



Research Article

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CLINICAL STUDY TO EVALUATE THE EFFECT OF MODIFIED CHOORNA PINDA SVEDA IN THE MANAGEMENT OF KATIGRAHA (LUMBAGO)

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Received on: 28/06/17 Accepted on: 02/08/17

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DOI: 10.7897/2277-4343.084228

ABSTRACT

This is the clinical study to evaluate the effect of modified Choorna Pinda Sveda in the management of Katigraha. Pinda Sveda is one of the most effective Upakarma of Panchakarma (Bio purification therapy). It is based on the principles of Sankara Sveda. Pinda Sveda is a combination of Snehana (oleation), Mardana (massage) and Svedana (fomentation). It is of two type's viz., Snigdha and Rooksha. Katigraha can be defined as a type of catching pain which may occur due to vitiation of Vata and Kapha. In contemporary science Low back pain is a chronic condition characterized by a persistent dull or sharp with excruciating pain on the lower back. The most important symptoms of non-specific low back pain are pain and disability. Choorna Pinda Sveda was done with Kolakulathadi Choorna and Kulattha Choorna (*Dolichos biflorus*) dipping in Dhanyamla. It is having Ushna and Teekshna Guna Dravya and Dhanyamla also have Agnideepaka, Laghu, Srotoshodhaka and Ushna Guna which pacifies the Vata and Kapha Doshas in a mean time. This procedure was done in all the 30 individuals for 3 consecutive days for the time period of 20 minutes. The data analysed by using appropriate non-parametric and parametric tests. Results of these study shows that Choorna Pinda Sveda was effective in relieving the symptoms of Katigraha such as pain and stiffness and it improves the range of movement. Hence it can be concluded that Choorna Pinda Sveda done with Kolakulathadi Choorna dipping in Dhanyamla has its own effect in relieving Katigraha.

Keywords: Choorna Pinda Sveda, Svedana, Katigraha, Panchakarma

INTRODUCTION

Svedana Karma (Perspiration) is the imperative treatment modality of Panchakarma (Five Bio purification therapies). It is one of the Poorvakarma (Pre-Operative procedures) of Shodhana Chikitsa (Purification therapy) as well as Pradhana Karma (Operative procedures) in many diseases. Svedana Karma is the procedure which relieves the Stambha (Stambha), Gourava (Heaviness), Sheetata (Coldness) and which induces sweating.¹ Moreover Svedana Karma is also an important therapy for a number of disorders, where it works as Pradhana Karma. In classics Svedana included under Shadvidhokrama² (Six types of Treatment) and thus has given importance to Svedana as a principle method of treatment. Svedana has mentioned best treatment for vitiated Vata and Kapha dominant disorders³. As in Katigraha (Lumbago) the Vedana (Pain), Stambha and Cheshtastambha (Restricted range of movement) are present in Kati Pradesh, caused by Kevala Vata or Saama Vata⁴ The symptoms of Saama Vata is Vedana, Toda (Pricking pain), Stambha.⁵ In contemporary science the numbers of patients suffering with low backache are increasing day by day. The recent surveys revealed that 4 out of 5 people across the world are affected by severe low backache, which disturbs the daily routine of an individual. In other hand Low back pain is a chronic condition characterized by a persistent dull or sharp pain over the lower back. It may also be associated with burning, stiffness, numbness or tingling with the pain. The most important symptoms of non-specific low back pain are pain and disability⁶. So the study was planned and 30 individuals were

registered and placed in single group. All 30 individuals completed whole study and there was no drop out. A special proforma was prepared, the selected patients were subjected to detail clinical history and complete physical examination before undergoing the clinical study. Before starting treatment through counselling of patient and brief explanation regarding the procedure of Svedana Karma was done. In this group patients were advised to take the Laghu (Light) & Anabhisyandi (easily digestible food) Ahara and advised to avoid exercise during the entire course of Svedana Karma. After completion of treatment patients were taken Mudga Yusha (soup of green gram) in morning, Krishara (liquid rice) in afternoon and again Krishara in evening.

MATERIALS AND METHODS

The present clinical trial was done with 30 individuals of Katigraha (pain in lumbo-sacral region), selected from the inpatients department of SDM college of Ayurveda and Hospital, Hassan, India; after ethical clearance from institutional ethics committee vide number: SDM/IEC/73/2014-2015.

