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A CLINICAL STUDY ON EFFECT OF AGNIKARMA IN URDWA SHAKHAGATA KURCHASIRA MARMAGHATA (DE QUERVAIN'S TENOSYNOVITIS)

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ABSTRACT

Marma are the most important vital points all over the body, explained by *Acharya Sushruta*, which when get effected leads to severe pain, deformity and sometimes death. One among such *Marma* is *Kurchashira Marma* which is said to be situated at the base of the thumb. *Acharya* has said that, if this *Kurchashira Marma* gets injured then there will be *Ruja* and *Shopa* of *Angushta.* This can be correlated with the De Quervain tenosynovitis where there will be pain, swelling and restricted range of movement of thumb, females are more affected than males, causes like washerwoman's, baby takers, maid, sports person, android users. Treatment adopted are NSAID'S, Corticosteroid injection and tendon release surgery. As it consists of its own complications and patient doesn't feel fully recovered. *Agnikarma* procedure has been told in the treatment aspects of the pain superior disease, and here a study is made to see effect of *Agnikarma* in this *Marmaghata*. **Method**: In the present study, 30 patients were selected and treated with *Agnikarma* at the most tender area. Follow up duration was on 7th, 14th& one month. The data obtained were recorded, tabulated and statistically analysed using appropriate statistical methods. **Results**: After obtaining all the suitable data, the results were formulated by applying suitable statistical tests. And it is found that *Agnikarma* shows tremendous result in treating this disease with full range of movement and patient can easily do his routine work. **Interpretation & Calculations**: By virtue of its *nidana, lakshana* and *Chikitsa*, *Kurchashira Marma* bears close resemblance to de quervain tenosynovitis and can be tacked on the lines of management as

mentioned in classics. It was concluded that *Agnikarma* has better effects both clinically and statically in reducing the signs and symptoms of *Kurchashira Marmaghata.*

Keywords- *Kurchashira Marma,* De Quervain tenosynovitis, *Agnikarma*

INTRODUCTION

Ayurveda is *Upaveda* of *Atharva Veda*. *Ayurveda* is science of life. *Ayurveda* is an ancient traditional system of medicine, which is considered be oldest system of health care. This healing system has been practised in daily life for more than 5000 years. This practise is designed to promote human happiness, heath and long life. *Marma* therapy is an ancient Indian practise whose focus is the manipulation of subtle energy *(Prana*) in the body for the purposes of supporting the healing process. *Marma* therapy is based on the utilization of 107 points in the body which are considered to be access points to body, mind, and consciousness. Knowledge of *Marma* allows the practioner to influence the flow of *Prana* through both the gross and subtle bodies for the purposes of restoring health and peace of mind.[1] Knowledge of *Marma* was not separate from *Ayurveda*. Discussion of the *Marma* points is found in most of the great texts of *Ayurveda* but the most famous text to explore is the *Sushruta Samhita*. *Vaidya Sushruta* described the locations of the *Marma* points, as well as how they influence *Prana*. He stated that it was important to surgeon to have knowledge of these points for the purposes of avoiding them, as to cut into them could result in a catastrophic outcome.[2] *Kurchasira Marma* is one among the *Rujakara Marma* explained in *Ayurvedic* literature.[3] It is a *Snayu* Marma,[4] and *Acharya Sushruta* has said "*manibanda sandhi adhah kurcha shirah*" which means it is said to be situated below the *manibanda Marma* (base of the thumb).The *Kurchasira Marma* if , it is repeatedly injured can cause *ruja* , *stamba* and *shopha* of *angushta*.[5]

De Quervain's tenosynovitis is a condition in which the tendons namely abductor pollicis longus and extensor pollicis brevis attached to the thumb are affected.[6] Incidence rate of de quervain disease is seen more in females than males.[7] Patient complains of pain, swelling and restricted movement at base of thumb. It usually occurs in child caretakers, sports persons like golf and volleyball players, android users and in washerwomen. The treatment usually adopted by the orthopedic surgeons are NSAID's, corticosteroid injections, thumb splica splint, ultrasound, cryotherapy, and iontophoresis which are only a symptomatic relief and also adopt to surgery.[8] A disabling complication of surgery for de Quervain's tenosynovitis is a painful neuroma of the radial nerve, scarring, adhesions, and subluxation of tendons, sometimes there is paralysis of thenar and hypothenar muscles of thumb.[9] *Agnikarma* is a parasurgical procedure described in *Ayurveda*. It is said to be superior to *shastra*, *kshara* and *bheshaja* karma. Diseases treated by *Agnikarma* will not reoccur. [10] It is indicated in painful conditions of *vata*. *Agnikarma* introduces heat in the affected area. This heat is *ushna*, *tikhna*, *laghu*, *sukshma*, *vyayayi* and *vikashi* in properties, which is helpful to break the *kapha* thus reducing *shotha* and ultimately *vata* get specified so that *shoola* is relieved. With this ideology, in the present study an effort will be made to access the effect of *Agnikarma* in *kurchasira Marmaghata* w.s.r.to dequervain disease. The study will be conducted in 30 patients with a single sitting of *Agnikarma* and the findings will be statistically documented in the specially designed proforma and will be statically analysed.

