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CLINICAL STUDY ON MANAGEMENT OF TRAUMATIC INFLAMMATION BY ERANDA TAILA

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ABSTRT

In today's life style traumatic injuries are more common and these injuries manifest as pain and swelling in involved tissues. Management of these injuries in modern science in- volves mainly prescription of non-steroidal anti inflammatory drugs/ opoids / steroids etc. Management of these injuries, by these drugs often associated with adverse effects in body of sufferer. Ability of Ayurveda to provide effective treatments for various diseases with minimal adverse effects is a reason, why there is global trend now a day's towards adopt- ing A*yurvedic* methods for treating disease entities. Hence present study was planned for the management of *Abhigataja shopha*/Traumatic inflammation by *Ayurvedic* preparations i.e. *Shigru guggulu & Erand taila.* Results of the study were encouraging and it is con- cluded that *Ayurvedic* management is effective and having no adverse effects on the pa- tients under clinical trial.

Keywords:*Shigru,guggulu,Erandtail,.AbhighatajaShopha & Traumatic inflammation.*

Introduction: In the Period of ancient surgery entire attention was on *shopha* (Inflammation), because when a *vrana* is associated with *shopha*, it is called as *Vrana shopha* (the most burning topic of ancient surgery) except the accidental *vranas* (wounds), where the wound later associated with *shopha*[1] (inflammation). In Ayurveda the process of inflammation is known as *Shopha.* This is generally because of contaminated vata *dosha* entity, and *kapha* and *pitta doshas* are involved in this.[2] The sign and symptoms are differentiated upon the acuteness of signs relating to *vata, pitta* and *kapha dosha*. The basic line of treatment for the *shopha* is of *sanshaman* and *shodhan chikitsa*. The patient is treated by the local application of medicines as well as oral therapy of *vata* and *vedanashamak* drugs.[3]Traumatic Inflammation is one of the common disease facing by human beings and the allopathic treatment included NSAIDs, analgesics and steroids is costly and having many adverse effects in the body, such as: nausea, vomiting and gastritis etc[7]. In *Abhighataja Shopha* as the predominated *doshas* are *vata* and *kapha*, which causes pain and swelling, and the selected drugs *Shigru guggulu* and *Erand taila*, which are having properties, to pacify the *vata* and *kapha*. So in this trial an effort has been done to develop a cost effective management for *Abhighataja Shopha*. In the present study the drugs *Shigru guggulu and Erand taila*, which are found to possess the anti inflammatory and analgesic effect.[8] Hence they have been selected as the trial drugs for clinical

evaluation in patients of *Abhighataja shopha* (Traumatic inflammation).

AIMS AND OBJECTIVES:

1. To evaluate the efficacy of *Erand taila* as a local application in *Abhighataja Shopha.*
2. To study the comparative efficacy of *Shigru guggulu* and *Erand taila* in *Abhighataja Shopha.*
3. To study the synergistic effect of *Shigru guggulu* along with local application of *Erand taila* in *Abhighataja Shopha.*
4. To establish the *Ayurvedic* treatise in the management of Traumatic inflammation.
5. To seek a cost effective treatment for Traumatic Inflammation.

MATERIAL AND METHODS: 30 Patients suffering from traumatic inflammation with cardinal sign and symptoms were selected randomly irrespective of their sex, education, occupation etc. from the O.P.D. and I.P.D. section of *P.G.Deptt. of Shalya Tantra, SAMC, Aligarh, UP*, (India).)

1. **Group A: Standard Group:** 10 clinically diagnosed patients of Traumatic inflammation were registered and given 2 tabs of *Shigru guggulu* thrice daily with water for 3 weeks. The weight of each tab was 1 gm. In this way 6 gm drug was given per day.
2. **Group B: Trial Group:** 10 clinically diagnosed patients of traumatic inflammation were registered and given *Erand taila* for local application over the affected part by gentle massage for 3 weeks.
3. **Group C: Combined Group:** 10 clinically diagnosed patients of traumatic inflammation were registered and given *Shigru guggulu* along with *Erand taila (Oil)* i.e. combined therapy for 3 weeks.

