

“COMPARATIVE EVALUATION OF THE EFFECT OF VACHADI ARKA AND SUPACHAYA ARKA IN UDARASHOOLA WSR INFANTILE COLIC”

Dr. Kumari Nikita^{*1}, Dr. (Prof.) Shailaja U², Dr. Vijayalaxmi Mallannavar³

¹PG Scholar, Department of Post Graduate studies in Kaumarabhritya, Sri Dharmasthala Manjunatheshwara College of Ayurveda and Hospital, Hassan, Karnataka, India, Email: dr.krnikta@gmail.com

²Professor and HOD, Department of Post Graduate studies in Kaumarabhritya, Sri Dharmasthala Manjunatheshwara College of Ayurveda and Hospital, Hassan, Karnataka, India

³Associate Professor, Department of Post Graduate studies in Kaumarabhritya, Sri Dharmasthala Manjunatheshwara College of Ayurveda and Hospital, Hassan, Karnataka, India

ABSTRACT

Udara Shoola (Infantile colic) seen in infancy is explained by Kashyapa which occurs due to various causes, which are hypothesized but exact cause is not known, it is a self-limiting condition which affects infants between 1 to 4 months of age. Objectives: A comparative study to evaluate the effect of Vachadi Arka and Supachaya Arka in the management of udarashoola (infantile colic) and aged between 1 to 4 months. Study design: 50 Patients of Infantile colic were selected and randomly allocated into two groups, 25 in each. Vachadi Arka in a dose of 10 drops (0.5ml) 8th hourly, similar dose was given in Supachaya Arka. Assessment of parameter was done before treatment, on 7th day of treatment. Weight gain in grams and reduced abdominal girth was significant in both the groups. There was significant in result of reducing the frequency of pain, duration of cry, bowel frequency, and increase in duration of sleep, and reduction in distension of abdomen. Conclusion: Vachadi Arka showed effect on Udara Shoola (infantile colic), and also reduce the abdominal girth, distension of abdomen, frequency of cry, vomiting, frequency of bowel in significant dose of 10 drops (0.5ml) 8th hourly in infants.

Keyword: Udara Shoola, Infantile colic, Vachadi Arka ,Supachaya Arka

INTRODUCTION

Ayurveda laid maximum emphasis about different varieties of shoola that is pain sensation. Shoola was described in the Ayurvedic classics in the context of different diseases like shirashoola, padashoola, etc. However the present study has been restricted to udara shoola (infantile colic) only. There are many descriptions and references are available in medical sciences about infantile colic. The basic reason for all varieties of pain includes – nutritional causes, infective causes, congenital anomalies, psychological causes, traumatic causes, other like malignancy. In this regard Susrutha Samhita has described that Vayu is the main responsible factor in the origination of shoola. Aggravation of Vayu is responsible for producing different varieties of pain like- cutting type, spasmodic type etc. However infantile colic is one which exhibits a symptom complex of paroxysmal abdominal pain presumably of intestinal origin associated with severe crying. It usually occurs in infants one month to six months of age.

Udarshoola (Infantile colic) is considered to be the foremost complaint noticed in the infant who is expressed by incessant cry that disturb mother and whole family. If not attended to, it can impact on poor weight gain poor quality of life in infants, thus the major issue to be focused on for proper management. Infantile colic occurs at a very early phase of life and it is expressed by irritable incessant cry as infants are not able to express it in verbal form or other form. Excessive crying is the result of painful gut contractions caused by improper feeding technique, excess gas, allergy to cow's milk, lactose intolerance. It may also be a behavioral problem resulting from less than optimal parent-infant interaction, with difficult temperament of infant as a possible explanation for inadequate parental reaction. Colic is strongly associated with maternal depression and is the strongest risk factor for shaken baby syndrome [4]. It is also a common cause of early breastfeeding cessation. The important reason of this symptom is aerophagia, where burping after each feed for at least 10 minutes can reduce the colic illness but not completely relieve the colic pain. Improper knowledge of mother and negligence in following proper steps of feeding may lead to infantile colic and become a problem to the parents. All colicky infants should have a complete medical assessment in order to exclude underlying medical conditions that may require further evaluation and treatment.