Objectives of the study

"Effect of *Agnikarma* in *Kurchasira Marmaghata* [De Quervain tenosynovitis]" have been listed below.

- To review the available literature relating to *Kurchashira Marma.*
- To clinically study the effect of *Agnikarma* in *Kurchashira Marmaghata* w.s.r.to de quervain's disease.
- To reduce the pain, swelling and improve the range of movement of the affected part.

Sample Size - It is a single study, 30 patients suffering from the disease *Kurchasira Marmaghata* were the selected as per the diagnostic criteria according to the

condition mentioned under inclusion and exclusion criteria and *Agnikarma* procedure was carried out.

Inclusion Criteria:

- Age group between 18 to 70 years
- Both male and female
- With pain, swelling, tenderness, functional impairment.

Exclusion Criteria:

- With fracture
- Bony deformities
- Complete rupture of tendons
- Medical conditions leading to wrist pain
- Ligament injuries
- Patients with previous history of reconstructive surgery of wrist
- Patients with chronic, systemic diseases.

Assessment Criteria:

Assessment will be made on the basis of subjective and clinical objective parameters both before and after treatment as per a clinical Performa.

The collected data will be statistically analysed and documented.

Subjective:

- *Ruk* (Pain)
- *Shopha* (swelling)

Objective:

- Tenderness
- Range of movement in extension of thumb.
- Range of movement in abduction of thumb.

Radiological investigations

- X-ray if needed

Research Design: It is a single study, 30 patients suffering from the disease *Kurchasira Marmaghata* were the selected as per the diagnostic criteria according to the condition mentioned under inclusion and exclusion criteria and *Agnikarma* procedure was carried out.

Duration of the treatment – Study duration - one month, Parameters will be noted o 1st, 7th, 14th and one month, Follow up – 7 or 14 days after Study duration.

Required materials and tools

- *Dahana Upakarna,*
- *Pachalauha Shalaka,*
- Cotton pad, vessel, gas stove,
- *Ghritha or Kumari Swarasa*
- *Dhanvantari Taila.*

Procedure

Purva Karma: Patient has been explained the whole procedure in his own vocabulary language and consent is taken. Area will be cleaned with surgical spirit / normal saline, *Sthanika Mrudu Abhyanga* by using *Dhanwantari Taila* followed by *Stanika Nadi Sweda* is done. *Shalaka* is made hot until it becomes red.

***Pradhana Karma*:** Maximum tenderness point is elicited on the affected area and with heated *Shalaka Agnikarma* is done in the *Bindu Akara* until *Samyak Dagdha Lakshanas* are seen.

***Paschat Karma*:** *Kumara Swarasa or Ghrita* is applied and bandaging done.

Assessment Criteria:

Assessment will be made on the basis of subjective and clinical objective parameters both before and after treatment as per a clinical Performa.

Table 1: Subjective criteria for pain

Subjective	Before Rx	7th day	14th day
Pain			

Table 2: Visual analogue scale for pain assessment

Grade	**Severity**
0	No pain
1	No pain at rest, slight pain on movement
2	Slight pain at rest, moderate pain on movement
3	Moderate pain at rest, severe pain on movement
4	Severe pain at rest and on movement

Objective Criteria

Table 3: Criteria for tenderness

Tenderness	Before Rx	7th day	14th day
Grade			

Table 4: Tenderness grading

Grade	Severity
0	No tenderness
1	Tenderness to palpation without grimace or flinch
2	Tenderness with grimace or flinch to palpation
3	Tenderness with withdrawal (jump sign)
4	Withdrawal to non-noxious stimuli (i.e. superficial palpation, pin, prick, gentle percussion)

Table 5: Range of movement of abduction of thumb

Grades	Movement	Day 1	Day 7	Day 14	After 1 month
0	Full [60-70 degree]				
1	40-60%				
2	20-40%				
3	0-20%				
4	0% (No movement)				

Table 6: Range of movement of extension of thumb

Grades	Movement	Day 1	Day 7	Day 14	After 1 month
0	Full[6-70] 0 degree				
1	40-60%				
2	20-40%				
3	0-20%				
4	0% (No movement)				

Range of movement of extension of thumb

Statistical Analysis

- Data was entered in Microsoft excel and analysis was done using spss software version 23. Tables and graphs were also drawn to signify the important findings.
- The descriptive statistics were reported for all variables. The statistics used to analyse is Wilcoxon sign rank test.

