85% patient having restricted supination and pronation [Graph 1].

These patients when diagnosed and categorized by modern diagnosis; it was found that large samples had a medical condition like supracondylar dislocation of the elbow before developing major symptoms [Tables 2, 3 and Graph 2].

Discussion

The study was carried out in two parts: (1) structural study and (2) clinical study.

Table 1: Signs and symptoms of *Kurpara-Marmaghata* in 80 patients

Sign and symptoms of *Kurpara Marmabhighata*	Observation			
	On admission		After 2–3 months	
	No. of patients	Percentage	No. of patients	Percentage
Dangling of hand	72	90	40	50
Sankuchita Bahumadhya	72	90	00	00
Prabahu-Panyanguli Kubjata	2	2.5	2	2.5
Wrist drop	2	2.5	2	2.5
Loss of muscle power	80	100	4	5
Restricted flexion deformity	72	90	40	50
Restricted extension deformity	72	90	36	45
Restricted supination– pronation	68	85	4	5
Muscle atrophy	00	00	72	90
Swelling	80	100	48	60

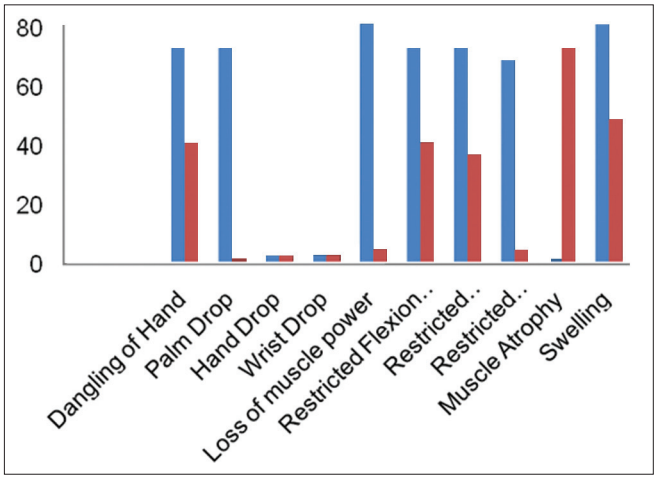
Table 2: Radiological diagnosis of *Kurpara Marmaghata* in 80 patients

Radiological diagnosis	No. of patients	Percentage
Supra condylar	34	42.5
Intra condylar	02	02.5
Olecrenon	06	07.5
Coronoid	02	02.5
Radial head	02	02.5
Epicondylars	02	02.5
Dislocation of the elbow	20	25.0
Pulled elbow	04	05.0
Sprained elbow	08	10.0

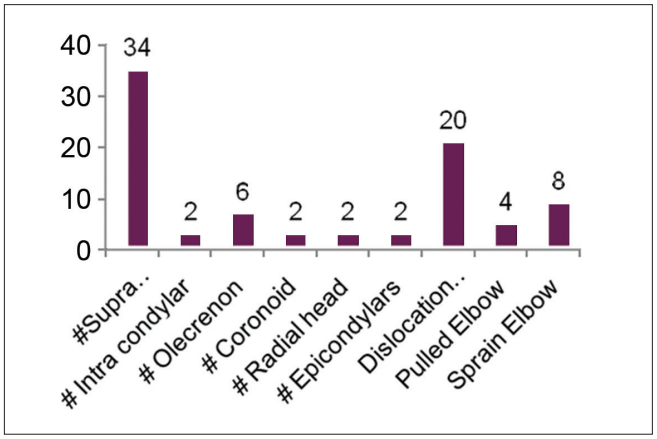
Table 3: Deformity of *Kurpara Marmaghata* in 80 patients

Deformity range	No. of patients	Percentage
Flexion deformity		
0–10°	28	35
11–20°	08	10
21–30°	06	7.5
Supination–pronation deformity		
0–20° and 160–180°	04	5

The normal extension–flexion range is 0–130°. The normal supination–pronation range is 0–180°.



Graph 1: Division of *Kurpara Marmaghata* patients according to major symptoms (with respect to the elbow joint)



Graph 2: Division of *Kurpara Marmaghata* patients according to modern diagnosis), total no. of patients – 80

Structural study

For the structural study, X-ray films of the elbow joint in a healthy volunteer were analyzed. The determination of the site of *Kurpara Marma* was done with the help of radiology which includes superior radioulner, radiohumeral, and ulnohumeral joints.

