A COMPARATIVE CLINICAL STUDY OF SHARAPUNKHA MOOLA TWAK KALKA WITH JATYADI TAILA APPLICATION ON EPISIOTOMY WOUND

Dr. Nikita Jaiswal*[1] and Dr. Ramadevi G.[2]

[1]*PG Scholar, Department of Prasuti-Tantra Evam Streeroga, SDM College of Ayurveda, Udupi, Karnataka.

[2]Professor, Department of Prasuti-Tantra Evam Streeroga, SDM College of Ayurveda, Udupi, Karnataka.

*Corresponding Author
Dr. Nikita Jaiswal
PG Scholar, Department of
Prasuti-Tantra Evam
Streeroga, SDM College of
Ayurveda, Udupi,
Karnataka.

ABSTRACT

The episiotomy wound comes under the Chinna vrana of Agantuja category. The Chinna variety of the Sadhyo vrana can also be sutured and managed for the approximation of the cut edges and for its better healing purpose, which is done in episiotomy wounds. If proper treatment is not done, Sadhya vrana becomes Yapya, Yapya becomes asaadhya and asaadhya may leads to the death of the person.

KEYWORDS: Episiotomy; REEDA Scale; Sharapunkha; Honey; Jatyadi taila; Wound healing.

INTRODUCTION

Women are blessed with producing the progeny. The process of delivering a child is associated with prolonged pain and discomfort. To facilitate easy delivery, a surgical incision called episiotomy is given on the perineum, for the comfort of mother and fetus with easy outcome of labour. This not only facilitates easy and safe delivery of the fetus, but also minimizes the chances of bleeding, laceration and various degree of tears. An episiotomy will be recommended if there is thought to be a risk to the baby's health and a quick childbirth is required. As the perineum is highly susceptible to infection due to different secretions like vaginal discharges, faeces and urine. Episiotomy wound requires a proper intervention which could otherwise be self – limiting due to high vascularity of perineal area. If not taken proper care, episiotomy wound may lead to immediate complications like bleeding, infection or remote complications like dyspareunia, scar

endometriosis or chances of perineal laceration in subsequent labour.[1] Sharapunkha with its Tikta Kashaya Rasa, Laghu Ruksha Tikshna Guna, Ushna Virya, Katu Vipaka and Madhur with its Madhur Rasa, Laghu Ruksha Guna, Ushna Veerya and Madhur Vipaka are used here which has property of healing of the wound. Jatyadi taila having Kashaya rasa it does Shodhana which is helpful in Vrana Ropana. Because of Tikta Rasa it does twak Mamsa sthireekaran and Lekhana which helps in increasing tensile strength of wound and removal of slough. Because of having Katu rasa it has vrana Shodhana and avasaadana properties proven vrana ropana and Shodhana properties helps in healing of the wound.

OBJECTIVES

To study the efficacy of Sharapunkha moola Twak Kalka with Honey and Jatyadi taila and to compare the efficacy of both the drugs.

MATERIALS AND METHODS

Source of data

30 women undergoing normal vaginal delivery with Episiotomy wound will be taken for the study from IPD of SDM Ayurveda hospital, Udupi and are divided into 2 equal groups.

Method of collection

Single blind comparative clinical study of 30 patients with Episiotomy were selected and are divided into 2 groups with 15 patients in each.

Intervention

- Group 1: Application of Sharapunkha Moola twak kalka on episiotomy wound for 3 days.
- Group 2: Application of Jatyadi taila for 3 days.

Follow up: After 15 days.

INCLUSION CRITERIA

- Patients aged between 18 to 40 years will be taken.
- Both Primi and Multipara.
- Patient who underwent normal vaginal delivery with Episiotomy wounds.

EXCLUSION CRITERIA

- Patient with abnormal labour.
- Patient with 3rd or 4th degree perineal tear.

- Patient suffering from any complications like cervical tear or PPH.

- Patients suffering from any systemic illness like diabetes mellitus, HTN etc.

Laboratory investigations

Hb%, Urine analysis (if necessary).

Criteria for assessment

The patient were assessed on the basis of subjective and objective parameters.

Subjective Parameters

The Numeric Rating Scale (NRS) to measure the intensity of:

- Perineal pain.

- Pricking sensation.

- Discharge from the wound.

Objective Parameters

- The Standard REEDA scale (Redness, Edema, chymosis, Discharge, Approximation).

- Tenderness.

- Size of the wound.