Level of significance

$p \leq 0.01$ and < 0.001 is highly statistically significant.

$p \leq 0.05$ is statistically significant.

$p \geq 0.05$ is statistically insignificant.

Observation

In the present study, 30 patients suffering from De Quervain's tenosynovitis fulfilling the inclusion criteria were studied and were randomly selected. Each patient was observed thoroughly and noted neatly. The observations are recorded, and necessary charts and graphs were made.

Table 7: Distribution of 30 patients of De Quervain's tenosynovitis according to sex

SEX	Total No-30	Percentage of total patients
MALE	12	40%
FEMALE	18	60%

In the sample taken for the study, 40% of males were registered in comparison to 60% of females.

Table 8: Distribution of 30 patients of De Quervain's tenosynovitis according to Age

Age Group (Years)	Total No-30	Percentage of total patients
21-30 years	6	20%
31-40 years	15	50%
41-50 years	9	30%

Analysis of age incidence of 30 patients suffering from De Quervain's tenosynovitis showed a greater number of patients between the age group of 31-40 years i.e. 50%

Table 9: Distribution of 30 patients of De Quervain's tenosynovitis according to occupation

Occupation	Total No-30	Percentage of total patients
Washer (women/men)	7	23%
Shopkeeper	2	7%
Sports	2	7%
Maid	2	7%
Housewife	8	27%
Student	3	10%
Cable operator	1	3%
Fisherman	5	17%

Out of 30 patients 27% of patients were housewife and 23% were Washer (women/men).

Table 10: Distribution of 30 patients of De Quervain's tenosynovitis according to Side

Side	Total No-30	Percentage of total patients
Left	13	43%
Right	17	57%

Out of 30 patients' maximum patients Side were Right (57%)

Table 11: Distribution of 30 patients of De Quervain's tenosynovitis according to Marital Status

Marital Status	Total No-30	Percentage of total patients
Unmarried	4	13%
Married	26	87%

In the sample taken for the study, 87% were married in comparison to 13% of unmarried.

Results

In the present study, 30 patients suffering from De Quervain's tenosynovitis fulfilling the inclusion criteria were studied and were randomly selected. Each patient was observed thoroughly and noted neatly. The observations are recorded, and necessary charts and graphs were made.

Effect on Pain: This study consisting of 30 patients of De Quervain's tenosynovitis with Pain revealed the result of it.

Statistical analysis showed that the mean score, which was 2.53 in before treatment, was reduced to 0.50 the after treatment with 80.26% improvement, and there is a statistically significant change. [P<0.05]

Table 12: Effect of Pain in De Quervain's tenosynovitis

SYMPTOM	Mean score			%	S.D (±)	S.E (±)	Wilcoxon Z Value	p value
	BT	AT	BT-AT					
Pain	2.53	0.50	2.03	80.26	0.320	0.059	4.78	<0.05

Effect on Tenderness: Statistical analysis showed that the mean score, which was 2.50 in before treatment, was reduced to 0.47 the after treatment with 81.33% improvement, and there is a statistically significant change. (P<0.05)

Table 13

SYMPTOM	Mean score			%	S.D (±)	S.E (±)	Wilcoxon Z Value	p value
	BT	AT	BT-AT					
Tenderness	2.50	0.47	2.03	81.33	0.669	0.124	4.78	<0.05

Table 14: Effect of Abduction of Thumb in De Quervain's tenosynovitis

SYMPTOM	Mean score			%	S.D (±)	S.E (±)	Wilcoxon Z Value	p value
	BT	AT	BT-AT					
Abduction of Thumb	2.67	0.40	2.27	85.00	0.583	0.108	4.77	<0.05

Statistical analysis showed that the mean score, which was 2.67 in before treatment, was reduced to 0.40 the after treatment with 85% improvement, and there is a statistically significant change. (P<0.05)