The structural study of *Kurpara Marma* with the help of the dissection of the elbow joint shows that there is an aggregation of muscles (tendon of the bicep, bicipital aponeurosis, pronator teres, flexor carpi radialis longus, palmaris longus, flexor carpi ulnaris, brachioradialis, etc.), nerves (ulnar nerve, median nerve, radial nerve), arteries (termination of brachial artery into the radial and ulnar artery), and bones (lower end of the humerus, upper end of the radius and ulna). So after doing dissection, it was understood that it is a *Sandhi Marma*. So injury to this region could result into damage to any of these structures, either nerve or artery, or both. An injury to nerves leads to the paralysis of the muscles of the forearm resulting into dangling of hand, wrist drop, restricted flexion–extension, restricted pronation–supination, etc.

Figure 1: Location of *Kurpara Marma* by an X-ray film

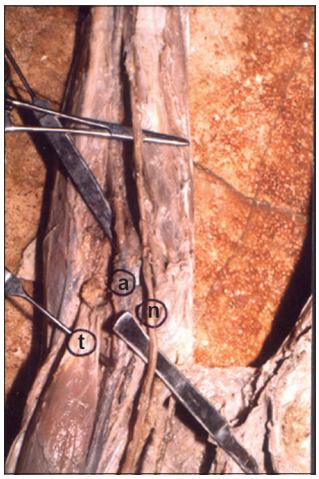


Figure 3: *Marmastha Mamsa Sira*: t – Tendon of the biceps, a – Brachial artery, and n – Median nerve

Figure 5: Restricted flexion deformity in the elbow joint

The structural study of *Kurpara Marma* with the help of the dissection of the elbow joint shows *Mamsa*, *Sira*, *Snayu* less than *Asthi*, and *Sandhi* which was stated by Acharya Sushruta. After the survey of 80 patients with elbow joint injuries, it was observed that inspite of the best treatment available, some deformities still remained as a consequence of the injury. So it can be concluded that "*Kurpara* is a *Vaiklyakara Marma*."

In Sushruta Samhita chapter 6, *Sharir Sthana*, mentioned that *Mamsa* (muscle), *Sira* (vessels), and *Snayu* (tendons) are present in a nearby small fraction and *Asthi* (bones) and *Sandhi*

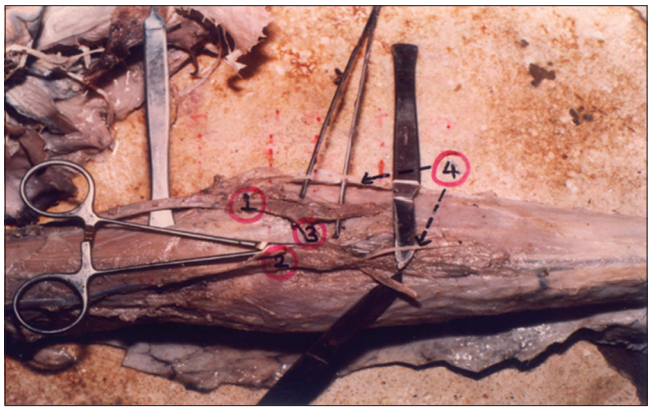


Figure 2: *Marmastha Mamsa Sira*: (1) basalic vein, (2) cephalic vein, (3) median cubital vein and (4) cutaneous nerves of the forearm

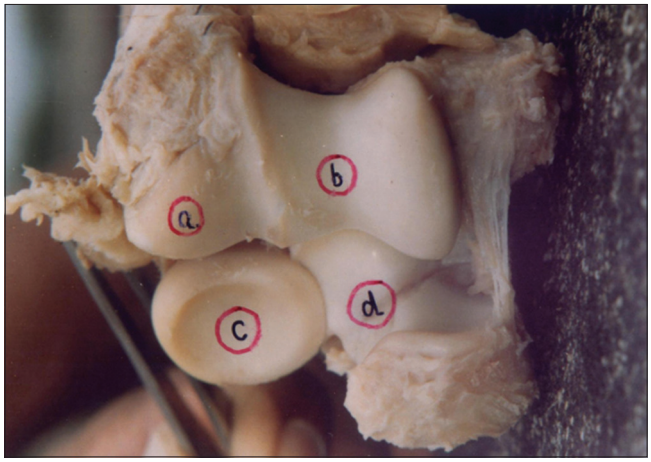


Figure 4: *Marmastha Asthi–Sandhi*, i.e., articular surface of elbow joint: (a) capitulum, (b) trochlea, (c) head of the radius, and (d) trochlear notch

Figure 6: Restricted extension deformity of the elbow joint

(joints) are present in a higher percentage. After the dissection of the cadaveric elbow joint, the same was found which was stated earlier by Acharya Sushruta as *Kurpara Marma* is also a *Vaikalyakara Marma*.