Follow-up study: All the Patients of three groups were weekly followed up to one month. Improvement and other effects were noted in a special prepared case sheet.

Inclusion criteria:

- Patients aged between 10-60 years of either sex.
- Patients with classical sign and symptoms of traumatic inflammation.
- Traumatic inflammation of forearm, hand, fingers, leg, foot and their respective joints were taken.

Exclusion criteria:

- Patients below the age of 10 years and above 60 years.
- Traumatic inflammation with supper added infection.
- Traumatic Inflammation associated with systemic disease such as; congestive heart disease, nephrotic syndrome, diabetes mellitus and tuberculosis etc.
- Multiple skeletal injuries.
- Patient taking any other treatment for traumatic inflammation.
- HIV and HBsAg positive patients.

Diagnostic criteria: All the patients were diagnosed on the basis of following criteria:

Clinical symptoms and sign: Following sign and symptoms were observed in patients for diagnosis. Pain, Swelling, Tenderness, Loss of function, Skin colour changes and Local temperature rised.

Investigations: Routine blood examination as-Hb gm%, TLC, DLC, ESR, B.Sugar, B.Urea, S.Creatinine, complete Urine examination and X-Ray. (To rule out any systemic disease)

Drug review: The cause of selection of tab. *Shigru guggulu* was that, this drug is vigorously using in various inflammatory conditions in O.P.D. and I.P.D. section of *shalya tantra* department of B.H.U. Varanasi and has also been standardised by pharmacy of B.H.U. Varanasi in 1979 and firstly used by ***Dr.Kulwant Singh*** during his research work i.e. ***"Clinical & experimental study on vrana shopha".*** whereas *Erand taila* has got its reference from *Sushruta sutrasthan* – 45/115[9], where *acharya Sushruta* has explained that *Erand taila* is *tikshana* and *laghu* in *guna* , *ushana* in *virya*, *katu* in *rasa* and *katu* in *vipaka*, so it pacify the vitiated *vata* and *kapha doshas* (responsible for pain and oedema respectively) and destroy the *krimi* (worms), *kustha* (skin diseases), *prameha* (diabetes) and *shiro rogas.*[10]

Assessment criteria: The patients were assessed on the basis of subjective and objective parameters before and after treatment.

Pain on VAS: In term of sufferer G 0 - No pain; G 1 - Pain appears after strenuous activity; G 2 - Persistent mild pain, not requiring analgesia; G 3 - Persistent moderate pain, requiring analgesia; G 4 – Severe pain, poorly responding to analgesia.

Swelling: Comparison of circumferential measurement of affected part with corresponding healthy part.G0-No swelling; G1- Up to 0.50 cm; G2 -0.50 cm - 1.00 cm; G3 - 1.01 cm - 1.50 cm; G4 - More than 1.50 cm.

Tenderness: G 0 - No tenderness; G 1 - Pain on pressure but without any facial expression; G 2-Wincing of face on pressure; G 3- Wincing of face on pressure with withdrawal of affected part; G 4- Patient is not allowing touch due to extreme pain.

Loss of function: G 0-No difficulty during work; G 1-Mild pain present but able to perform work; G 2-Local bearable pain during work; G 3-Difficulty in day today routine work due to extreme pain; G 4- Total loss of function.

Skin colour changes:G 0-No any colour change; G 1-Redish colouration; G 2-Redish bluish colouration; G 3-Redish blackish colouration.

Local temperature rise: The assessment of local temperature rise was done only up to 3 days after the traumatic injuries, by comparison of affected part with corresponding healthy part. G 0- No variation in local temperature; G 1-Variation up to 0.50C; G 2-Variation up to 0.50C to 1.00C; G 3-Variations more than 10C.For the purpose of the assessment of result some grade points were used considering the severity of different sign and symptoms and Clinical assessment of result was done as: Cure: hundred percent; maximum improvement: 75% to 99%; moderate improvement: 50% to 74%; mild Improvement: 25% to 49% and no improvement: less them 25% improvement of the cardinal sign and symptoms, like pain, swelling, Tenderness, Loss of function, Skin colour changes, Local temperature rise. All the patients were provided to take similar dietary regimen. The duration of treatment was 30 days in maximum. The clinical assessment was done in every 7 days interval. The initial findings were compared with the result of progressive 7th day, 14th day and so on of findings. Grading/ grouping according to the assessment criteria and measurement scale concerned to each item categorically differentiated the findings among the patients in the clinical study. Finally the assessment as a whole was presented in percentage.