Table 15: Effect of Extension of Thumb in De Quervain's tenosynovitis

SYMPTOM	Mean score			%	S.D (±)	S.E (±)	Wilcoxon Z Value	p value
	BT	AT	BT-AT					
Extension of Thumb	2.60	0.40	2.20	84.62	0.610	0.113	4.78	<0.05

Statistical analysis showed that the mean score, which was 2.60 in before treatment, was reduced to 0.40 the after treatment with 84.62% improvement, and there is a statistically significant change. (P<0.05)

Table 16: Overall effect of treatment

Overall Effect of Treatment		
Grading	**Relief in Percentage**	**Relief in Patients**
No Improvement	0%	0
Mild Improvement	1-30 %	0
Moderate Improvement	31 – 60%	0
Marked Improvement	61 – 99 %	16
Complete Remission	100%	14

In Overall effect of treatment in De Quervain's tenosynovitis, out of 30 patients in this study, 16 patients (53%) were getting marked improvement and 14 patients (47%) were getting Complete Remission.

DISCUSSION

The effect of treatment was assessed based on the subjective and objective parameters. The parameters were given specific grades and assessed before and after treatment and the data obtained was statistically analysed by using Wilcoxon sign rank test.

Effect of pain

Before treatment 60% of patients were having Moderate pain at rest & severe pain on movement and 40% of patients were having Slight pain at rest& moderate pain on movement and after treatment of one sitting of *Agnikarma* 50% of patients showed no pain and remaining 50% of patients showed no pain at rest, slight pain on movement. This was statistically significant as discussed under the results section.

Effect of tenderness

Before treatment 60% of patients were having Tenderness with withdrawal (jump sign), 39% of patient had Tenderness with grimace or flinch to palpation and one person had Tenderness to palpation without grimace or flinch. After treatment of one sitting of *Agnikarma* 60% of patients showed no tenderness and 40% of them had Tenderness to palpation without grimace or flinch. This was statistically significant as discussed under the results section.

Effect of range of movement

Range of movement of abduction

Before treatment 60% of patients were having 20-40% of movement of the thumb, 38% of patients having 40-60% of movement and 2% of them with 0 % (No movement). After treatment 70% of them showed very good presentation with full movement [60-70], and 30% of them with 40-60% of movement. This was statistically significant as discussed under the results section

Range of movement of extension: Before treatment 70% of patients were having 0-20% of movement and 25% of them were having 20-40% having of movement and one person having no movement. After treatment 70% of them showed full movement and 30% of them showed 40-60% of movement. This was statistically significant as discussed under the results section. Thus, it is concluded that *Agnikarma* had effect on managing pain in *Kurchasira Marmabhighata.*

Discussion on mode of action.

During the treatment of *Agnikarma*, *Agni is* transferred from *Shalaka* to *Dushya*. The *Guna* of *Agni* are opposite to that of *Kapha and Vata Dosha*. By *Agni, Kapha* and *Vata* are neutralized. Thus, the *Nirama Kapha* and *Vata* are treated. Secondly the transferred *Agni* will do *Utkleshana*(activation) *of Dhatvagni*. The *Utkleshita Dhatwagni* use does the *Ama-Pachana* of *Ama-Kapha* and *Ama-Vata* which are causes of diseases. This is the way how the *Doshas* are neutralized and *Samprapti* is broken down. Disorders produced by *Kapha and Vata* are treated beneficially by this treatment.

CONCLUSION

Kurchasira Marmaghata presents as a highly disturbing condition for the affected individual.

Kurchasira Marmaghata affected person suffers from severe pain and can't perform day to day activities correctly.

Based on clinical features, etiology and structures involved it can be correlated to de quervain tenosynovitis disease.

It was observed that *Agnikarma* played a very important role not only by relieving the sign and symptoms, affected patients could resume routine daily works.

As one sitting of *Agnikarma* procedure seems not completely effective in the chronic conditions of de quervain disease, instead one more sitting would be better choice for the complete management.

It was also observed that the *Dagda Vrana* [scar produced by *Agnikarma*] was also almost completely came to normal skin so that patient is not affected by the cosmetic or ugly scar.

Agnikarma neutralizes the aggravated *Vata and Kapha Dosha* and helps in relieving the main symptom pain and helps in adequate movement of the thumb.

As said by *Acharya's* the reoccurrence rate with *Agnikarma* is not found but here it depends on the work status of the patients, because the disease itself is cause by repetitive strain of those 2 tendons irrespective of the Immobilizer splint.

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