Diagnostic Criteria

1. Katigraha (Reduced movement)
2. Katishoola (Low back pain)
3. Reduced walking capacity due to pain
4. Tenderness in lumbar region.

Inclusion Criteria

The patients, who were fit for *Svedana*, in the age group of 20-70 years of either sex, were selected for clinical trial.

Exclusion Criteria

1. Patients with the history of trauma (Abhighata Janya Katigraha).
2. Patients who were having low backache due to any infection, cancer, congenital deformity.
3. Post-surgical backache.
4. Contraindicated for *Svedana*.

Research Design

30 patients were selected and placed in single groups. The selected patients were subjected to detail clinical history and complete physical examination before undergoing the clinical study. Before starting treatment through counselling of patient and brief explanation regarding the procedure of *Svedana Karma* were done. In these groups patients were advised to take the *Laghu & Anabhisyadi Ahara* and advised to avoid exercise during the entire course of *Svedana Karma*.

Procedure

The whole procedure was divided under three steps, *Poorva*, *Pradhana* and *Pashchat* (post-operative procedures) *Karma*. In *Poorva Karma*, as per the inclusion criteria selected patients were educated about the whole course of the treatment. The all required materials for *Choorna Pinda Svedana* were arranged. The materials used for *Choorna Pinda Svedana* are; *Droni* (made up of fibre), *Dhanyamla*⁷ (medicated acidic decoction - daily one litter quantity), Spoon, Measuring cylinder, Weighing machine, stainless steel vessels- 2 (one for recollecting and reheating the *Dhanyamla* and one for cooking of *Choornas* in *Dhanyamla*), *Kora cloth*-2, *Tag*- 2, *Trey* and gas stove.

In present study *Choorna Pinda Sveda* was given for 3 days, up to *Samyaka Svinna Lakshanas*⁸ (proper symptoms of perspiration) throughout the course of treatment, so total 3 litters of *Dhanyamla* is used for the therapy whereas total quantity of *Kulattha (Dolichos biflorus)* and *Kolakulatthadi Choorna*⁹ (combination of powders) was 300 and 300 grams for one patient for 3 days course of *Choorna Pinda Sveda*.

In morning time (from 7am to 9am) after the evacuation of natural urges, the patients were asked to wear minimum dress (preferably *Langoti*- made up of cloth piece for covering the genitals) and comfortably lie down in prone position with well exposed *Katipradesha* (low back region), over *Droni*. Then above said drugs were crushed well and mixed with 600 ml of *Dhanyamla* properly and cooked. Then bolus was divided into equal parts & *Pinda/Pottali* (bolus) is prepared. In morning empty stomach patients was taken 6 grams of *Shunti choorna (Zingiber officinale)* along with Luke warm water. Now patient is ready for *Choorna Pinda Sveda*.

Pradhan Karma

The *Pottali* filled with *Choornas*. After checking the temperature of *Dhanyamla*, *Choorna Pinda Sveda* was started. The heated *Pottali* was dipped in *Dhanyamla* and *Svedana* was done over *Kati Pradesh* up to *Samyaka Svinna Lakshanas*.

In between the procedure the *Dhanyamla* was being reheated by flame. After reheating of *Dhanyamla* the *Pottali* was again dipped and *Choorna Pinda Sveda* was again performed, every time before starting the procedure temperature was being checked and confirmed with patient. One *Pottali* used only for one time that should not be reused.

Pashchat Karma

After the completion of above said procedure, the whole *Choorna* was wiped out from patient's body and *Droni*. After completion of treatment patient should take rest for 10 minutes, then after 10 minutes patients were asked to take bath with warm water. Patients were advised to take *Laghu*, *Ushna* and *Anabhisyadi Ahara* i.e. *Mudga Yusha* in morning, *Krishara* in afternoon and again *Krishara* in evening during the course of treatment (3 days), and asked to follow the regimens which are explained in *Snehana* and *Svedana Chikitsa*.

Assessment Criteria

This was a clinical study. The progresses were noted on the basis of assessment parameters (both subjective and objective) before treatment & after treatment in a specially prepared case sheet.