Results after treatment:

Table 1. Effect of trial on subjective and objective parameters of group A

S.N.	Sign & symptoms	No of pts	Mean		Diff.	% of relief	SD	SE	t-value	p-value
			BT	AT						
1.	Pain	10	2.8	1.3	1.5	53.57	0.527	0.167	9.00	<0.001
2.	Swelling	10	2.8	1.2	1.6	57.14	0.698	0.221	7.23	<0.001
3.	Tenderness	10	3.1	1.5	1.6	51.61	0.515	0.163	9.79	<0.001
4.	Loss of function	10	2.1	1.0	1.1	52.38	0.568	0.180	6.12	<0.001
5.	Skin col changes	10	1.3	0.6	0.7	53.84	0.483	0.153	4.58	<0.01
6.	Local tempr.	10	1.6	0.9	0.7	43.75	0.483	0.153	4.58	<0.01

Table 2. Effect of trial on subjective and objective parameters of group B

S.N.	Sign & symptoms	No of pt	Mean		Diff.	% of relief	SD	SE	t-value	p-value
			BT	AT						
1.	Pain	10	2.7	1.6	1.1	40.74	0.736	0.233	4.71	<0.01
2.	Swelling	10	2.9	1.2	1.7	58.62	0.483	0.153	11.1	<0.001
3.	Tenderness	10	2.3	1.6	0.9	39.13	0.483	0.153	4.58	<0.01
4.	Loss of function	10	2.3	1.3	1.0	43.47	0.815	0.258	3.87	<0.01
5.	Skin col.changes	10	1.4	0.6	0.8	57.14	0.420	0.133	6.00	<0.001
6.	Local tempr.	10	1.5	0.9	0.6	40.00	0.515	0.163	3.67	<0.01

Table 3. Effect of trial on subjective and objective parameters of group C

S. N.	Sign & symptoms	No of pts	Mean		Diff	% of relief	SD	SE	t-value	p-value
			BT	AT						
1.	Pain	10	2.6	1.0	1.6	61.53	0.515	0.163	9.79	<0.001
2.	Swelling	10	2.7	1.0	1.7	62.96	0.673	0.213	7.96	<0.001
3.	Tenderness	10	2.9	1.2	1.7	58.62	0.483	0.153	11.1	<0.001
4.	Loss of function	10	2.6	1.1	1.5	57.69	0.527	0.167	9.00	<0.001
5.	Skin col. changes	10	1.5	0.6	0.9	60.00	0.568	0.180	5.01	<0.001
6.	Local tempr	10	1.7	0.9	0.8	47.05	0.420	0.133	6.00	<0.001

Table 4. Comparative study on results in all the three groups

S.N.	Sign & Symptoms	Results in percentage		
		Group A	Group B	Group C
1.	Pain	53.57	40.74	61.53
2.	Swelling	57.14	58.62	62.96
3.	Tenderness	51.61	39.13	58.62
4.	Loss of function	52.38	43.47	57.69
5.	Skin col.changes	53.84	57.14	60.00
6.	Local temp	43.75	40.00	47.05

Discussion:

Effect of therapy on cardinal sign and symptoms: The *Shigru guggulu* was found more effective in subsiding the pain (53.57%), tenderness (51.61%), loss of function (52.38%) and local temperature rise (43.75%) than *Erand taila*, while *Erand taila* was found more effective in Subsiding the swelling (58.62%) and skin colour changes (57.14%) than *Shigru guggulu*, but when both the drugs were compared statistically, then it was found that both the drugs are equally effective on all cardinal sign and symptoms of the disease.The *Erand taila* was found efficacious on all cardinal signs and symptoms of Traumatic inflammation, but it was found more efficacious than *Shigru gugggulu* on swelling (58..62%) and skin colour changes (577.14%) . Its more effect on subsiding the swelling and bringing the normal colour of skin could be because of its strong *vatahara* and *kaphahara* properties and the gentle massage on effected area which is helpful in direct penetration of oil in the affected cells and tissues and it has antioxidants, vitamin A and C and also possess strong oxidative stability, that's why it is using cosmetically also.The mixed group was found to be most efficacious on all objectives and subjective parameters of the disease among all the three groups i.e. on pain (61.53%), swelling (62.96%), tenderness (58.62%), and loss of

function (57.69%), skin colour changes (60.00%) and local temperature rise (47.05%). It is very clear from the observations that although all the three groups have shown statistically significant improvement in all of improvement rather better in group C i.e. combined group, on all cardinal sign and symptoms than group A and group B.

Discussion regarding probable mode of action of drugs: The drug *Shigru*, when studied from *rasa, guna, virya* and *vipak*, point of view, then it becomes quite evident that all the properties possessed by *Shigru* are *vatahara* and *kaphahara*, as well as anti-inflammatory action is due *to ushna-virya, katu- vipaka, laghu* and *ruksha-Guna* and *tikta, katu-rasa*, because this drug pacify vitiated *vata dosha* by *ushna virya* and vitiated *kapha dosha* by all properties possess by the drug S*higru*.[10]*Tikta rasa* has a drying effect on *kleda, vasa, meda, majja, lasika, puya, pitta* and *kapha*. It strengthens muscle and skin. These qualities of *tikta rasa* are due to *ruksha, sita* and *laghu guna*.[11] *Katu rasa* stimulates digestive fire; destroy the contaminated and excited *malas* and *kleda* and works as vermicide. Due to *akasha mahabhuta*, it clears space and open channels, that's why; it is efficacious in destroying the *amadosha, abhisyanda*, obesity, excessive liquidity and obstruction in channels.[12]The drug *Guggulu* when studied from the *Ayurvedic* point of view then, it becomes quite evident, that it is a fat depleting substance and in *Ayurvedic* texts, it is also mentioned that, it reduces the obesity. In other words *Guggulu* is specific to produce emaciation and dehydration with its properties of *ushna-virya, katu- vipaka, laghu, vishad* and *ruksha-guna* and *tikta, katu-rasa*, it is able to permeate in to the tissues, dry the area and make the entire tissue light.[13]*Erand taila* has got its reference from *Sushruta SutraSthan* – 45/114, where *acharya Sushruta* has explained that *Erand taila* is *tikshana* and *laghu* in *guna* , *ushna* in *virya, katu* in *rasa* and *katu* in *vipaka* , so it pacify the vitiated *vat*a and *kapha doshas* (responsible for pain and oedema respectively).[14]*Acharya Charaka* says that"*Dravya* exhibit some action by *rasa*, some by *virya* and others by *guna, vipaka* and *prabhav*a.[15] (*Charaka Sutra* 26/71-72).In this way both the selected drugs with these pharmacodynamical properties is likely to bring vitiated *doshas* in their normal stage (*samyavastha*) and remove the obstruction of channels (*srotovaradh*a), involved, which is the main pathology in the *Abhighataja Shopha* (Traumatic inflammation) and ultimately help in the effective cure of the disease.The overall study showed that these formulations have good results on the disease. All the patients tolerated the drug very well and no any adverse effects were reported by any of the patient, registered in the current series of 30 patients of *Abhighataj Shopha* (Traumatic inflammation) suggesting that the both drugs selected for the current clinical trial are absolutely safe for local application (*Eranda* oil) and oral therapy (*Sigru guggulu*).