In the survey, only those patients were included in whom injuries to the elbow joint occurred in areas of three *Angula Parimana* (length of three digits). Injuries like supracondylar #, intracondylar #, olecrenon #, coronoid #, epicondylar dislocations are included in *Kurpar Marmaghata*.

Figure 7: Restricted flexion deformity of the elbow joint

Figure 8: Restricted extension deformity of the elbow joint with hand drop

After the survey of *Kurpara- Marmaghata* patients, symptoms like swelling and loss of power were found in 100% patients; restricted movements (flexion and extension of the arm), deformity like dangling of hand, i.e., difficulty in lifting objects, grasping, etc., were observed in 90% patients inspite of being treated by best surgical treatment. The cause of deformity called *Kuni* (dangling of hand) was changing the normal structure of the articular surface in the elbow joint, which was confirmed through the study of postoperative X-rays.

According to Vaghbhata, structures which show irregular pulsation and where the pain on pressure persists can be labeled as *Marmasthana*.[11] According to Sushruta, *Marma* is a conglomeration of anatomical structures, namely, *Mamsa* (muscle), *Sira* (blood vessels), *Snayu* (ligaments and nerves), *Asthi* (bone), and *Sandhi* (joints).[12]

The statements clearly help in deriving a conclusion that there are certain very vital anatomical points in the body, which have a secret and significant life values and they are composed of nerves, muscles, blood vessels, joints, ligaments, and bones. It is not necessary that all these structures should be present collectively at a time for the composition of *Marma*. Even if only two structures are present, it may constitute a *Marma* point.

The diseases affecting these areas were considered to be having a very bad prognosis. Moreover, the diseases not affecting the *Marma Pradesh* are relatively easy to cure.

With reference to *Sharira Sthana* (Ch. 6) of Sushruta Samhita, *Vaikalyakara Marmas* are *Somaguna Bhuyistha*,[10] i.e., they possess *Soma Mahabhuta* which means lunar properties, which have their own characters like steadiness and coolness. Hence, any injury to these centers or in the vicinity of these areas is highly painful and might lead to irreparable damages or even death. *Kurpara Marma* is a congregation point of *Praganda* (arm) and *Prakostha* (forearm), i.e., *Bhujamadhya*.[13] Its *Parimana* (dimension) is three *Angula* (three digits) and effectwise, it's *Vaikalyakara Marma*.[14] Structurally, it is a *Sandhi Marma*.

Conclusion

In the current study, it was observed that in the region of three digits of the elbow joint [Figure 3], contents like *Mamsa* (muscle), *Sira* (vessels), and *Snayu* (tendons) are present in nearby small fractions and *Asthi* (bones) and *Sandhi* (joints) are present in a higher percentage. After studying the three digit area of the elbow joint with the help of the X-ray study, it was concluded that the elbow joint was a congregation of superior radioulner, radiohumeral, and ulnohumeral joints and related articular part of the involved bone. Hence, it is proved that *Kurpara Marma* (elbow joint) is *Sandhi Marma*. The characteristic of *Kurpara Marmabhighata* is a typical deformity called *Kuni* in Samhitas meaning flexed elbow, hand drop, and palm drop, and restricted flexion and extension deformities called dangling of hand.

After the survey of patients of the elbow joint injuries, it was concluded that all above symptoms related to the elbow joint which ultimately produce *Kuni* (dangling of hand) were present in most of the patients. Out of 80 patients, maximum patients (100%) had swelling and loss of the muscle power followed by 90% patients having dangling of hand, palm drop, *Prabahu-Panyanguli Kubjata*, restricted flexion and extension and 85% patients having restricted supination and pronation. So we can definitely state that *Kurpara* (elbow joint) is a *Vaikalyakara Marma*.

Acknowledgment

We are grateful to the Head, Department of Orthopaedic, Government Medical College, Nanded, Maharashtra, and Dean, Government Medical College, Nanded, Maharashtra, India.