Subjective Criteria

- Pain
- Stiffness

Objective Criteria

- Restricted movements of spine such as Flexion, Extension, Left lateral movement, Right lateral movement, Rotating movement
- Walking time.

For assessing the above said symptoms, tools like Visual analogue scale, Goniometer and measuring tape were used. Grading of pain and stiffness was as following- (Table 1 and Table 2)

Table 1: Grading of pain

No pain	0 (VAS)
Mild pain	I (1-3 VAS)
Moderate pain	II (4-5 VAS)
Severe pain	III (6-8 VAS)
Worst pain	IV (9-10VAS)

Table 2: Grading of Stiffness

No Stiffness	0
0-5 min	I
5 min- 2 h	II
2-8 h	III
> 8 h	IV

RESULTS

The Ordinal data analysed using non-parametric tests like Friedman's test with Wilcoxon signed rank test as post-hoc with Bonferroni correction for the objective parameters like pain and stiffness (Table 3 & 4).

Table 3: Wilcoxon Signed Ranks Test for STIFFNESS with Bonferroni Correction (0.01)

STIFFNESS	Negative ranks			Positive ranks			Ties	Total	Z	P	Remarks
	N	MR	SR	N	MR	SR					
BT – DAY1	1	1.00	1.00	0	0	0	29	30	1.0	0.317	NS
DAY1 – DAY2	6	3.50	21.00	0	0	0	24	30	2.45	0.14	NS
DAY2 – DAY3	19	10.00	190.00	0	0	0	11	30	4.3	<0.001	HS
DAY3 - AT	10	5.50	55.00	0	0	0	20	30	3.1	<0.001	HS
BT - AT	29	15.00	435.00	0	0	0	1	30	4.97	<0.001	HS

Table 4: Wilcoxon Signed Ranks Test for PAIN with Bonferroni Correction (0.01)

PAIN	Negative ranks			Positive ranks			Ties	Total	Z	P	Remarks
	N	MR	SR	N	MR	SR					
BT – DAY1	6	3.50	21.00	0	0	0	24	30	2.45	0.014	S
DAY1 – DAY2	9	5.00	45.00	0	0	0	21	30	3.0	0.003	HS
DAY2 – DAY3	11	6.00	66.00	0	0	0	19	30	3.3	<0.001	HS
DAY3 - AT	10	5.50	55.00	0	0	0	20	30	3.16	0.002	HS
BT - AT	27	14.00	378.00	0	0	0	3	30	4.7	<0.001	HS

Repeated Measures of ANOVA was used to assess the effect of therapy on joints ROM. Friedman’s test (p<0.05) was used to analyse the significance of change in Objective parameters (Table 5-10).

Table 5: Repeated measure ANOVA of mean difference of extension

(I) EXTENSION	(J) EXTENSION	Mean Difference (I-J)	SE	Sig.	95% Confidence Interval for Difference		Remarks
					Lower Bound	Upper Bound	
BT	DAY1	.000	.000	.000	.000	.000	NS
DAY1	DAY2	-.333	.333	1.000	-1.346	.679	NS
DAY2	DAY3	-1.833	.610	.055	-3.688	.021	NS
DAY3	AT	-.667	.396	1.000	-1.871	.537	NS
BT	AT	2.833	.706	.004	.687	4.979	HS

Table 6: Repeated measure ANOVA of mean difference of flexion

(I) FLEXION	(J) FLEXION	Mean Difference (I-J)	SE	Sig.	95% Confidence Interval for Difference		Remarks
					Lower Bound	Upper Bound	
BT	DAY1	-1.333	.631	.434	-3.251	.584	NS
DAY1	DAY2	-2.833*	.819	.017	-5.323	-.344	S
DAY2	DAY3	-8.667*	.793	.000	-11.075	-6.258	HS
DAY3	AT	-4.167*	1.019	.003	-7.264	-1.070	HS
BT	AT	17.000*	1.450	.000	12.594	21.406	HS

Table 7: Repeated measure ANOVA of mean difference of rotation

(I) ROTATION	(J) ROTATION	Mean Difference (I-J)	SE	Sig.	95% Confidence Interval for Difference		Remarks
					Lower Bound	Upper Bound	
BT	DAY1	-.333	.333	1.000	-1.346	.679	NS
DAY1	DAY2	-2.500*	.709	.014	-4.654	-.346	S
DAY2	DAY3	-3.833*	.784	.000	-6.214	-1.453	HS
DAY3	AT	-1.500*	.425	.014	-2.793	-.207	S
BT	AT	8.167*	.847	.000	5.593	10.740	HS

