Research Article

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EXPLORATORY STUDY TO ASSESS THE EFFECT OF ANULOMANA AND RECHANA KARMA ON PUREESHA

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ABSTRACT

The way of expulsion of morbid Dosha from the body, is through Urdha and Adha passages, and the process in general is termed as Virechana. Anulomana, Sramsana, Bhedana and Rechana are the forms of Virechana explained in Ayurvedic literature. Objective of this study was to assess the effect of Anulomana Karma and Rechana Karma on Pureesha. Based on the inclusion criteria and avoiding those belonging to exclusion criteria, 30 healthy volunteers with Madhyama Koshta were selected. They were divided into two groups of 15 each by using convenience sampling technique. One group was administered with Harithaki choorna (for anulomana) and other with Trivrit choorna (for rechana) with a dose of 12 gm each and warm water anupana in empty stomach at early morning based on the concept of initiation of Apana Vayu as mentioned by Acharya Vaghbata in Doshopakramaniya Adhyaya. The tool used to measure features of stool was Bristol stool scale. In Anulomana Karma, there was not much deviation in number of Vegas from mean value and so it's considered as a natural way of evacuation but there was an increase in Latency. Anulomana Karma produced Malantha in majority of the volunteers and Kaphanta Sudhi was minimal. Majority of volunteers produced Type 7 (Watery, no solid pieces, entirely liquid) during Anulomana Karma. In Rechana Karma, number of Vegas shows there was an easily breakage of bonding. In Latency, both Pakwa and Apakwa Mala were expelled showing there was no necessity of Paka. Rechana Karma produced Kaphanta Sudhi in majority of the volunteers justifying the classical reference. In Rechana Karma majority of Vegas fell in to category of Type 7, Drava Rupa.

Key words: Anulomana, Sramsana, Bhedana, Rechana, Harithaki churna, Trivrit churna, Virechana

INTRODUCTION

Pureesha is the excretory bi-product of process of digestion of food material and is therefore known as 'Anna Mala'. Pureesha provides strength and helps in maintenance of Vayu and Agni.[1] It act as a support for the bodily functions.[2] In the disease Rajayakshma, it is quoted that Mala is Bala. So it is very much essential to take good care of Mala.[3] The way of expulsion of Pureesha is through Guda. When coming to the aspect of Chikitsa, the way of expulsion of morbid Dosha from the body, is through Urdha and Adha passages, and this process in general is termed as Virechana.[4] Acharya Sarngadhara has classified Adhobhagahara Dravyas into four categories, namely Anulomana (Aperients a purging medicine; stimulates evacuation of the bowels), Sramsana (bulk laxative), Bhedana (emmolient laxative) and Rechana (purgative resulting in more fluid evacuation).[4]

The drugs which move the Mala downwards after digesting them and breaking their Bandha are said to perform Anulomana Karma.[4] The drug which eliminates either Pakwa Mala (digested) or Apakwa Mala (undigested) or Dosha by making them watery through the lower gut is said to perform Rechana Karma.[4] He has also explained the most appropriate drugs that could be used to execute these Karmas. Among them Haritaki is mentioned for Anulomana[5-10] and Trivrit for Rechana.[11] So this study was planned to assess the effect of Anulomana Karma and Rechana Karma on Pureesha using the same drugs mentioned by Sarngadhara.

MATERIALS AND METHODS

Source of data

Healthy volunteers were selected from Men's and Women's hostel, SDM College of Ayurveda and Hospital, Hassan, Karnataka, India. There was a total of 50 volunteers. From this, the volunteers who satisfied Lakshana of Madhyama Koshta were selected using a questionnaire. Thus the number of volunteers was reduced to 37. Out of this, 7 individuals were not willing to participate in this study. So after excluding 7, total number became 30.

Inclusion criteria: Healthy volunteers with Madhyama Koshta between the age group 20-40 years.

Exclusion criteria: Healthy volunteers with Koshta other than Madhyama.

Research Design

The study was conducted after obtaining the permission from the Institutional Ethics committee (IEC

No:SDMCAH/IEC/1/13-14) during the time period of 2013- 2014. Based on the inclusion criteria and avoiding those belonging to exclusion criteria, 30 healthy volunteers with Madhyama Koshta were selected. They were assigned into two groups, each consisting of 15 individuals. The sampling technique used to categorize the individuals was convenience sampling. One group was administered with Haritaki Choorna and other with Trivrit Choorna. Dosage was 12 gm along with hot water Anupana in empty stomach at early morning. The time of administration of drug was selected as morning for initiation of Apana vata as mentioned by Vaghbata in Doshopakramaniya Adhyaya.[12]

Criteria for assessment

Assessment of Madhyama Koshta: For the diagnosis and assessment of Madhyama Koshta, a specific research proforma[13] was prepared on the basis of characteristics of three types of Koshta. Scoring pattern was fixed based on the condition of stool and pattern of defecation, viz., frequency, passing of stool, consistency, and quantity, etc., before giving the selected drugs. The scoring was given to each character ranging from 0-2 (0 stands for Mridu Koshta, 1 for Madhyama Koshta, and 2 for Krura Koshta). The assessment criteria is detailed in table 1. Totally, seven criteria were selected and if four or more than four criteria out of seven scored one(1), then the volunteer was considered as having Madhyama Koshta.

