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Case Report

Siddha Varmam and Thokkanam therapy (SVT) in the treatment of adhesive capsulitis (*Kumbavatham*)-A case studyR. Meena ^{a,*}, S. Natarajan ^a, C. Anbarasi ^a, P. Sathiyarajeswaran ^b^a Thokkanam and Traditional Bone Setting Division, Siddha Central Research Institute, Chennai, Tamilnadu, India^b Siddha Central Research Institute, Central Council for Research in Siddha, Chennai, Tamilnadu, India

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ABSTRACT

A 60 year married female from Chennai presented with pain and restricted abduction, adduction, external rotation and flexion of right shoulder both in active and passive movements for 2 months. She was diagnosed to be affected by adhesive capsulitis which is equated to *Kumbavatham*, one of the *vatha* diseases mentioned in Siddha system of medicine. She was treated with *Siddha Varmam therapy* and *thokkanam* with *Vathakesari thylam*. After 15 days of hospital stay the patient was discharged and was followed for 6 months. There were no adverse reactions/events observed during the course of treatment. The combination therapy has provided the reduction in pain and restricted movements which was measured using goniometer and SPADI index.

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1. Introduction

Adhesive capsulitis is also known as frozen shoulder or painful stiff shoulder or peri-arthritis often has a prolonged course of treatment for two to three years. It is a condition characterized by functional restriction of both active and passive shoulder motion [1]. The diagnostic criteria are shoulder pain for at least one month, inability to lie on the affected shoulder, stiffness and restricted shoulder movements which may cause pronounced sleep disturbances. Frozen shoulder condition is most common in the fifth and sixth decades of life. The peak age is in the mid-50s. Onset before the age of 40 is rare. Women are more often affected than men [2]. The chances for non-dominant shoulder to get affected is slightly higher. This is prevalent in patients with uncontrollable diabetes [3]. Usually, it has a prolonged course of treatment. The conventional treatment available are use of NSAID, intraarticular steroids, physiotherapy, acupressure and yoga [4]. Although pain is relieved by NSAIDs, the recovery from this condition is prolonged. Moreover, NSAIDs may cause side effects. This condition is also treated with *nasya* (nasal instillation) therapy, panchakarma therapy in

Ayurveda [5]. Though there are various treatment options for this condition, there is no decisive treatment established yet. The painful functional deficit in this condition also decreases the quality of life. This condition is analogous to *Kumbavatham*, one of the types of 80 *Vatha* diseases mentioned in the textbook *Yugi Vaidhya Chindhamani*. *Kumbavatham* is a disease characterized by pain in shoulders and upper limbs with difficulty in abduction and adduction of shoulders, burning sensation in cheeks and eyes, giddiness, fever, pain below the umbilicus, inflammation below the tongue etc. [6], *Thokkanam* and *Varmam* therapy in Siddha system of medicine is found to be effective in spinal disorders [7]. *Varmam* indicates the therapeutic stimulation of specific points where the pranic energy is concentrated. *Varmam* therapy is a drugless, non-invasive, simple therapy used in pain management. The therapy time is less and if given regularly it gives long lasting results. *Thokkanam* is one of the 32 external therapies in Siddha system of medicine. Herein we report this case study of a patient diagnosed with *kumbavatham* and successfully treated with *Siddha Varmam therapy* and *Thokkanam therapy* adopting the *Guidelines for practice of Siddha Varmam Therapy*. The traditional Siddha *Varmam* and *Thokkanam* therapy are congruent to the present-day pressure manipulation therapy and the therapeutic massage. This case study is prepared by adhering to CARE guidelines.

* Corresponding author.

E-mail: meenaprakashphd@gmail.com

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2. Patient information

A 60 year married female from Chennai who is a home maker presented with pain and restricted abduction, adduction, external rotation and flexion of right shoulder both in active and passive movements for 2 months. She was admitted to IPD of *Varmam Thokkanam* and traditional bone setting division of SCRI after careful examination. She was a vegetarian by diet taking tubers, cereals very frequently. Her sleep was disturbed due to pain, the bladder and bowel habits were normal. She hails from a middle-income group family.

