A Comparative Study of *Shatapushpa Churna* and Mefenamic Acid in management of Primary Dysmenorrhoea

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ABSTRACT

Primary Dysmenorrhoea is painful menstrual cramps without any evident pathology to account for them, and it occurs in up to 50% of menstruating females In the present study, Primary Dysmenorrhoea is considered as a classical feature and a part of disease *Kashtārtava*.

In present study, effect of *shatapushpa churna* was compared with mefenamic acid in two different groups of patients having 20 patients in each group .Results were compared on improvement on clinical symptoms and recurrence of symptoms on completion of therapy. It was found that *shatapushpa churna* is effective in control of symptoms of *kashtartava* and is better than mefenamic acid because recurrence of symptoms after cessation of therapy is also low.

Key words- *Kashtartava*, Primary Dysmenorrhoea,*Shatapushpa*

Introduction - Primary Dysmenorrhoea is painful menstrual cramps without any evident pathology and it occurs in up to 50% of menstruating females and causes significant disruption in quality of life and absenteeism. Dysmenorrhoea or painful menstruation is the most common cyclic pain phenomenon and is classified as primary or secondary dysmenorrhoea on the basis of organic pathology[1].

In the present context, with an unbelievable progress done by modern medicine in the field of biology, understanding different types of physiological processes and hormonal feedback mechanism e.g. Hypothalamo-pituitary ovarian axis has helped in understanding the pathology of dysmenorrhoea in depths. But there is no change in the mode of management.

The current modalities of treatment for the management of dysmenorrhoea are only symptomatic and does not ensure permanent cure from the disease. NSAID's play a key role in the management protocol. The side effects of NSAID's are well known which restrict their use in many sensitive individuals. This has made the search more intense for effective herbal formulation in the dysmenorrhoea .

In the present study, Primary Dysmenorrhoea is considered as a classical feature and a part of disease *Kashtārtava*.

In Ayurvedic classics all gynaecological problems are described under the umbrella of *Yonivyapada*. The disease '*Kashtārtava*' is not described in classics as well as in *Vedas* as an individual disease entity. Though it is a symptom of various *Yonivyapadas* specially *Udavarta*[2], *Vatala*[3], *Sannipatika*[4] etc. It is one of the commonest gynaecological complaints. In the disease '*Kashtārtava*' all the three *Doshās* are involved with predominance of *Vāta*. The probable mode of pathogenesis may be viewed as follows –

Due to consumption of *Vāta prakopaka ahāra – vihāra,* the *Vāta* gets aggravated leading to *Dhātu kshaya* starting from *Rasa* and then *Rakta*. Thus there will be *alpatā* in *upadhatu nirmāna*[5] i.e. *Ārtava* will be produced in less quantity then normal which will further vitiates *Vāta doshā* and it further produces *kshobha* in *garbhāshaya*, this stage resembles to ischaemic condition of the uterus resulting in pain this will lead to Toda and *Vedanā* (*Yoni – Stodanam Sa Vedanam Ārtava Pravritti*)**.** This will continue as vicious cycle as *Vāta vriddhi* causes *Dhatukshaya* and vice versa[6].

The vitiated *Vāta* by *Ruksha, Sheeta, Sukshma* properties spread through *Rasavaha Srotasa* and leads to *Rasavaha, Raktavaha* and *Ārtavavaha Srotodushti. Doshā – Dushya sammurchhana* takes place in *garbhāshaya* and due to vitiation of *Vyana* and *Apāna vāyu* the *Ākunchana* and *Prasarana Kriya* of *Garbhāshaya* does not take place

properly, this state resembles with the dysrhythmia of uterine muscles, which will hinder in proper flow of menstrual blood leading to *Kashtārtava*.

The *Sara, Drava, Ushna, Tikshna* properties of vitiated *Pitta* plays an important role in the *sthanika Rakta vriddhi* with the help of *Vyana* and *Apāna vāyu*. *Raja* contents like cellular debris etc. will be increased in uterus and discharged. So vitiated *pitta* along with vitiated *vyan* and *apana vayu* result in *Kashtartava*

The vitiated *Kapha* due to its *Snigdha, Guru, Pichchhila* and *Abhishyandi gunas* impairs the *Agni* and causes *Jatharagni* and *Dhatvagni* mandhya. That will produce the condition similar to Ama. A sort of upalepa is produced over the Ārtavavaha srotasa which leads to Ārtava pravritti avarodha or painful flow of Ārtava.