Ayurveda, the traditional Indian system of medicine is the repository of time tested herbal formulation in the various forms that are effectively used in Indian society to combat many illnesses including infantile colic. Arka (distilled essences, of drug used in the preparation in a medium of water) are one such formulation easily adaptable in infants and children. The stability period of Arka Kalpana is comparatively more than Swarasa, Kalka, Kwatha, Hima, Phanta and Churna Kalpanas. Moreover Arka possess good palatability and attractive color and hence its acceptance is more. Vachadi Arka and Supachaya Arka is an indigenous multi herbal distilled essence effectively practised against infantile colic in professional experience. An interventional randomized controlled trial was conducted with two groups to validate the clinical effectiveness of Vachadi Arka and supachaya arka in infants with colic aged between 1 to 4 months in a dose of 0.5ml (10 drops) 8th hourly for a period of 7 days.

Considering the palatability, acceptability and availability of Vachadi Arka and Supachaya Arka, it is considered appropriate for this study. The effectiveness of therapy was assessed by using suitable grading scale. The response of graded clinical parameter where assessed at the end of the therapy. Significant result were seen on severity of pain, duration of pain cry, weight gain, distention of abdomen, sleep duration in the management of colic. Thus the study establishes the anti spasmodic and anti flatulence and nutrition promotive activity in a prescribed dosage schedule activity of Vachadi Arka and Supachaya Arka in infantile colic that Vachadi Arka and Supachaya Arka in a dose for duration is effective.

A well-defined protocol is one amongst the most important requirements in a clinical study. The clinical study is very essential, as a part of research work, to establish effectiveness of the drugs and to re-assess its effectiveness. The present clinical study entitled A comparative study to evaluate the effect of vachadi arka and supachaya arka in the management of udarashoola (infantile colic) in infants was carried out with the following objectives.

Research hypothesis

vachadi Arka in a dose of 10 drops (0.5ml) every 8th hourly is effective in relieving infantile colic in infants between 1 to 4 months

Aims and Objectives

To clinically evaluate, the efficacy of vachadi arka in management of infantile colic.

To clinically evaluate , the efficacy of supachaya arka in management of infantile colic.

To compare the effectiveness of vachadi arka and Supachya arka in the management of infantile colic.

MATERIALS AND METHODS

The materials and methods were used and the modifications made are based on easy availability of the drugs, feasibility of the methods, literature, traditional experiences and expert opinions.

Plan of the study

- Study Type: Interventional
- Purpose: Treatment
- Masking: Open label double armed
- Timing: Prospective
- Sampling: Convenience
- End Point: Effectiveness and compare
- Sample Size: 50
- No. of Groups: two

Source of data

Infants between 1 to 4 months with clinical features of infantile colic from Kaumarbhrithya outpatient department and in patient department of S.D.M College of Ayurveda and Hospital Hassan, Karnataka.

Method of collection of data

The diagnosed cases of Udara shoola(infantile colic) were selected for the study based on the diagnostic criteria and inclusion criteria mentioned.

Diagnostic Criteria and inclusion criteria

- Age group between 1-4 month
- Koshavibandha (constipation)
- Chardi (vomiting)
- Sthanadamsha
- Antrakunjana (gurgling sound)
- All babies who are no breast feeding
- Infants whose parents has agreed has agreed to participate their child in the study and willing to give written consent

Exclusion criteria

- All the cases of congenital anomalies.
- Infants with known cases of chromosomal, metabolic and hereditary disorder.
- Infant on formula and cow milk feeding.
- Infants with any other systemic disorder.
- Diarrhea and GIT condition

Study design: Open label, double armed prospective clinical trial.

Groups of the Treatment

50 samples were randomly divided into two groups, each consisting of 25 samples.

Vachadi Arka and Supachaya arka group treatment plan-

25 samples of each group were treated with Vachadi arka and Supachaya arka with dose of 10 drops (0.5ml) every 8th hourly for seven day and follow up on 8th day.

Follow up and duration

During treatment parameters was assessed before treatment and after 7th day of treatment on 8th day follow up.