Table 8: Repeated measure ANOVA of mean difference of left lateral movement

(I) LEFT LATERAL	(J) LEFT LATERAL	Mean Difference (I-J)	SE	Sig.	95% Confidence Interval for Difference		Remarks
					Lower Bound	Upper Bound	
BT	DAY1	-.167	.167	1.000	-.673	.340	NS
DAY1	DAY2	-2.500*	.786	.035	-4.888	-.112	S
DAY2	DAY3	-4.167*	.798	.000	-6.591	-1.742	HS
DAY3	AT	-1.833	.656	.091	-3.826	.159	NS
BT	AT	8.667*	.862	.000	6.047	11.286	HS

Table 9: Repeated measure ANOVA of mean difference of right lateral movement

(I) RIGHT LATERAL	(J) RIGHT LATERAL	Mean Difference (I-J)	SE	Sig.	95% Confidence Interval for Difference		Remarks
					Lower Bound	Upper Bound	
BT	DAY1	-.167	.167	1.000	-.673	.340	NS
DAY1	DAY2	-2.500*	.749	.023	-4.774	-.226	NS
DAY2	DAY3	-3.500*	.801	.001	-5.932	-1.068*	HS
DAY3	AT	-1.333	.475	.089	-2.778	.111	NS
BT	AT	7.500*	.786	.000	5.112	9.888*	HS

Table 10: Repeated measure ANOVA of mean difference of walking time

(I) WALKING TIME	(J) WALKING TIME	Mean Difference (I-J)	SE	Sig.	95% Confidence Interval for Difference		Remarks
					Lower Bound	Upper Bound	
BT	DAY1	-.933	.172	.000	-1.457	-.409	HS
DAY1	DAY2	-1.000	.186	.000	-1.564	-.436	HS
DAY2	DAY3	-1.233	.223	.000	-1.912	-.555	HS
DAY3	AT	-1.333	.268	.000	-2.149	-.518	HS
BT	AT	4.500	.400	.000	3.283	5.717	HS

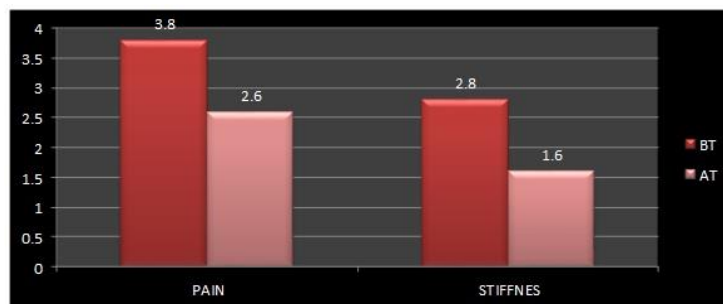


Figure 1: Objective Parameters (Pain & Stiffness)

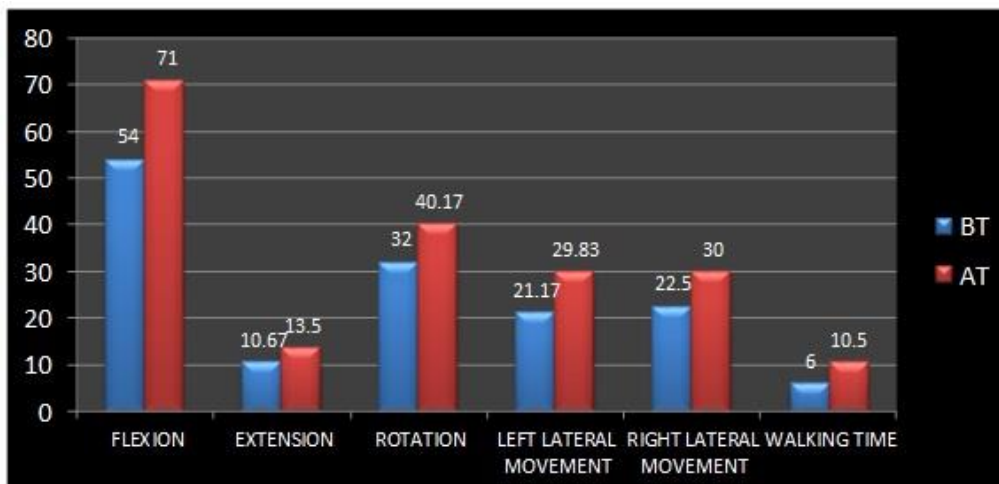


Figure 2: Objective Parameters (Rom)