Achārya Sushruta in Sharira Sthāna quoted that **"Doshā Avrita Margatvata Artavam Nashayati Striyah".** Dalhana commented that vitiated Doshās are Vāta and Kapha individually and in combined form. The concept of **Āvarana** also seems to play role producing pain, especially when the condition of Kaphavrita Vāta is concerned[7].

AIMS AND OBJECTIVES

- To evaluate the therapeutic efficacy of mefenamic acid in management of primary dysmenorrhoea.
- To evaluate the therapeutic efficacy of *Shatapushpa churna* in management of primary dysmenorrhoea.
- To compare the efficacy between mefenamic acid and *Shatapushpa churna* in management of primary dysmenorrhoea.
- To study the recurrence rate during follow up in both groups.

Selection of patients- Patients attending the Prasuti Tantra O.P.D., I.M.S. B.H.U. complaining painful menstruation were registered.

Criteria of Inclusion

- Patients having chief complain of *Kashtārvata* (primary dysmenorrhoea) with scanty or average amount of menses along with associated symptoms without any organic pathology.
- Age group between 11 – 40years.

- Patients suffering for more than 2 cycles.

Criteria of Exclusion

- Patients below 10 years and above 40 years.
- Patients with chronic general illness.
- Systemic diseases such as tuberculosis, any other acute/chronic respiratory diseases, renal diseases etc.
- Patients with intrauterine contraceptive devices.
- Menorrhagia
- Any organic pathology of genital system –fibroid, adenomyosis, endometriosis, PCOD, benign and malignant growth

Grouping of Cases :

To envisage the present study, assessment of said compounds in *kashtaartava* was studied on 40 patients, divided randomly into two groups A and group B.

- **Group A :** Patients were selected and administered **Mefenamic acid** 500mg orally twice daily for 5 days during menses, for 3 month.
- **Group B :** Patients were selected and administered ***shatpushpa churna*** orally , 3 grams twice daily with honey as anupana , for 3 consecutive months.

Investigations :

- Hemoglobin estimation in gram percentage by Sahali's method.
- Total leucocytes count, Differential leukocyte count - By Neubar's chamber.
- Stool examination for ova and cyst.
- U.S.G. of lower abdomen specifically for condition of uterus and adenexa and to exclude any pelvic pathology.

Parameters of Study : Criteria of Scoring and Criteria for assessment of therapy.

A. Main Symptoms –

Table-1

Symptoms	Criteria	Finding	Score
Intensity of Pain (Visual Analogue Scale)	pain can be graded on its increasing severity on a scale having gradation 0 – 10	No pain	0
		as much pain as possible	10
Duration of Pain (Observer's Grading)	No Pain	No Pain	0
	Mild pain (Does routine work without medication feels discomfort)	Up to 1 Day (24 hrs)	1
	Moderate Pain (Mild analgesic required, able to do work. after medication)	Up to 2 Days (48 hrs)	2
	Severe Pain (Unable to do routine work, even after medication)	Up to 3 Days (72 hrs)	3
Amount of bleeding per menstrual cycle	Complete soakage of >5 pads per day	Heavy	1
	Complete soakage of 3-4 pad in 24 hours	Moderate	2
	Complete soakage of <2 pad in 24 hours	Scanty	3

B. Associated Symptoms

Table-2

Associated Symptoms	Score	
Backache ,Pain in thigh ,Pain in leg, Headache, Anorexia, Nausea, Fatigue, Vertigo, Nervousness, Body ache,Breast tenderness,Constipation, Diarrhoea,Fever,Pain in vagina,Vomiting,White discharge	Present	1
	Not Present	2