ASSESSMENT CRITERIA**Objective parameters**

1. Weight
2. Abdominal Girth

Subjective parameters

1. Pain
2. Vomiting
3. Cry
4. Sleep duration
5. Per abdomen
6. Bowel frequency

OBSERVATION AND RESULTS

In the present study 50 subjects of diagnosed cases of infantile colic were registered for the intervention and under gone 7 days course of treatment. An interventional randomized control trial was conducted in 50 samples to assess the effectiveness of vachadi arka and *Supachya Arka* in a dose of 10 drop (0.5 ml) aged group between 1 to 4 month 8 hourly for 7 days .Infants were assessed before treatment, after 7 days results were noted.

Table 43: Result of Wilcoxon's test of Vachadi Arka on frequency of pain in 3 hours-

Parameters	Negative Rank			Positive Ranks			Ties	Total	Z Value	P Value	Remarks
	N	MR	SR	N	MR	SR					

Frequency of pain in 3 hrs BT-	2	13.10	314.50	1	10.50	10.50	0	25	-	.000	S
Frequency of pain in 3 hrs AT-	4								4.365		

Wilcoxon signed rank test was applied to assess the effect of vachadi arka on frequency of pain in 3 hours. There was statistically significant reduction in the symptom of frequency of pain in this study with $Z = -4.365$ and $P = .000$.

Table44: Result of Wilcoxon's test of Vachadi Arka on Duration of pain

Parameters	Negative Rank			Positive Ranks			Ties	Total	Z Value	P Value	Remarks
	N	MR	SR	N	MR	SR					
Duration of pain BT-3	2	12.59	289.50	1	10.50	10.50	1	25	-	.000	S
Duration of pain AT-	3								4.290		

Wilcoxon signed rank test was applied to assess the effect of vachadi arka on duration of pain. There was statistically significant reduction in the symptom of duration of pain in this study with $Z = -4.290$ and $P = .000$.

Table45: Result of Wilcoxon's test of Vachadi Arka on Vomitting in 24 hours

Parameters	Negative Rank			Positive Ranks			Ties	Total	Z Value	P Value	Remarks
	N	MR	SR	N	MR	SR					
Vomiting in 24 hrs BT-1	2	12.10	254.00	2	11.00	22.00	2	25	-	.000	S
Vomiting in 24 hrs AT-									3.892		

Wilcoxon signed rank test was applied to assess the effect of vachadi arka on vomiting in 24 hours. There was statistically significant reduction in the symptom of vomiting in this study with $Z = -3.892$ and $P = .000$.

Table46: Result of Wilcoxon's test of Vachadi Arka on Cry frequency-

Parameters	Negative Rank			Positive Ranks			Ties	Total	Z Value	P Value	Remarks
	N	MR	SR	N	MR	SR					
Cry BT- Cry AT-	10	7.45	74.50	3	5.50	16.50	12	25	-	.000	S
									1.140		

Wilcoxon signed rank test was applied to assess the effect of vachadi arka on frequency of cry. There was statistically significant reduction in the symptom of frequency of cry in this study with $Z = -1.140$ and $P = .002$.

Table 47: Result of Wilcoxon's test of vachadi arka on sleep duration in 24 hours-

Parameters	Negative Rank			Positive Ranks			Ties	Total	Z Value	P Value	Remarks
	N	MR	SR	N	MR	SR					

Sleep duration in 24 hrs BT-	1	9.00	9.00	16	9.00	144.00	8	25	- 3.638	.000	S
Sleep duration in 24 hrs AT-											

Wilcoxon signed rank test was applied to assess the effect of vachadi arka on frequency of sleep duration in 24 hours. There was statistically significant improvement seen in frequency of sleep in 24 hrs in this study with $Z = -3.638$ and $P = .000$.

DISCUSSION

The word shoola has been originated from the mysterious story related to lord shiva and kamadev with the participation of lord Vishnu to protect kamadev from the attack of trishula. Here shoola was produced owing to the forceful syncope produced by the bombardment of trishula on the earth. Udara shoola is one of the most common manifestations of illness, which takes place repeatedly in infancy period. This can be attributed to the current environment changes lifestyle of mother and their improper food habits of indulging in faulty and unwholesome foods like bakeries, junk foods and chemical and preservative added eatables which are obstructer for channels (Abhishyandi), heavy to digest (Guru), slimy (Picchila), incompatible (virudha) in nature which leading to vitiation of Agni and produces Ama (toxins) thereby causing Rasavaha Sroto Dushti in mother and resulting in similar pathological condition in infants.