Conclusion:

1. The temperature rise was observed more in inflammation of ankle joints produced by traumatic injuries in comparison to other joints taken for the study.
2. No any adverse effect, such as: nausea, vomiting, G.I. upsets, itching and burning sensation etc. of therapy were noticed during treatment period.
3. In this way we can say that multifactorial approach is must for successful management of Traumatic inflammation, which should include use of oral as well as local application of *vednashamak* and *shothagna* drugs along with dietary control.
4. Significant results on various symptoms elucidate effectiveness of therapy, combating the probable samprapti (Pathogenesis) of this disease.
5. During follow-up period, patients complained of mild pain, which more often aggravates after strenuous activity. It shows that there should be control on strenuous exercise of affected part for duration of at least 6-8 weeks, after discontinuation of therapy. Hence *Erand taila* along with *Shigru guggulu* may be used as Therapeutic agent in acute and uncomplicated cases of Traumatic inflammation or as an adjuvant therapy in chronic cases of Traumatic inflammation for promotion and maintenance of positive health.

References:

1. **Sushrut Samhita of Sushrut.** edited with Ayurved tatva Sandipika Hindi commentary by Kaviraj Ambikadutt Shastri. Choukhambha Sanskrit Sansthan, Varanasi. Reprint edition, Chikitsa sthana 1/4. pg.2 **(2006).**
2. **Sushrut Samhita of Sushrut.** edited with Ayurved tatva Sandipika Hindi commentary by Kaviraj Ambikadutt Shastri. Choukhambha Sanskrit Sansthan, Varanasi. Reprint edition, Chikitsa sthana 17/3. pg.70 **(2006).**
3. **Charaka Samhita of Agnivesha.** Edited with Charak Chandrika Hindi Commentary by Brahmanand Tripathi, Chaukhambha Surbharati Prakashan, Varanasi. Reprint edition. Uttarardha Chikitsa Sthan 12/17-19.pg.441 **(2009).**
4. **Tripati KD**, Nonsteroidal Anti inflammatory Drugs and Antipyretic-Analgesics. Essentials of medical pharmacology, 6th edition.New Delhi, Jaypee brothers publication,pg-14:187 **(2008).**
5. **Bhavaprakash Nigantu of Shri Bhavmishra**. with Hindi commentary edited by K.C.Chunekar. Choukhambha bharati academy, Varanasi. Reprint edition Guduchyadi varga : 105-110. pg.339 **(2004).**
6. **Sushrut Samhita of Sushrut.** edited with Ayurved tatva Sandipika Hindi commentary by Kaviraj Ambikadutt Shastri. Choukhambha Sanskrit Sansthan, Varanasi. Reprint edition, Sutra Sthan 45/114.pg.179 **(2006).**
7. **Bhavaprakash Nigantu of Shri Bhavmishra.** with Hindi commentary edited by K.C.Chunekar. Choukhambha bharati academy, Varanasi. Reprint edition Guduchyadi varga : 105-110. pg.339 **(2004).**
8. **Charaka Samhita of Agnivesh** Vol. I edited with Vaidyamanorama Hindi Commentary by Vidhyadhar Shukla and Ravidatt Tripathi. Chaukhambha Sanskrit Prathisthan, Varanasi. Reprint edition. Sutrasthan 26/5. pg.371 **(2006).**
9. **Charaka Samhita of Agnivesh** Vol. I edited with Vaidyamanorama Hindi Commentary by Vidhyadhar Shukla and Ravidatt Tripathi. Chaukhambha Sanskrit Prathisthan, Varanasi. Reprint edition. Sutrasthan 26/4. pg.370 **(2006).**
10. **Bhavaprakash Nigantu of Shri Bhavmishra**. with Hindi commentary edited by K.C.Chunekar. Choukhambha bharati academy, Varanasi. Reprint edition Karpuradi varga: 32-45. pg.204 **(2004).**
11. **Bhavaprakash Nigantu of Shri Bhavmishra**. with Hindi commentary edited by K.C.Chunekar. Choukhambha bharati academy, Varanasi. Reprint edition Guduchyadi varga : 105-110. pg.339 **(2004).**
12. **Charaka Samhita of Agnivesh** Vol. I edited with Vaidyamanorama Hindi Commentary by Vidhyadhar Shukla and Ravidatt Tripathi. Chaukhambha Sanskrit Prathisthan, Varanasi. Reprint edition. Sutrasthan 26/71-72. pg.378 **(2006).**

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