Number of Vegas: Numbers of Vegas of each volunteer were recorded. Calculation was done leaving first two Mala Vegas.[14]

Latency: Time of administration of drug and time of initiation of first Vega were noted. Latency was calculated by subtracting time of onset of first Vega from the time of administration of drug.

Duration of Virechana: Time of last Vega was noted and duration of Virechana was calculated by subtracting the time of last Vega from the time of onset of Vega.

Antiki Lakshana: Antiki Lakshana[15] were assessed based on the features exhibited at the end of all Vegas i.e. Malanta, Pittanta, Kaphanta and Vatanta. Formed Mala of yellowish colour was considered as Malantha. At the end of Vegas if the colour of the stool was yellowish with slight burning sensation in anal region and having Visra Gandhi Mala; it was considered as Pittanta. Mala of whitish colour with mucous stools were considered as Kaphanta. After Kaphanta if the stools were frothy along with flatus it was considered as Vatanta.

Consistency of stools: Consistency of stools observed during Virechana was assessed based on Bristol stool scale (detailed in table 1).[16]

Statistical analysis: Statistical package for social science (SPSS) version 20 was used for the data analysis. Separate assessments of each group were carried out using Statistical tools such as Mean, Standard deviation and Standard error of mean.

Table 1: Assessment criteria

Sl. No:	Domain	Criteria	Grade
1.	**Frequency of stool**	2 times a day	0
		once a day	1
		Passing stool on alternate days	2
2.	**Consistency of stool**	Unformed	0
		Formed	1
		Formed and hard	2
3.	**Quantity of stool**	Bahu	0
		Normal	1
		Alpa	2
4.	**Passing of stool (usually)**	Without any effort and satisfactory	0
		With normal efforts and satisfactory	1
		With more efforts and unsatisfactory	2
5.	**Usually time taken for defecation**	1-5 min	0
		5-10 min	1
		More than 10 min	2
6.	**Feeling of urge for defecation**	Feeling of urge upon waking up in the morning	0
		Feeling of urge within 10-30 min of waking up	1
		Not feeling of urge and needs to consume food	2
7.	**Effect of taking hot milk, hot water, etc., at night**	Watery loose stool and frequent	0
		Slightly loose but formed stool once	1
		No effect	2

Table 2: Bristol stool scale

Type	Form of Stool
1	Separate hard lumps, like nuts (hard to pass)
2	Sausage-shaped, but lumpy
3	Like a sausage but with cracks on its surface
4	Like a sausage or snake, smooth and soft
5	Soft blobs with clear cut edges (passed easily)
6	Fluffy pieces with ragged edges, a mushy stool
7	Watery, no solid pieces, entirely liquid
Types 1 and 2 indicate constipation. Types 3 and 4 being the ideal stools (especially the latter), as they are easy to defecate without containing any excess liquid. Type 5, 6 and 7 are tending towards diarrhoea.	

Table 3: Total number of Vegas – Harithaki group

Volunteer no.	Total number of Vegas
1	5
2	3
3	3
4	2
5	2
6	4
7	4
8	5
9	3
10	3
11	2
12	3
13	4
14	4
15	2

Table 4: Latency period in minutes – Harithaki group

Volunteer no.	Latency period (in minutes)
1	250
2	140
3	220
4	215
5	165
6	190
7	125
8	110
9	140
10	175
11	125
12	265
13	135
14	140
15	150

Table 5: Duration of Anulomana (in minutes) – Harithaki group

Volunteer no.	Duration of Virechana (in minutes)
1	135
2	375
3	280
4	235
5	235
6	330
7	225
8	215
9	295
10	325
11	375
12	265
13	154
14	270
15	165

