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ORIGINAL RESEARCH ARTICLE

## COMPARATIVE CLINICAL STUDY ON SHODHANANGA AROHANA AND SADYO SNEHANA

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### Abstract

#### Background:

Oleation therapy used in the preoperative of shodhana (purification) is shodhanaga snehana (pre purification oleation therapy). Generally sneha is administered in arohana (increasing) manner for 3 to 7 days or till the appearance of proper oleation features. In the present days it is being observed that though many of the patients require shodhana (purification), but it is not feasible as about seven days period is required for oleation therapy. In addition texts also mention instant pre purification oleation therapy, which can be done in one day. If instant oleation is also equally effective, then the duration of preoperative procedure may be reduced remarkably. With this idea it was planned to study the effect of instant oleation therapy and arohana (increment) oleation therapy on proper oleation features.

#### Aims and objectives:

To compare the effect of increment oleation and instant oleation in attaining proper oleation features.

#### Materials & Methods:

20 volunteers were assigned into increment oleation group & instant oleation therapy group consisting of 10 each.

#### Results:

The oleation grade showed in increment oleation group was 75 %, where as in instant oleation therapy group it was 24.2%. The mean of 66.7% and 44.4% of laingiki lakshana (features of proper purification) was observed in increment and instant oleation therapy group.

#### Conclusion:

On the basis of the results of this study it can be concluded that increment oleation therapy method should be choice for oleation therapy prior to purgation therapy as in this group less discomfort during digestion, more oleation features and more benefits by purgation therapy were noticed.

**Key words:** snehana, oleation, arohana, sadyo, virechana, shodhana, snigdha

### Introduction

First requisite or indication for panchakarma (pentabio purificatory measures of ayurveda) is

upasthita dosha avastha (~ready stage of doshas for eviction). Panchakarma are indicated when vitiated doshas have become utklishta (~evidently visible) and when they have



acquired a central position and are not scattered in remote places from where their ousting through pentabiopurificatory measures is not attainable<sup>1-2</sup> Oleation acts in every respect of the processes to bring doshas to koshta and bring utklesha of the dosha<sup>3</sup>. The oleation therapy is the main preparatory procedure to be performed before purification. The effect of oleation therapy prior to purification can be achieved by following one of the available methods such as, matranusara (as per dose) oleation therapy, arohana (increment) oleation therapy, Sadyo snehana (Instant oleation therapy) and pravicharana (~mixed with food article) oleation therapy<sup>4</sup>.

In the present days it is being observed that though many of the patients require purification, it is not feasible as about 7 days period is required for oleation therapy.<sup>5</sup> Generally unctuous substance is administered in increment manner for 3 to 7 days or till the appearance of proper oleation features. Instant Oleation therapy is a procedure of administration of unctuous substance within shorter duration. It is based on the principles of pravicharana oleation therapy<sup>6-7</sup>. Many references regarding instant oleation therapy recipe are available in the classics but their dosage and method of administration is not clearly mentioned. While explaining pancha prasatika peya (special recipe for instantaneous oleation) dosage is mentioned in the numerical value. As an example few instant oleation therapy yogas are mentioned hereunder, pippali, saindhava, four unctuous substances and curd water all this taken together<sup>8-9</sup>. Increment oleation can be defined as an oral administration of unctuous substance in the increment dosage.

In the present days it is being observed that though many of the patients require purification, but it is not feasible as about seven days period is required for oleation therapy. In addition texts

also mention Instant oleation therapy as pre purification oleation therapy, which can be done for one day. If instant oleation therapy is also equally effective, then the duration of preoperative days may be reduced remarkably. With this idea it was planned to study the effect of instant oleation therapy and increment oleation therapy on proper oleation features.

### Objectives

1. To evaluate the effect of increment oleation in attaining proper oleation features
2. To evaluate the effect of instantaneous oleation in attaining proper oleation features
3. To compare the effect of increment oleation and instantaneous oleation in attaining proper oleation features.