Overall Effect of Therapy

The overall effect of Choorna pinda sveda shows that pain was reduced by 31.8%, stiffness was reduced by 42.85%, flexion was increased by 31.48%, extension was increased by 26.53%, rotation was increased by 25.52%, left lateral movement was increased by 40.9%, right lateral movement was increased by 33.33%, and walking time was increased by 75%. Maximum patients got marked improvement which is statistically significant; neither any patient got complete remission, nor remains unchanged.

DISCUSSION

In Katigraha because of Vata and Kapha Prakopa, the symptoms like Vedana and Cheshtastambha in Kati Pradesh (lumbo-sacral region) elicited. It is a type of Vata Nanatmaja Vikara, but based on symptoms it can be classified as Vataj and Vatakaphaja. It is not explained in Brihatrayi, but now days, due to faulty life style the prevalence of its main symptom, low back is very high. In Katigraha people becomes disable to do their routine activities and ultimately it affects the quality of life. The character of the pain may vary according to the Dosha involvement (Vata or Vata-Kapha). Patients of Katigraha may complain of sharp, catching or excruciating type of pain. Along with pain, stiffness and restricted range of movement at the lumbo-sacral region is the other Lakshana of Katigraha. The Lakshanas of Katigraha can't be comparing with any disease of modern medicine.

Katigraha is one such condition in which the vitiated Vata is localizing in the Kati Pradesh and producing stiffness and pain there. Since it is a Vata Kapha Vikara and Avarana is the resultant, Svedana may be an ideal line of treatment. Snehana and Svedana Chikitsa are the two important Upakarma of Panchakarma, which alone can be used as main treatment modality effectively to treat condition like Katigraha. Pinda Sveda over Katipradesh with Kolakulathadi choorna dipped in Dhanyamla may be the choice of treatment in Katigraha. In present study Choorna Pinda Svedana on Katipradesh (lumbo-sacral region) was selected as it covers the entire Katipradesh and thus may provide significant relief. Kolakulathadi choorna and Kulattha choorna are mainly having VataKaphahara dravyas and most of the drugs were Ushna virya pradhana and Dhanyamla is also having Gunas like Laghu, Ushna, Srotoshodhaka, Agnideepaka, VataKaphahara etc. thus it was selected for the present study. Continuous heating was provided to the Dhanyamla throughout the procedure.

In this disease, Vata is the most culprits but Kapha is also having significant role in the manifestation of disease. So Svedana procedure which is aiming at Vata, Kapha as well as Ama is the better choice. Here comes the role of Rooksha (Ishata Snigdha) Sveda. As per classics, Katigraha is not only mentioned in Vata vyadhyadhikara but is narrated in Ama Vatadhikara also. Thus the management of both holds good for Katigraha. Therefore Kolakulathadi Choorna dipped in Dhanyamla are thought for Svedana, in the form of Pinda Sveda as it is having the properties of both Vata and Kapha Shamana.

In the contemporary science treatment is mainly aimed at Non-pharmacological methods and analgesics. Among Non-pharmacological treatment physical heat therapy is given importance. Katigraha is characterized by joint pain, and stiffness. The heat applied to the affected area helps in combating many of the symptoms.

In present study the, all patients (100%) were present with the complaints of Shoola in low back region, Graha were present in

all (100%) patients, tenderness was present only in 53.3% of patients, (96.7%) patients were present with the complaints of reduced walking capacity, (83.3%) patients were present with the gradual onset of pain, (60%) patients were present with the chronic (> 6 months) type of pain, whereas 23.3% patients were present with the sub-acute (1-6 months) type of pain and 16.7% patients was present with the acute (< 1 month) type of pain, In the present study (46.7%) patients were present with the scoliosis whereas 33.3% patients were present with the lordosis and 20.0% patients were present with the no deformity.