References

1. Sushruta, Sushruta Samhita, with Dalhan. In: Achary YT, editor. Nibandhasangraha commentary. 1st ed. Varanasi, Uttar Pradesh, India: Chaukhambha Surabharati Publication; 1994. p. 4.
2. Sushruta, Sushruta Samhita, with Dalhan. In: Achary YT, editor. Nibandhasangraha commentary. 1st ed. Varanasi, Uttar Pradesh, India: Chaukhambha Surabharati Publication; 1994. p. 288.
3. Charaka, Charaka Samhita. In: Acharya VS. editor. Vaidya-manorama hindi commentary, 1st ed. Delhi, India: Chaukhambha Sanskrit Publication; 2003. p. 945-62.
4. Charaka, Charaka Samhita. In Acharya VS, editor. Vaidya-manorama hindi commentary, 1st ed. Delhi, India: Chaukhambha Sanskrit Publication; 2003. p. 622-67.
5. Vagbhata, Ashtanga Sangraha. In: Acharya SS, editor. Shashilekha Sanskrit commentary, 1st ed. Varanasi, Uttar Pradesh, India: Chaukhambha Sanskrit Series office publication; 2006. p. 319-26.
6. Kashyapa, Kashyapa Samhita. Vidyothini Hindi commentary, Bhishagacharya Shri. Satyapal Sharma, editor. 2nd ed. Varanasi: Chaukhambha Sanskrit Sansthan; 1964. p. 66.
7. Sushruta, Sushruta Samhita, with Dalhan. In: Achary YT, editor. Nibandhasangraha commentary, 1st ed. Varanasi, Uttar Pradesh, India: Chaukhambha Surabharati Publication; 1994.
8. Sushrut,a Sushruta Samhita, with Dalhan. In: Achary YT, editor.

Nibandhasangraha commentary, 1st ed. Varanasi, Uttar Pradesh, India: Chaukhambha Surabharati Publication; 1994. p. 292.
9. Romanes GJ. Cunninghams Manual of Practical Anatomy. 13th ed, Vol. 1. Oxford: ELBS and Oxford University Press; 2008. p.46
10. Sushruta, Sushruta Samhita, with Dalhan. In: Achary YT, editor. Nibandhasangraha commentary, 1st ed. Varanasi, Uttar Pradesh, India: Chaukhambha Surabharati Publication; 1994. p. 290.
11. Vagbhata, Ashtanga Sangraha. In: Acharya SS, editor. Shashilekha Sanskrit commentary, 1st ed. Varanasi, Uttar Pradesh, India: Chaukhambha Sanskrit Series office publication; 2006. p. 323.
12. Sushruta, Sushruta Samhita, with Dalhan. In: Achary YT, editor. Nibandhasangraha commentary, 1st ed. Varanasi, Uttar Pradesh, India: Chaukhambha Surabharati Publication; 1994. p. 288.
13. Sushruta, Sushruta Samhita, with Dalhan. In: Achary YT, editor. Nibandhasangraha commentary, 1st ed. Varanasi, Uttar Pradesh, India: Chaukhambha Surabharati Publication; 1994. p. 126.
14. Sushruta, Sushruta Samhita, with Dalhan. In: Achary YT, editor. Nibandhasangraha commentary, 1st ed. Varanasi, Uttar Pradesh, India: Chaukhambha Surabharati Publication; 1994. p. 288.

हिन्दी सारांश

कर्पूर मर्म के परिप्रेक्ष्य में वैकल्यकर मर्म का अध्ययन

एस. के. मूले, एन. एन. इंगले, एस. डी. भिंगारे

प्रस्तुत लेख में कर्पूर मर्म के परिप्रेक्ष्य में वैकल्यकर मर्मो का अध्ययन किया गया। आयुर्वेद संहिताओं में वर्णित मर्म, कर्पूर संधि का शवविच्छेदन, तथा कर्पूर संधियों के क्ष किरण छायाचित्रों केआधार पर कर्पूर मर्म स्थान निश्चिती की गयी। ८० रुग्ण जिनमें बहुविध कारणों से कर्पूर मर्म स्थान में आघात (जैसे गिरना, वाहन अपघात, कर्पूर संधि में प्रत्यक्ष आघात, १ वर्ष पूर्व आघात एवं अग्निदग्ध व्रण) हुआ है, उन रुग्णों का पंजीकरण किया गया। कर्पूर मर्म में आघात के पश्चात उर्ध्वशाखा में उत्पन्न होनेवाले प्रधान लक्षण जैसे कुणि, शोथ, बलक्षय, अल्पकर्मण्यता, मांसक्षय और सहायक लक्षण जैसे चिमचिमायन, गौरवता, स्वेदप्रवर्तन, भ्रम, छर्दि इनका सर्वेक्षणात्मक अध्ययन किया गया। सर्वेक्षण पश्चात सारांश में यह निष्कर्ष निकला कि कर्पूर मर्म में आघात के पश्चात उत्तम शल्यचिकित्सा मिलने पर भी कई विकृतियाँ जैसे अल्पकर्मण्यता, शोथ, मांसक्षय रहती ही हैं।