### Materials and methods

#### Source of Data

20 Healthy Volunteers having Madhyama Koshta were selected.

#### Inclusion Criteria

1. Volunteers who were not complaining of any type of illness either mentally or physically.
2. Whose routine clinical examination and laboratory investigations revealed no abnormality.
3. Volunteers fulfilling the criteria for madhyama koshta.
4. Volunteers between the age group of 17 to 30 years.

#### Exclusion Criteria

1. Mridu Koshta and Krura Koshta Volunteers



2. Volunteers with Physical or mental ailments or with altered routine lab investigations.

### Lab Investigations

Routine Blood, Urine and Stool examinations were carried out before selection of Volunteers as screening criteria.

### Groups and Management

20 volunteers were assigned into two groups increment oleation therapy group & Instant oleation therapy group consisting of 10 each. All the volunteers were administered panchakola churna in the dose of 6 gms three times a day with hot water before food for 3 days or till the appearance of nirama lakshanas (~proper difestion), which ever was earlier.

#### I. Increment oleation therapy group:

In this group, volunteers were given test dose (30 ml) of murchita ghee (~ medicated ghee) at around 7.30 a.m. The second day onwards medicated ghee was administered in increasing dosage. The increase per day was decided on the basis of jiryamana (during digestion), features on digestion etc. Thus the increase was not fixed and the dose schedule in this group was variable from person to person. After attainment of proper oleation features volunteers were subjected to virechana (purgation therapy).

Procedure of snehapana (internal oleation):

- Volunteers were instructed to take liquid, hot, easily digestible food in proper quantity in night on the day before internal oleation.
- Early morning on the day of internal oleation after going through normal routine, digestion features (but not hungry) was assessed. Then at 7.30 a. m. volunteers with a fresh mind, enthusiasm, courage, by remembering his favorite god, the dose of medicated ghee was

administered. Hot water was given as an adjuvant followed by ghee intake.

- Volunteers were instructed to follow do's and don'ts as mentioned for internal oleation.
- Volunteers were instructed not to take any type of food until he/she feels hungry.
- During those days volunteers were given light diet.
- The features during medicated ghee digestion as well as the time required for appearance of digestion features was assessed.

The volunteers were observed for proper oleation features daily. After getting proper oleation features internal oleation was stopped and then volunteers were subjected for virechana (purgation therapy).

#### II. Instant oleation therapy group:

In this group the volunteers were given 150 ml of murchita ghee (~medicated ghee) with 10 grams of saindhava lavana (rock salt) at once for one day. The volunteers were observed for proper oleation features. Then volunteers were subjected for virechana (purgation therapy).

#### Criteria for assessment of the results

1. Dose, duration for medicated ghee digestion:
  - Time of medicated ghee administration
  - Dosage of medicated ghee
  - Features during digestion of medicated ghee like shiroruk (head ache), bhrama (giddiness), nishtiva(~ excess salivation), murcha (~fainting), sada (~tiredness), arati(~restlessness) and klama (~lethargy).
  - Time of appearance medicated ghee digestion features.

#### 2. Proper oleation features:



The following subjective criteria were considered for assessment of proper oleation features.

- Vatanulomana-assessed by normal expulsion of flatus, faeces and urine.
- Diptagni-based on the time and dose of medicated ghee.
- Asamhata varcha- based on the loose consistency of the faeces.
- Snigdhavarcha- confirmed by greasy/ sticky / pasty stool, floating of fatty stool over water. Sense of oiliness over the fingers on washing after defecation (enquired from the volunteers)
- Tvak snigdhatata -assessed by comparing the touch, luster and texture of skin before, during and after oleation therapy.
- Glani -it was assessed by presence of exhaustion / fatigue / debility or weakness
- Anga laghava -by enquiring with the volunteers.
- Snehodvega-confirmed by presence of aversion towards medicated ghee.

Overall assessment of the proper oleation features was done based on percentage of the manifested proper oleation features.