She was a known diabetic for 5 years with a poor diabetic control. At the time of admission her blood sugar level was 303 mg% in fasting, 274 in postprandial and her HbA1c level was 12.8%. She has a positive family history of diabetes. She was on tablet: Metformin 500 mg bd – 1 tab, t. Glipizide 5 mg: 1 bf (morning) for the past 6 months. History revealed that due to poor diet control and poor drug compliance her blood sugar level was not under control. There was no traumatic history.

History revealed pain in right shoulder with restricted abduction and external rotation for 5 months. The x-ray of right shoulder taken 5 months back revealed no fracture or rotator cuff tear. The joint space in right shoulder was reduced. She had undergone physiotherapy for the pain and restricted shoulder movements 3 months back which resulted in reduction of pain and stiffness in right shoulder. But the symptoms reappeared after a week. Due to unsatisfactory result with recent treatment, the patient reported to the Siddha Central research Institute.

3. Clinical findings

The patient complained of difficulty in wearing blouse, combing hair, taking things from shelves above her height. The pain was worse at night and aggravated while lying on right side. The clinical findings like pain score, Range of movements and Siddha assessment *envagai thervu- Naadi* (pulse) 2. *Sparisam* (palpation) 3. *Naa* (tongue examination) 4. *Niram* (colour of the body) 5. *Mozhi* (speech) 6. *Vizhi* (eye examination) 7. *Malam* (stool examination) 8. *Moothiram* (urine examination) were recorded. The vital signs were normal.

4. Diagnostic assessments

The pain was assessed by Visual Analogue Scale and the shoulder movements were assessed using goniometer in sitting position. SPADI form was used for recording the pain and disability [8]. The pain score in SPADI was found to be 37/50 at the time of initial assessment. The shoulder movements were assessed and were recorded in Table 4. The assessments were done at the time of admission and discharge. Clinical examination revealed no weakness of muscles around the shoulder and upper limbs. The *naadi* was found to be *vatha pitham* and the *neikkuri* pattern (Oil in urine sign) was “*aravena neendathu*” ie, snake pattern. With the above symptoms she was diagnosed to be affected by *Kumbavatham* (Adhesive capsulitis) with predominant *vatha* humour.

5. Therapeutic intervention

5.1. Therapeutic purgation

To normalize the vitiated *vatha* humour, therapeutic purgation was started. *Meganatha Kuligai* – 130 mg (1 tablet) was chosen for therapeutic purgation [9]. The pill was powdered, mixed with hot water and was given to the patient at 5 am in a single dose on 2.5.2018. Hot water was administered every 15 min. The purgation

started at 5.45 am. The patient had nausea and passed loose stools 6 times since morning. The purgation subsided in the afternoon. She was given a glass of butter milk. The diet she took on the day of purgation was a cup of curd rice in the afternoon and 4 idlies (rice cakes) for dinner. On the day of purgation therapy, no blood investigations or therapy was done.

From the next day, blood investigations and the assessment of pain, shoulder movements with the aid of goniometer and SPADI scoring was done.

5.2. Siddha Varmam and Thokkanam therapy

The treatment package of *Varmam* and *thokkanam* with *Vathakesari thylam* was started. *Vathakesari thylam* is used for alleviating pain in *vatha* diseases and is in practice for more than 20 years. It also finds a place in the official Siddha text Siddha Formulary of India. The ingredients of *Vathakesari thylam* is depicted in Table 1.