PROBABLE MODE OF ACTION

Choorna Pinda Sveda is a variety of Sankara Svedana, which is described as Poorvakarma of Shodhana. In Choorna Pinda Sveda different Choornas is used and Dhanyamla is used as media. Its action Svedana assists in alleviating Vata and Kapha effectively. The Kapha Dosha which is the key factor of causation of Katigraha has almost opposite qualities to Vata.

Svedana karma is also a very useful Upakarma in Panchakarma modality used as a Purvakarma (preparatory procedures) and main therapeutic measure. Svedana is specially indicated in symptoms like Sankocha (stiffness), Vedana (pain), Shoola (tenderness), Stambha (restricted movement), and Gaurav (heaviness), Supti (numbness) virtually all these indications are cardinal symptoms of Katigraha. In this way Svedana might play crucial role in relief of such symptomatology of Katigraha. Application of medicaments, heat and massage definitely helps in eliminating the number of noxious elements through skin. The application of heat in different forms of Svedana promotes local circulation and metabolic activities and also opens the pores of the skin to permit transfer of medicaments and nutrients towards to needed sites. It also initiates elimination of vitiated Doshas and Malas through skin and perspiration.

The drug applied in skin by its Veerya it enters in the Romakupa. The Veerya of the drug further enters the Siramukha through the Svedavahi siras and exhibits action. There is an explanation of Tiryakgata Siras. These Siras are present both in the skin and other body parts inside the body. One end of these Siras is in the Romakupa, through which the Sveda Abhivahana and Rasa Abhitarpana occurs. These Siras take the Veerya of the drugs after undergoing Paka by Bhrajaka Pitta in Tvak.

As per the modern science, producing more heat over the superficial tissue increases the metabolism. Because of this increased metabolism there will be an increased demand of oxygen and nutrition. It will increase the output of waste product and removes from the body, after removing from body person feels lightness. In meantime because of increased waste products, the level of metabolites may also increase which goes to the walls of capillaries and arterioles and stimulate the vasodilatation. Vasodilatation increases the blood supply which ultimately results in relaxation of muscles and nerves, and person feels lightness.

The Drugs which is used for the therapy can penetrate the epidermis & undergoes percutaneous absorption. The movement is slow, particularly the layers of cell membranes in the stratum corneum. But once the drug reaches the underlying tissues it will be absorbed into the circulation by the diffusion process. This indicates the entering of the drugs applied over the skin in to the capillaries and there by entering to the systemic circulation.

Stimulation of superficial nerve endings can also cause a reflex dilatation of the arterioles. As a result of vasodilatation there is an increased flow of blood through the area so that the necessary

oxygen and nutritive materials are supplied and waste products are removed.

CONCLUSION

Vata and Kapha are the two main factors involved in the pathogenesis of Katigraha. Here the pain and stiffness are two symptoms present in the disease which can be attributed the Vata and Kapha Dosha Lakshana Rooksha (Ishata Snigdha) Sveda is told for Srotoshodhana there by subside the vitiated Kapha which is in the Katipradesha and for this purpose, Kolakulathadi choorna are used which relieves the pain and Stambha. By Svedana we can get the effects like Twak Mriduta, Twakprasada, Srotoshodhana, and Stabdhatwa in the Sandhis are relieved and becomes easy for Chesta. Charaka while explaining the effects of Svedana he says it is best in Sankocha, Ayama, Shoola, Stambha etc. all the Vikaras of Sarvanga and Ekanga. In the patients of Katigraha (N=30), Choorna Pinda Sveda done with modification of dipping in Dhanyamla has significantly reduced Katigraha Lakshanas like Vedana, Stambha, Guruta etc. Also it showed significant results in improving the ROM of involved joints. It also improves in SLR test, and no complications of Sveda (Atiyoga, Ayoga and Mithya Yoga) were absorbed in this study.

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Cite this article as:

Mishra Gaurav et al. Clinical study to evaluate the effect of modified Choorna pinda sveda in the management of Katigraha (Lumbago). Int. J. Res. Ayurveda Pharm. 2017;8(4):122-127 <http://dx.doi.org/10.7897/2277-4343.084228>

Source of support: Nil, Conflict of interest: None Declared

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