### 3. Purgation therapy:

- Time of onset of purgation
- Duration of purgation
- Number of purgation
- Number of proper features of purgation
- End features of purgation
- Features of proper, improper & excess purgation

## Results

### Dosage and time taken for digestion of medicated ghee:

In increment group internal oleation therapy was administered to madhyama koshta volunteers in the age group 17 to 30 years. At the outset proper digestion and metabolism was achieved by giving panchakola churna in the dose of 6 gms three times with hot water before food. Thereafter internal oleation was started with medicated ghee. First day 30 ml of medicated ghee was given to all volunteers, which was considered as hrsiyasi matra<sup>10</sup> (~ test dose). On the basis of digestion of test dose, the next day dosage was decided. The minimum and maximum time taken for digestion of test dose was 165 and 480 minutes respectively with the mean duration of 307.5 minutes. Though the test dose was equal to all volunteers, the medicated ghee digestion features appeared in different times. This indicates that though the koshta, age group, season, place and food habits are similar, the digestion of ghee had not occurred at same duration in all volunteers<sup>11</sup>. This reveals that apart from the above factors prakrti (~body constitution), Agni bala (~digestion capacity) are also important for internal oleation. By considering all these factors the next day dose was decided which varied from volunteer to volunteer<sup>12</sup>. The minimum second day dose was 50ml and maximum was 90 ml with mean of 65 ml and the minimum and maximum time taken for digestion was 300 and 600 minutes respectively<sup>13</sup>. In the subsequent days also by considering all the above factors and after proper observation of sneha jirna lakshana (~ features on digestion) and time taken for digestion of ghee, the next day dose was fixed.

In 10 % of volunteers on 3<sup>rd</sup> day itself proper oleation features were observed, in 20% on 4<sup>th</sup> day and in the remaining 70% volunteers on 5<sup>th</sup> day were found. This also suggests that even with the similar koshta and other factors the proper oleation features had not manifested at



the same time. Even in classics also quoted that the appearance of proper oleation features varies from 3-7 days<sup>14</sup>. The variation in the manifestation of proper oleation features may be because of variation of koshta and digestion capacity among individuals<sup>15</sup>. It is interesting to note that the maximum dose of ghee was digested in comparatively lesser time in the later days and digestion time varied from individual to individual and also day to day.<sup>16</sup> this suggests that internal oleation increased the digestion capacity on each day, though there was individual variation<sup>17</sup>. Enhancement of digestion capacity is mentioned as one of the proper oleation features<sup>18</sup>. Even ghee itself is mentioned as agnivardhaka (augment digestion), though it is pittahara. This property of ghee may also contribute for the increase of digestion capacity. By these observations it can be said that digestion capacity is an important factor in deciding the dosage of ghee along with other factors<sup>19-20</sup>.

For achieving the oleation therapy prior to purification many methods have been dealt in classics. Instant oleation therapy is one such method indicated for oleation therapy. Though 1-3 days are mentioned for instant oleation therapy in this study one day internal with 150 ml of medicated ghee along with 10 gms of rock salt was fixed after conducting a pilot study. Even though there are different recipes for instant oleation therapy, ghee and rock salt was selected because of easy administration, and also mentioned as it brings oleation therapy instantaneously.

For Instant oleation therapy group also the selection criteria were the same. After the administration of fixed dosage of ghee the observation was done for its digestion and proper oleation features. Even with minimum variables, in this group the time taken for ghee digestion varied from individual to individual

i.e., minimum and maximum time was 7 hours and 13 hours respectively. This difference in duration may be because of variation in digestion capacity<sup>21</sup>. But the increase of digestion capacity cannot be assessed here as ghee was administered for one day only.

#### **Features during digestion:**

The ghee during its digestion produces some systematic effects called as features during digestion<sup>22</sup>. These symptoms subside after proper digestion of ghee and don't need any therapeutic intervention<sup>23</sup>. In classics shiroruk (~ head ache), bhrama (~ giddiness) etc., symptoms are given under the heading of features during digestion<sup>24</sup>.