Table 6: Consistency of stool passed during each Vega – Harithaki group

Haritaki Group		Bristol stool scale type						
SL No.	Total no. of Vega	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6	Type 7
1	5	-	-	-	-	-	2	3
2	3	-	-	-	-	-	-	3
3	3	-	-	-	-	-	1	2
4	2	-	-	-	-	-	-	2
5	2	-	-	-	-	-	-	2
6	4	-	-	-	-	-	1	3
7	4	-	-	-	-	-	2	2
8	5	-	-	-	-	-	1	4
9	3	-	-	-	-	-	1	2
10	3	-	-	-	-	-	-	3
11	2	-	-	-	-	-	1	1
12	3	-	-	-	-	-		3
13	4	-	-	-	-	-	1	3
14	4	-	-	-	-	-	2	2
15	2	-	-	-	-	-	1	1

Table 7: Total number of Vegas – Trivrit group

Volunteer no.	Total no of Vegas
1	10
2	11
3	14
4	12
5	14
6	15
7	12
8	12
9	14
10	13
11	16
12	12
13	16
14	11
15	15

Table 8: Latency period (in minutes) – Trivrit group

Volunteer no.	Latency period (in minutes)
1	35
2	35
3	40
4	45
5	18
6	25
7	25
8	50
9	35
10	55
11	55
12	60
13	15
14	40
15	15

Table 9: Duration of Rechana (in minutes) – Trivrit group

Volunteer no.	Duration of Virechana (in minutes)
1	455
2	335
3	405
4	395
5	492
6	305
7	465
8	295
9	415
10	365
11	380
12	435
13	515
14	415
15	348

Table 10: Consistency of stool assessed using Bristol stool scale – Trivrit group

Trivrit Group		Bristol stool scale type						
Sl no	Total No. of Vegas	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6	Type 7
1	10	-	-	-	2	-	-	8
2	11	-	-	-	-	-	1	10
3	14	-	-	-	1	-	-	13
4	12	-	-	-	1	-	-	11
5	14	-	-	-	-	-	1	13
6	15	-	-	-	-	-	1	14
7	12	-	-	-	-	1	1	10
8	12	-	-	-	-	-	-	12
9	14	-	-	-	-	-	1	13
10	13	-	-	-	-	1		12
11	16	-	-	-	-	-	1	15
12	12	-	-	-	-	-	-	12
13	16	-	-	-	-	-	1	15
14	11	-	-	-	-	-	1	10
15	15	-	-	-	1	-	-	14

OBSERVATIONS

Assessment of Madhyama Koshta: 37 were found to be of Madhyama Koshta, 9 were Mridu Koshta and 4 Volunteers were of Krura Koshta.

Harithaki group: Gender wise distribution showed that 86.67% (n=13) were male and the rest female. Majority of volunteers i.e. 86.67% (n=13) were of mixed diet by food habit and the remaining were Vegetarians. 60% (n=9) were having the habit of passing stool one time per day and remaining volunteers were having the habit of passing stools two times a day. 86.67% (n=13) were having the habit of passing normal amount of stool and remaining volunteers passed satisfactorily. The total number of Vegas for the 15 participants are detailed in table 3. The latency period (time taken to produce first motion after taking the drug) is detailed in table 4. The duration (taken between onset of first Vega and last Vega) of Virechana is detailed in table 5. Majority of volunteers showed Malantha 66.67% (n=10), Kaphanta 20% (n=03), remaining showed Vatantha 13.33% (n=02). Consistency of passed stools

during each Vega was assessed using Bristol stool scale and is showed in table 6.

Trivrit group: Gender wise distribution showed that 100.00% were male. Majority of volunteers were of mixed diet by food habit 93.33% (n=14) and remaining were Vegetarians. 53.33% (n=08) were having the habit of passing stool two time per day and remaining volunteers were having the habit of passing stools one time a day. 93.33% (n=14) were having the habit of passing normal amount of stool and remaining volunteers passed satisfactorily. The total number of Vegas for the 15 participants is detailed in table 7. The latency period is detailed in table 8. The duration of Virechana is detailed in table 9. Majority of volunteers 86.67% (n=13) showed Kaphanta and remaining volunteers showed Vatantha. Consistency of passed stools during each Vega was assessed using Bristol stool scale and is showed in table 10.

RESULTS

Harithaki group: Number of stools produced by single dose of 12 g was considered as total number of Vegas. The Mean number of Vega was 3.27 ± 1.033. It ranged from 2-5. The Mean latency of Haritaki was 169± 48.087 minutes. It ranged from 125-265 minutes. The mean duration of Anulomana in volunteers of Haritaki group was 258 ± 74.490 minutes. It ranged from 135-375 minutes. In this group Haritaki produced Malantha in 66.67% volunteers, Kaphanta in 20% volunteers, Vatantha 13.33%. Consistency of the stool produced by the volunteers was observed based on Bristol stool scale and their total number was recorded. In this group Haritaki produced Type-6 (26.53%) and Type-7 (73.46%) stools in the volunteers.