Incidence of Chief Complains and Associated Complains-

Table-3

Observer's Grading (duration of pain)				Visual Analogue Scale				Amount of Menstrual Blood Loss			
Grade	Group A (N=20)	Group B (N=20)	Total (N=40)	Grade	Group A (N=20)	Group B (N=20)	Total (N=40)	Grade	Group A (N=20)	Group B (N=20)	Total (N=40)
0	0 (0%)	0 (0%)	0 (0%)	0-3	0 (0%)	0 (0%)	0 (0%)	Heavy	3 (15.0%)	10 (50.0%)	13 (32.5%)
1	0 (0%)	0 (0%)	0 (0%)	4-6	0 (0%)	1 (5%)	1 (2.5%)	Moderate	11 (55.0%)	8 (40.0%)	19 (47.5%)
2	6(30%)	17 (85%)	22(55%)	7-10	20 (100%)	19 (95%)	39 (97.5%)	Scanty	6 (30.0%)	2 (10.0%)	8 (20%)
3	14(70%)	3(15%)	17(42.5%)								

Incidence of Associated Complaints

Table-4

Associated Complaints	Group A (N=20)	Group B (N=20)	Total (N=40)
Backache	13 (65%)	9 (45%)	22 (55%)
Pain in thigh	12 (60%)	2 (10%)	14 (35%)
Pain in leg	5 (25%)	8 (40%)	13 (32.5%)
Headache	12 (60%)	8 (40%)	20 (50%)
Anorexia	13 (65%)	5 (25%)	18 (45%)
Nausea	6 (30%)	7 (35%)	13 (32.5%)
Fatigue	15 (75%)	10 (50%)	25 (62.5%)
Vertigo	4 (20%)	8 (40%)	12 (30%)
Nervousness	7 (35%)	5 (25%)	12 (30%)
Body ache	(%)	1 (5%)	1 (2.5%)
Breast-tenderness	2 (10%)	2 (10%)	4 (10%)
Constipation	4 (20%)	0 (%)	4 (10%)
Diarrhoea	4 (20%)	0 (%)	4 (10%)

Fever	0 (0%)	0 (0%)	0 (0%)
Pain in vagina	1 (5%)	- (%)	1 (2.5%)
Vomiting	0 (0%)	0 (0%)	0 (0%)
White discharge	1 (5%)	4 (20%)	5 (12.5%)

Effect of Therapies

A. Intensity of Pain

Table-5

	Group A			Group B		
	Before Treatment	**After Treatment**	**Wilcoxon Signed rank Test P value**	**Before Treatment**	**After Treatment**	**Wilcoxon Signed rank Test P value**
0-3	0(0%)	0(0%)	.ooo	0(0%)	15(75%)	.000
4-6	0(0%)	7(35%)		1(5%)	5(25%)	
7-10	20(100%)	13(65%)		19(95%)	0(0%)	

B. Observers Grading (VAS Score)

Table -6

	Group A			Group B		
	Before Treatment	**After Treatment**	**Wilcoxon Signed rank Test P value**	**Before Treatment**	**After Treatment**	**Wilcoxon Signed rank Test P value**
0	0(0%)	0(0%)	.000	0(0%)	2(10%)	.000
1	0(0%)	2(10%)		0(0%)	18(90%)	
2	6(30%)	9(45%)		17(85%)	0(0%)	
3	14(70%)	9(45%)		3(15%)	0(0%)	

C. Amount of bleeding

Table -7

	Group A			Group B		
	Before Treatment	After Treatment	Wilcoxon Signed rank Test P value	Before Treatment	After Treatment	Wilcoxon Signed rank Test P value
Heavy	3 (15%)	3(15%)		10(50%)	0(0%)	
Average	11(55%)	11(55%)		8(40%)	19(95%)	
Scanty	6(30%)	6(30%)	-	2(10%)	1(5%)	.000