The treatment *Siddha Varmam* and *Thokkanam* (SVT) therapy was done daily morning at 8 am in empty stomach. The details of the *Varmam* points are shown in Table 2. Pressure was given with fingers; Intensity of pressure applied: *Uthamam*: ½ minute; Duration of treatment session: 15 min; Posture: Sitting; Time of treatment: Half an hour after a meal or in empty stomach; Technique: Pressing (*Amarthal*); 10 s gap between each manipulation. The patient was advised to take bath in hot water after the treatment.

5.3. Concomitant medication

D5 chooranam 2 gm twice daily with hot water was prescribed for diabetic control in addition to modern medicine. It was advised to take *D5 chooranam* 1 h after having the allopathy antidiabetic drugs. *D5 chooranam* is a coded Siddha antidiabetic drug filed for patent by Central Council for Research in Siddha (Patent application number:2578/CHE/2015) which is currently used in the OPD of Siddha Central Research Institute, Chennai, India.

5.4. Pathiyam (Diet)

The *pathiyam* (treatment diet) mentioned for *vatha* diseases was adhered during the hospital stay. The diet free from sweet, sour taste, tubers, food with cold potency were avoided. Idli and primarily rice-based food prepared with vegetables, curry leaves, mint leaves etc, were provided. Moreover sprouts, green leafy vegetables, butter milk and milk were also served during the hospital stay.

Table 1

Tamil name, botanical name and quantity of ingredients used in the preparation of *Vathakesari thylam*: [10].

Tamil name	Botanical name	Quantity
<i>Chadurakalli charu</i>	Juice of <i>Euphorbia antiqorum</i>	1.5 L
<i>Nochiellai charu</i>	Juice of <i>Vitex negundo</i>	1.5 L
<i>Thazhuthazhai charu</i>	Juice of <i>Clerodendrum phlomidis</i>	1.5 L
Goat's milk		1.5 L
<i>Erukkam pal</i>	Latex of <i>Calotropis gigantea</i>	1.5 L
Gingelly oil		1.5 L
Castor oil		1.5 L
<i>Kadukkai thol</i>	<i>Terminalia chebula</i>	10 g
<i>Kattu milagu</i>	<i>Piper attenuatum</i>	10 g
<i>Vellai poondu</i>	<i>Allium sativum</i>	10 g
<i>Perungayam</i>	<i>Ferula asafoetida</i>	10 g
<i>Gandhagam</i>	Sulphur	10 g
<i>Koshtam</i>	<i>Costus speciosus</i>	10 g
<i>Chukka</i>	<i>Zingiber officinale</i>	10 g
<i>Milagu</i>	<i>Piper nigrum</i>	10 g
<i>Thipilli</i>	<i>Piper longum</i>	10 g
<i>Kadugu</i>	<i>Brassica juncea</i>	10 g

Table 2
Varmam points, their anatomical location and manipulation procedure: [11].

S.No	Name of the Varmam point	Anatomical location	Procedure
1.	<i>Mudichi Varmam</i>	at the junction of C7 & T1	Place the middle three fingers over the cervical prominence. Give pressure in clockwise rotation for three times. Then stretch the fingers and manipulate up to the right shoulder. Follow the same technique in the opposite side. Manipulate in a clockwise and anticlockwise rotation 3 times each and move downwards along the spine upto T6.
2.	<i>Kaakkattai Kaalam</i>	midway between the neck and head of arms, four fingers above from midline of the clavicle	Place the middle three fingers over the supraclavicular fossa; Press and release
3.	<i>Enthi Kaalam</i>	one finger breadth anterior to midpoint of the axilla	Place the tip of the middle three fingers in anterior axillary fold; Press and release
4.	<i>Piratharai Kaalam</i>	near to armpit in posterior side	Place the tip of the middle three fingers in posterior axillary fold; Press and release
5.	<i>Kaikootu Varmam</i>	in the center of axilla	Place the tip of the middle three fingers in the centre of the axilla; Press and release
6.	<i>Manibandha Varmam</i>	middle of wrist in the flexor aspect of the forearm	Place the middle of the thumb (palmar aspect) and give moderate pressure 3 times.
7.	<i>Manjadi Varmam</i>	near the junction of the index finger and thumb; along the upper part (base) of index finger (just below <i>kavuli</i>)	Place the central portion (pulp) of the thumb over the point; Press and release
8.	<i>Kavuli Kaalam</i>	web space (dorsal side) between the thumb and index finger	Place the tip of the three fingers longitudinally in the web area; Press in pumping motion.
9.	<i>Savuu Varmam</i>	six finger breadth above from midpoint of the elbow joint [anterior side]	Place the middle of the thumb (palmar aspect) on the Varmam point; move the fingers up and down while giving pressure
10.	<i>Sevikutri Varmam</i>	Fossa in front of tragus of the ear	Place the central part of the middle finger; apply gentle upward pressure to the point (simultaneously on both sides)