Trivrit group: Number of stools produced by single dose of 12 g was considered as total number of Vegas. The Mean number of Vega was 13.13± 1.885. It ranged from 10-16. The mean latency of Trivrt was 36.53±14.769 minutes. It ranged from 15-60 minutes. The mean duration of Rechana in volunteers of Trivrit group was 401.33±65.050 minutes. It ranged from 295-515 minutes. In this group Trivrit produced in Kaphanta (86.67%) and remaining volunteers produced Vatantha (13.33%).

DISCUSSION

It was found that out of total seven criteria of Madhyama Koshta, in few volunteers four criteria were found, in some volunteers five, in some six, and in some volunteers, all seven criteria of Madhyama Koshta were found. So, based on these findings, it can be said that Madhyama Koshta also may be of several types like Pravara, Madhyama and Avara type.

Haritaki Group: The mean number of total stool produced in Haritaki group by a single dose of 12 gm of Haritaki Churna was 3.27 ± 1.033. Total number of Vegas show that in Anulomana Karma there is no much change in number of Vegas from the mean value. The mean latency of Haritaki group was 169± 48.087.This shows that in Anulomana Karma evacuation of Mala was slow and Mala might have undergone Paaka before evacuation. As Paaka requires a particular time to occur, this may be the probable reason for increased latency period in Haritaki group. The mean duration of Anulomana Karma in volunteers of Haritaki group was found to be 258± 74.490 minutes. It varied from around 135 to 375 minutes. This shows all individuals took different time for the completion of Anulomana Karma. Formed Mala of yellowish color was considered as Malantha. In this group Haritaki produced Malantha in 66.67% volunteers, Kaphanta in 20% volunteers and Vatantha in 13.33%. It is clear from above findings that Anulomana Karma produced Malantha in majority of the volunteers and Anulomana Karma producing Kaphanta Sudhi was minimal. Consistency of the stools produced by the volunteers was observed based on Bristol stool scale and their total number was recorded. In this group Haritaki produced Type-6 (26.53%) and Type-7 (73.46%) in the volunteers. Initial Vega produced by Anulomana Karma was Type 6 (Fluffy pieces with ragged edges, a mushy stool) but Majority of volunteers produced Type 7 (Watery, no solid pieces, entirely liquid) during Anulomana Karma.

Trivrit Group: The mean number of total stool produced in Trivrit group by a single dose of 12 gm of Trivrit Churna was 13.13± 1.885. Rechana Karma acts by evacuating the Mala by easily breaking the bondage. This may be the reason that there was an average of 13.13 vega ranged from 10-16. The mean latency of Trivrit group was 36.53±14.769, ranged from 15-60 minutes. In Rechana Karma, Mala may be evacuated as Pakva in some and Apakva in others. It is not necessary for Paaka to occur. This may be the reason that in all volunteers first Vega occurred within 1 hour. The mean duration of Virechana in volunteers of Trivrit group was found to be 401.33±65.050. In Rechana Karma the stool formed was either with Paaka or without Paaka and was more watery in nature, and so it became easy for expulsion. That may be the probable reason for average duration of 401.33±65.050 minutes. In this group Trivrit produced Kaphanta in (86.67%) and remaining volunteers produced Vatantha (13.33%). It is clear from above findings that Rechana Karma produced Kaphanta Sudhi in majority of the volunteers and Vatantha sudhi was minimal. This justifies the classical reference of Kaphanta is found at the end of Rechana Karma. Consistency of the stools produced by the volunteers was observed based on Bristol stool scale and their total number was recorded. In this group Trivrit produced Type-4 (2.38%), Type-5 (73.46%), Type-6 (4.06), Type-7 (92.385) in the volunteers. In Rechana Karma majority of Vegas fell in to category of Type7 (watery, no solid pieces. entirely liquid). It was same as per the classics were Rechana Karma said to produce Mala in Drava Rupa.

CONCLUSION

In Anulomana Karma, there was not much deviation in number of Vegas from mean value and so it's considered as a natural way of evacuation but there was an increase in Latency. In this study, Anulomana Karma produced Malantha in majority of the volunteers and Kaphanta Sudhi was minimal. Majority of volunteers produced Type 7 (watery, no solid pieces, entirely liquid) during Anulomana

Karma. In Rechana Karma, number of Vegas shows there was an easily breakage of bonding. In case of Latency, Mala was evacuated as Pakwa and Apakwa showing there is no necessity of Paka.

Rechana Karma produced Kaphanta Sudhi in majority of the volunteers justifying the classical reference. In Rechana Karma majority of Vegas fell in to category of Type 7, Drava Rupa.

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