Udara Shoola is mentioned as Koste Vibhanda (constipation), Vamathu (vomiting), Sthana Damsha (biting of the breast), Antrakujana (Gurgling sound in the abdomen), Adman (Flatulence), Pristanamana (bending back), and Jatarannamana (Elevation of the abdomen). Whereas colic in children is explained as Sthana Vyudasyate (rejects breast), Rauti (cries), Uttana schava bajyate (sleeps in supine position), Udara Sthabdata (stiffness of the abdomen), Shytyam (coldness), Mukaswedasha (perspiration of the face). Udara shoola which occurs repeatedly without any complications is most commonly seen in clinical practice in infants. As per the contemporary science also it is seen that there is more prevalence in infants due to their immature digestive and nervous system system, which can lead to various secondary complications if left untreated. Udara shoola explained by Acharya Kasyapa, was undertaken for this study as the characteristics said by Kasyapa can be closely paralleled with those seen in clinical practice.

This dissertation entitled as a comparative study to evaluate the effect of vachadi arka and supachaya arka in the management of udarashoola (infantile colic) in infants comprises of five parts- Conceptual Study, Drug Review, Methodology, Discussion, Conclusions.

CONCLUSIONS

The study finally conclude that, the Infantile colic mostly affects infants of 1 to 6 month of age but in this study age group was 1 to 4 months. The infantile colic was more in evening hours.

Burping should be done for at least 5-10 minutes after each feed in infants to escape from aerophagia. Mother should give her breast milk in comfortable position in timely without hurry schedule. Mother should take adequate nutritious and congenital diets during lactation. No adverse reactions were noted during and after study duration.

Limitations:

- Small sample size.
- Single centre, so the study could not be generalized for the whole population.
- Follow up was needed to establish the efficacy and sustainability of drug.
- Laboratory parameters were not included.
- Seasonal variation throughout year was not studied.

Suggestions for further research

- Same study can be carried out in larger samples.
- Long term effect of Vachadi Arka may be assess
- Its composition analysis may be planned
- Standard assessment and laboratory criteria need to be established.

REFERENCES

1. Sushruta-Sushruta Samhita by Kaviraj Ambikadatta Shastri, Chaukhambha Sanskrit Sansthan, Varanasi, Reprint Edition - 2005, Part II, PP: 270-277
2. Yogaratnakaracharya - Yogaratnakara with Vaidyaprabha Hindi Commentary, by Dr.Indradev Tripaty and Dr.Dayashankar Tripaty, Krishnadas Academy, Varanasi, 1st Edition 1998, PP: 459-474
3. Harita - Harita Samhita, Kshemaraja Shree Krishnadas, Mumbai, PP: 255
4. Vriddajeevaka - Kashyapa Samhita Text with English Translation and Commentary by P. V Tewari, Chaukhambha Vishwabharati, Varanasi, Reprint 2002, PP 54
5. Vagbhata Astanga Hridaya of Srimadvagbhata, by Dr. Brahmananda Tripaty Chaukhambha Sanskrit Pratishthan, Delhi, Reprint Edition 2003, PP : 888
6. Madhavakara - Madava Nidana with Madhukosha Sanskrit commentary by Vijaya Rakshita and Srikantadutta with Vimala Madhudara Hindi commentary by Dr Brahmananda Tripaty, Chaukhambha Surabharathi Prakashana, Varanasi, Reprint Edition 2005, Vol 1, PP: 579-587
7. Behrman Nelson text book of paediatrics, 17th edition, W.B. Saunders company Philadelphia, Pennsylvania, printed in India, PP : 165,1281
8. Tabers cyclopedia medical dictionary, by Donald veneer, Jaypee brothers, Newdelhi, 199h Edition, Vol 1, PP: 449 Vol 1
9. Tabers cyclopedia medical dictionary, by Donald v.ener, Jaypee brothers, Newdelhi, 199h edition, Vol 2, PP: 2010
10. Grays Anatomy-Lawrence H Banisters, Marti's M Berry, Patricia Collins, Mary dyson, Julian E. Dussek, Mark W. J. Ferguson, Churchill Livingstone, 38th edition, PP 1756 to 1771
11. Harrison's - Harrison's Principles of Internal Medicine, Mc Graw-Hill Medical publishing division, international edition, 18th Edition, Vol 1, PP: 835,55