The patient was discharged after 15 days of hospital stay with proper instructions to follow *pathiya* rules even after discharge.

Grind the *kalka* drugs (kadukkai thol to kadugu) with milk and add it to the fluids, boil it to proper pakam (consistency). This thylam is indicated for *Vatha* diseases, *Thimirvatham* (body pain due to neuralgic disorder), *Paarisa vayu* (Hemiparesis, paralysis), *Mudaku vatham* (joint stiffness and crippling as in Rheumatoid arthritis), *Mootu vatham* (degenerative joint diseases), *Thasaipidipu* (sprain, ligament injuries), *Oomai kaayam* (internal injury) etc.

5.5. Follow-up and outcomes

After the treatment of 15 days, the intensity of the pain was reduced. The pain scoring in SPADI score was reduced from 37/50 to 22/50. The disability was reduced from 66/80 to 38/80. The range of movements improved well allowing her to perform her daily activities with ease. The vitals and routine blood investigations were normal. The blood sugar values on fasting and postprandial at the time of discharge were 130 mg/dL and 211 mg/dL respectively. The timeline of the clinical findings and details of range of motion of shoulder are portrayed in Table 3 and Table 4.

Table 3
Timeline of clinical findings.

Name	Day 1	Day 7	Day 14
Pain score	8	6	3
SPADI			
Pain	37/50	—	22/50
Disability	66/80	—	38/80
Blood sugar (Fasting) in mg/dl	303	160	130
Blood sugar (Post Prandial) in mg/dl	274	230	211
Siddha assessments:			
<i>Neerkkuri</i> (urine examination)	Yellow	—	Straw coloured
<i>Neikuuri</i> (oil on urine sign)	Fast spread, Snake pattern	—	Steady spread, Snake pattern
<i>Naadi</i> (pulse)	<i>Vatha pitham</i>	<i>Vatha pitham</i>	<i>Vatha pitham</i>
<i>Sparisam</i> (palpation)	Tenderness and Warmth (in the right shoulder)		No tenderness and warmth
<i>Naa</i> (tongue examination)	Coated, no fissures, taste perception -normal		Coating, fissures-nil, taste perception -normal
<i>Niram</i> (colour of the body)	Wheatish brown		Wheatish brown
<i>Mozhi</i> (speech)	Low pitched		Normal pitched
<i>Vizhi</i> (eye examination)	No discoloration, flow of tears -normal		No discoloration, flow of tears -normal
<i>Malam</i> (motion examination)	Dark coloured.		Yellow coloured, semisolid consistency

The patient was closely followed and observed for 6 months and she had no aggravation of symptoms. There were no adverse reactions/events observed during the course of treatment. She was instructed to follow the *pathiya* (diet) advised.