In the present study also the above mentioned symptoms were observed during digestive phase of ghee except murcha (~fainting) and daha (~ burning)<sup>25</sup>. These two symptoms may manifest with the maximum dose. In 20% volunteers, apart from the above symptoms nausea and vomiting were also observed<sup>26</sup>. The onset time and duration of symptoms varied from individual to individual and also from day to day. With the administration of minimum dosage these symptoms were subsided earlier and with increase of dosage these symptoms were present for longer duration. It has been observed that the increase of mean duration and mean onset time was not constant, may be because of the adoptability of the body to ghee. All the symptoms were not present in all the days of internal oleation and in all the individuals. The onset and duration of symptoms cannot be justified on the basis of avasthapa (~ stages of digestion)<sup>27</sup>. To evaluate the relation between stages of digestion and dosage requires large sample study.

In the Instant oleation therapy group with fixed dosage too, the onset and duration of the digestion of ghee varied from individual to



individual. Sada(~tiredness), murcha (~fainting) and daha (~ burning) were not observed in any volunteer of this group. Even the onset and duration of digestion of ghee cannot be explained on the basis of avasthapaka. In nutshell the mean onset and duration of during features during digestion was 310.51 minutes and 131.56 minutes respectively in increasing group, where as in Instant oleation therapy group it was 4 hours and 21 minutes and 2 hours and 44 minutes respectively. On the basis of this it may be said that in Instant oleation therapy group, volunteers experiences much discomfort due to longer duration of features during digestion.

#### **Proper oleation features:**

The aim of oleation before purification is to bring excitation of doshas; which can be assessed by observing the proper oleation features. Vatanulomana (~proper movement of vata) was observed in 100% volunteers of increment group, almost in all the days. Snigdha(~oil) and sara(~movement) quality of ghee may help in bringing vatanulomana (~downward movement of Vata). Ghee acts like lubricant to the intestinal lumen; hence proper evacuation of vata takes place<sup>28-29</sup>. Enhancement of digestive power may be there on the first day itself. But it can be better assessed after digestion of second day dose only. In 100% volunteer's enhancement of digestive power has been observed in all the days. Hence daily dosage of ghee was increased. Otherwise excitement of dosha could not occur. Anga laghava (~lightness of body) was observed only in 40% of volunteers of increment group. During internal oleation the person was restricted to take only hot water till the ghee digestion thereafter also only light easily digestible food was advised. May be this diet restriction brings the above said features. Lightness in body parts cannot be explained on

the basis of properties of ghee. Glani (~fatigue) was observed only in 40 % of volunteers of increasing group in the present study. Guru (~heavy) and manda (~slow) qualities of sneha may lead to manifestation of fatigue. The physical and mental strength of the individual may be a deciding factor in the manifestation of this symptom. Asamhata -snigdha varcha(~loose gressy stool) indicate the koshta snigdhatta (~abdominal unctuousness)<sup>30</sup>. This effect may be brought about by presence of drava (liquid), sara c) and snigdha (oily) quality of ghee. These are observed on the last days of internal oleation. Initially asamhata (~loose) stool were seen, thereafter snigdha varchas (~fatty, oily stools).<sup>31</sup> when the ghee reaches saturation level in the body then only it will be expelled out in excess. That's why on the last days only these symptoms are observed which are important to assess the proper oleation. These are assessed by observing the form of stool and stickiness, greasiness to the palm of volunteer and also by floating of fat over the water. The present study supports the above said factors. In the entire volunteers of increment group the above symptoms have been observed. Mridu (~soft) and snigdha gatra(~oily body parts) reveal the tvak snigdha lakshana (~unctuousness of body) . Though the soft and oily body parts are important criteria's in assessment of proper oleation features, it is difficult to assess because of variation in color of skin, body texture, muscularity and environmental factors in this region. In this study it was observed only in 50% of volunteers of increment group. Aversion towards ghee is an important symptom to assess proper oleation and to stop internal oleation. Satiety center and threshold level towards ghee plays role in achieving the aversion towards ghee. In the present study this is observed in all the volunteers (100%). On the basis of well known principle "pradvesho vriddhi hetushu" (~aversion towards factors responsible for