D. Associated Complains

Table-8

	Group A			Group B		
	Before Treatment	After Treatment	Wilcoxon Signed rank Test P value	Before Treatment	After Treatment	Wilcoxon Signed rank Test P value
Backache	13 (65%)	13 (65%)	0.000	9 (45%)	7 (35%)	0.000
Pain in thigh	12 (60%)	12 (60%)	0.000	2 (10%)	2 (10%)	0.092
Pain in leg	5 (25%)	5 (25%)	0.000%	8 40%)	2 (10%)	0.000
Headache	12 (60%)	12(60%)	0.017	8(40%)	2(10%)	0.000
Anorexia	13(65%)	13(65%)	0.040	5(25%)	00	0.001
Nausea	6(30%)	6(20%)	0.092	735%)	00	0.000
Fatigue	15(75%)	15(75%)	0.000	1050	00	0.000
Vertigo	4(20%)	4(20%)	0	8(40%)	0 0	0.000
Nervousness	7(35%)	7(35%)	0	5(25%)	00	0.001
Body ache	0	0	0	1(5%)	00	0.406
Breast-tenderness	2(10%)	2(10%)	0	2(10%)	00	0.110
Constipation	4(20%)	4(20%)	0	00	00	00
Cough	0	0	0	00	00	00
Diarrhoea	4(20%)	4(20%)	0	00	00	00
Fever	0	0	0	00	00	00
Pain in vagina	1(5%)	1(5%)	0.406	00	00	00
Vomiting	0	0	0	00	00	00
White discharge	1(5%)	1(5%)	0	4(20%)	2 (10%)	0.19

Criteria for assessment of therapy

Table-9

Result	Intensity of pain	Duration of pain	Associated complaints
Cured	VAS score 0 - 3	Observer's grading 0	100% relief from all symptoms
Improved	VAS score 4 – 6	Observer's grading 1	Relief from 4-5 symptoms
Unchanged	VAS score 7 - 10	Observer's grading 2 - 3	No improvement

Results

Table-10

Result	Group A			Group B		
	VAS	**OG**	**Associated Complaints**	**VAS**	**OG**	**Associated Complaints**
Cured	0 0	0 0	0 0	15 (75%)	2 10	11 55%
Improved	7 (35%)	2 (10%)	0 0	5 (25%)	18 (90%)	9 (45%)
Unchanged	13 (65%)	18 90%	20 (100%)	0 0	0 0	0 0

In ***Kashtartava*** there is mainly derangement of *vata dosha.* The cause of vitiation of vata are either *Dhatukshya* (improper nutrition) or *Margavarodha* (obstruction in shrotasa)[8]. Out of the five subtypes of Vata, the main pathology occurs at the level of *Apana vayu* because it is governing force of menstrual flow[9]. Any type of obstruction in normal functioning of *Apana vayu* produces pain whether it is anatomical (as in case of *Suchimukhi yoni vypapada[10])* or physiological (*Kaphavritta Apana vayu*).

Dhatukshya is one of the cause of *Vata vriddhi* (especially its *ruksha* and *khara guna* get vitiated). Improper nutrition results *kshaya* of progressive *dhatus* along with its respective *updhatus*. As in case of *Kashtartava*, due to improper nutrition *Rasa* and its *updhatu rupa Artava* form in less amount. This *heena Artava* (in term of quantity) comes out with pain.

The trial drug *Shatpushpa* has been placed in *Asthapana varga*[11] and *kaphashamaka gana*[12] by *Aacharya Charak* and *Sushruta* respectively this signifies that *shatpushpa* have *vata shamaka* and *kapha shamaka* properties and because of these properties, it pacifies *prakupita vata* and removes *aavarana* which is responsible for obstruction of normal movement of *Apana vayu* in *Artavavaha strotasa*. *Aacharya Kashayapa* has also specified that due to its *katu tikta rasa, ushna veerya, snigdha* and *anulomak guna* and *yoni shodhak* property, it is effective in *kashtartava*[13].

Conclusion- In present study primary dysmenorrhoea w.s.r. to *kashtartava* because of their similar sign and symptoms. Comparative study of *Shatapushpa churna* was done with Mefenamic acid and it was found that in the control group A (patients using mefenamic acid), there was immediate relief from pain after administration of drug. However, the relief was not long lasting as pain recurred after withdrawing the medicine . There was gradual relief in intensity and duration of pain in trial group , percentage of recurrence was also low . So it can be concluded that *Shatapushpa churna* is effective in relieving symptoms of dysmenorrhoea in better way and less chances of remission of symptoms.

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