6. Discussion

Use of NSAIDs are the mainstay of treatment for pain. The range of motion of affected joints are in general improved with physiotherapy and exercises. Due to the panic of side effects and the expensive treatment, patients are marching towards traditional medicine. Here the patient was treated on the line of management of *vatha* diseases mentioned in Siddha literatures. The *vatha* humour was aggravated in the patient which was evident from the *naadi* (pulse) and *neikkuri* (oil on urine sign). To pacify the vitiated *vatha*, purgation was given and consequently the *Varmam* and *Thokkanam* therapy was started [12]. This case being a diabetic with poor control posed a challenge as frozen shoulder has strong relationship with diabetes mellitus [13,14]. Though the patient was under treatment for diabetes mellitus with modern medicine, Siddha coded medication *D5 chooranam* was administered

Table 4

Measurement of shoulder movements with goniometer and SPADI score before and after SVT therapy.

Shoulder movements measured using goniometer	Before treatment	After treatment
Abduction (right)	30°	90°
Abduction (left)	120°	150°
Forward Flexion (right)	50°	120°
Forward Flexion (left)	170°	180°
Extension (right)	25°	50°
Extension (left)	60°	60°
External rotation (right)	30°	80°
External rotation (left)	90°	90°
SPADI score	79.23%	46.15%

concomitantly observing diet restrictions. The *Varmam* therapy is effective in pain management. The *Varmam* points are stimulated with the fingers, hands, occasionally with toes and foot. Previously the effect of *Varmam* treatment in osteoarthritis, peri-arthritis were reported [15]. The exact mechanism of action is still unexplored. The mechanism of action of this therapy may be analogous to acupressure therapy in Chinese medicine. According to Gate Control Theory by Melzack and Wall, acupressure at definite point transmits pleasurable impulses to the brain. The impulses travel at a rate four times faster than painful stimuli. Uninterrupted impulses release, shut the neural 'GATES' and slower messages of pain and obstruct them from reaching the brain. This improve or strengthen the pain perception threshold of our body [16]. The pressure therapy is explained by complex neuro-hormonal responses on stimulating the points [17]. It encompasses the counteraction between hypothalamic-pituitary-adrenocortical axis that leads to overproduction of cortisol and cause a relaxation response. The physiological response is modulated by increasing endorphin and serotonin transmittance to the brain and specific organs through nerves and meridians [18–20]. Pectoralis major, biceps brachii and deltoid are the muscles located around the *enthi Varmam*. The Axillary nerve, cords of brachial plexus situated near the point might transmit the impulses on stimulation of this *Varmam* point and thus reducing the pain.

The mechanism of action of massage technique (*Thokkanam*) was already established. There are 9 types of *Thokkanam* described in Siddha system of medicine and appropriate techniques are adopted according to the disease condition [21]. In Siddha perspective, the ingredients of *Vathakesari thylam* have *anti vatha* properties to alleviate pain. Also, most of the ingredients possess analgesic, anti-inflammatory properties which are shown in Table 3. Hypothetically after *Thokkanam*, the level of amino acid tryptophan increases which in turn increases the production of neurotransmitter serotonin. *Thokkanam* helps to dilute the toxins and expels them via lymphatic drainage [22]. The patient was advised to avoid tubers, sour taste.

7. Conclusion

The combination therapy of *Varmam* and *Thokkanam* has provided the reduction in pain and restricted movements which was measured using goniometer and SPADI index. There is reduction in SPADI score with the treatment package. The treatment is effective as there are minimal chances for adverse reactions. The strict adherence to the Siddha line of treatment and diet also have contributed to the ease of pain. The findings in this single case study have given strong hope for management of *Kumbavatham* through non-pharmacological therapies. However randomized controlled clinical trials with large sample size are warranted to substantiate the results.

Patient perspectives

The patient self-reported that she was highly satisfied with the treatment as she had considerable reduction in pain. Her quality of life was improved. She was very much impressed about the *Varmam* and *thokkanam* treatment she received and she doesn't have recurrence of pain.

Informed consent

Written informed consent was obtained from the patient. The patient has given her consent for her images and other clinical information to be reported in the journal. The patient understand that name and initials will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

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Conflict of interest

None.

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