increase), aversion towards ghee can be understood. After giving instant oleation therapy downward movement of vata was observed in 100% volunteers. Sara(~movement) and snigdha(oily) properties of ghee, with sara and aruksha(~non oily) qualities of rock salt are added in getting vatanulomana (downward movement of vata) effect. Augmentation of digestive capacity cannot be assessed in this instant oleation therapy group, because of limitation of internal oleation to one day. Augmentation of digestive capacity may be there because of ghee and even rock salt is also agneya(~similarity with internal fire). Loose

stool was observed in 70% of volunteers of Instant oleation therapy group. This indicates liquid, movement quality and the quantity of ghee along with sroto sravakara (~secretions in channels) property of rock salt might have helped in achieving of this outcome. Oily stool was observed only in 20% volunteers of instant oleation therapy group; this indicates that optimum level of abdominal unctuousness may not come in a single day of instant oleation therapy. Oily and soft skins were not observed in any of the volunteers of instant oleation therapy group. Which reveal that to achieve oleation of skin more days of internal oleation is essential.

Complete unctuousness features	I DAY	II DAY	III DAY	IV DAY	V DAY
	Percentage of volunteers	Percentage of volunteers	Percentage of volunteers	Percentage of volunteers	Percentage of volunteers
1 – 2	80	50	30	-	-
3 – 4	-	50	50	45	-
5 – 6	-	-	20	33	43
7 – 8	-	-	-	22	28.5
9	-	-	-	-	28.5

**Table No. 1: Percentage of proper oleation features in increment group**

Proper oleation features	Number of volunteers	Percentage [%]
1-2	08	80
3-4	02	20

**Table No. 2: Percentage of proper oleation features in instant oleation therapy group**

Lightness of body parts was observed in 20% volunteers. In only 10% of volunteers fatigue was observed; may in others because of good physical and mental strength the manifestation of symptom was restricted. Aversion towards ghee usually seen after its maximum saturation in the body. But in this instant oleation therapy group by single day ghee administration this was not observed. In the

increment group the manifestation of gradual increase in proper oleation features was observed. On the first day 1 to 2 symptoms were seen in 80% volunteers. On second day in each 50%, 1 to 2 and 3 to 4 symptoms were observed. On the 5<sup>th</sup> day in each 28.5 % volunteers 7 to 8 and 9 symptoms were observed. This shows that the gradual increase in the manifestation of symptoms with gradual



increase of ghee dosage occurred. Abdominal & skin unctuousness that are essential for proper oleation can be achieved by gradual increase of dosage of ghee by considering digestion capacity, koshta and other factors.

This study reveals that, increasing dosage of ghee can achieve the optimum saturation essential for manifestation of proper oleation features. In Instant oleation therapy group, the majority (80 %) of volunteers obtained only 1 to 2 symptoms followed 20% obtained 3 to 4 symptoms. Hence in obtaining the complete unctuousness instant oleation therapy is not much helpful.

The unctuousness grade showed in increment group was 75%, where as in instant oleation therapy group it was 24.2%. This shows that comparatively increment oleation therapy is better in bringing proper oleation features.

#### **Virechana (purgation therapy):**

When purgation therapy was performed after increment oleation therapy the mean onset and duration of purgation therapy was 58.5 minutes and 399 minutes respectively, where as in instant oleation therapy group these values were 63.5 minutes and 316.5 minutes respectively. The mean number of purgation produced in increment group were 16.3, while in instant oleation therapy group it was 13.3. In increment oleation therapy group 90% volunteers had expulsion of kapha dosha at the end of purgation therapy, while instant oleation therapy group kaphanta purgation therapy was found in 50% volunteers. In increment group mean features of proper purgation observed were 66.7 %, while in instant oleation therapy group it was 44.4 %. In increment group excellent purification was found in 40%, moderate purification was found in 50% and remaining 10% volunteer had least purification. On the other hand in instant oleation therapy group 50% volunteers had moderate purification and same number had least purification. On the basis of the above results it can be said that effect of purgation

therapy is better in increment group on comparison to instant oleation therapy group. In nutshell it can be said that both increment and instant oleation therapy have produced proper oleation features and proper purification by purgation therapy. But some differences were observed in both the groups, they are mentioned hereunder.

In increment group mean dose of 420 ml ghee was needed, where as in instant oleation therapy group 150 ml of ghee was needed to achieve unctuousness. Hence later was cost effective. In increment group the mean onset and duration of features during digestion of ghee was 310.51 minutes and 131.56 minutes respectively, where as in instant oleation therapy group it was 252.75 and 164 minutes respectively. This shows that in instant oleation therapy group, volunteers experienced much discomfort. In increment group 43% had 5 to 6 proper oleation features, 28.5% each showed 7 to 8 and 9 proper oleation features, where as in instant oleation therapy group 80% showed 1 to 2 proper oleation features and in 20%, 3 to 4 proper oleation features were observed. While comparing the unctuousness grade it was 75% in increment group and 24.2% in instant oleation therapy group. This shows that, comparatively increment oleation therapy is superior in achieving proper unctuousness. While considering effect on purgation therapy, in increment group 40% volunteers showed excellent purification and none in instant oleation therapy group. In each 50 % volunteers of increment and instant oleation therapy group moderate purification was observed. In 10% volunteers of increment group and in 50% volunteers of instant oleation therapy group least purification was observed. The mean of 66.7% and 44.4% of features of proper purgation therapy was observed in increment and instant oleation therapy group. This shows that in comparison to instant oleation therapy, increment oleation therapy works in better way in aiding purgation therapy properly done.



Volunteer number	onset time	Latency Period	Number of purgation bouts	Antiki lakshana	Percentage of laingiki lakshana	Grade of Purification
1	35	270	16	Kaphanta	66.66	moderate
2	40	340	17	Kaphanta	66.66	moderate
3	30	430	21	Kaphanta	77.77	excellent
4	145	270	11	Kaphanta	55.55	moderate
5	110	380	10	Pittanta	33.33	least
6	70	435	18	Kaphanta	77.77	excellent
7	30	600	21	Kaphanta	66.66	moderate
8	55	350	16	Kaphanta	55.55	moderate
9	25	365	17	Kaphanta	88.88	excellent
10	45	550	16	Kaphanta	88.88	excellent
Mean	58.50	399	16.3	-	66.7	-

**Table No. 3: Effect of purgation therapy on subjects of increment group**

Volunteer number	Vega onset time	Duration of purgation therapyvega	Number of purgation therapyvega	Antiki lakshana	Percentage of laingiki lakshana	Over all Purely
11	75	420	16	Kaphanta	55.55	moderate
12	45	285	09	Pittanta	33.33	least
13	50	380	08	Pittanta	33.33	least
14	45	285	14	Kaphanta	55.55	moderate
15	135	165	17	Kaphanta	55.55	moderate
16	70	220	11	Pittanta	33.33	least
17	70	490	17	Kaphanta	66.66	moderate
18	40	355	15	Kaphanta	55.55	moderate
19	60	265	14	Pittanta	33.33	least
20	45	300	12	Pittanta	33.33	least
Mean	63.5	316.50	13.3		44.44	

**Table No. 4: Effect of purgation therapy on subjects of instant oleation therapy group**



### Conclusion:

On the basis of the results of this study it can be concluded that increment oleation therapy method should be choice for oleation therapy prior to purgation therapy as in this group less discomfort during digestion, more unctuousness and superior grade of purgation therapy were noticed. Even though instant oleation therapy has provided oleation therapy to certain extent

leading to moderate or least benefits by purgation; but in routine practice it should not be encouraged as an alternate technique to increment oleation therapy. However in emergency instant oleation therapy can be used as internal oleation prior to bio-purification. Hence in routine prior to purgation therapy increment oleation therapy is better.

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