Gradation of Assessment Parameters: Subjective parameters

PAIN

Pain Gradation

PAIN	GRADE
No pain	0
Mild pain (nagging, annoying, interfering little with ADLs i.e. activities of daily living)	1
Moderate pain (interferes significantly with ADLs)	2
Severe pain (disabling)	3

Assessment Criteria Parameter Scale

S. No.	Ass. Criteria	Grade 0	Grade 1	Grade 2	Grade 3
01.	Tenderness	No Pain	On applying pressure	On gentle touch	On wound and surrounding area
02.	Discharge from the wound	No Discharge	Scanty	Moderate	Profuse
03.	Inflammation	Absent	Slight swelling without reddish discoloration, non-tender	Slight red, tender & painful movement	More red, having painful movement, with local temperature

Objective parameters

REEDA Scale

REEDA Scale

Parameters	Point 0	Point 1	Point 2	Point 3
Redness	None	Within 0.25 cm of the incision bilaterally	Within 0.50 cm of the incision bilaterally	Beyond 050 cm of the incision bilaterally
Edema	None	Perineal, <1 cm from the incision	Perineal and / or vulvar, 1-2 cm from the incision	Perineal and / or vulvar, >2 cm from the incision
Ecchymosis	None	Within 0.25 cm bilaterally or 0.5 cm unilaterally	Within 1.0 cm bilaterally or 0.5 – 2 cm unilaterally	➢ 1 cm bilaterally or > 2 cm unilaterally
Discharge	None	Serum	Serosanginous	Bloody, Purulent
Approximation	Closed	Skin separation < = 3 mm	Skin and subcutaneous fat separated	Skin subcutaneous fat and facial layer separation

REEDA score – SUM (points of all 5 parameters)

Interpretation: Minimum score: 0

Maximum score: 15

Higher the score, more severe the perineal trauma.

1. Wound Size

Size of the Vrana was measured in centimetre with the help of standardized measuring scale.

Associated complaints

Gradation for Associated symptoms

Parameter	Present	Absent
p/v bleeding	1	2
Backache	1	2

Unable to sit in squatting position	1	2
Difficulty in urination / defecation	1	2

OBSERVATION AND RESULT

Among 30 patients of the study, treatment was equally effective in both the groups.

Effect of treatment on pain

Parameter	Negative ranks			Positive ranks			Ties	Total	Z value	P value	Infere nce
	N	MR	SR	N	MR	SR					
SHARAPUNKHA MOOLATWAK (GROUP 1)											
BT -AT	14	7.5	105	0	0	0	1	15	-3.49	0.000	HS
BT - FU	15	8	120	0	0	0	0	15	-3.57	0.000	HS
JATYADI TAILA (GROUP 2)											
BT-AT	13	7.0	91	0	0	0	2	15	-3.50	0.000	HS
BT-FU	15	8.0	120	0	0	0	0	15	-3.77	0.000	HS

No	N	Sharapunk ha moola twak (N)	Jatya di taila (N)	Mean Rank		Sum of rank		U value	Z value	P value	Interpr etation
				Grp 1	Grp 2	Grp 1	Grp 2				
BT-AT	30	15	15	14.13	16.87	212.0	253.0	92.00	-1.14	0.25	NS
BT-FU	30	15	15	13.93	17.07	209.00	256.00	89.00	-1.50	0.13	NS

When results were compared before treatment and after treatment for pain, Statistically Highly significant results were seen with P = 0.000. Also when results were compared before treatment and Follow up for pain highly significant results were obtained with P = 0.000.

This means that there was no marked difference was seen on the effect of treatment on pain in both the groups.

Effect of treatment on pricking sensation

Parameter	Negative ranks			Positive ranks			Ties	Total	Z value	P value	Infer ence
	N	MR	SR	N	MR	SR					
SHARAPUNKHA MOOLATWAK (GROUP 1)											
BT -AT	5	3	15	0	0	0	0	5	-2.12	0.034	S
BT-FU	5	3	15	0	0	0	0	5	-2.12	0.034	S
JATYADI TAILA (GROUP 2)											
BT -AT	2	1.5	3	0	0	0	0	2	-1.41	0.157	NS
BT-FU	2	1.5	3	0	0	0	0	2	-1.41	0.157	NS

No	N	Sharapunk ha moola twak (N)	Jatya di taila (N)	Mean Rank		Sum of rank		U value	Z value	P value	Interpr etation
				Grp 1	Grp 2	Grp 1	Grp 2				
BT- AT	7	5	2	3.80	4.50	19.0	19.0	4.00	-0.63	0.527	NS
BT- FU	7	5	2	3.80	4.50	9.0	9.0	4.00	-0.63	0.527	NS

In Group 1 when results were compared Before treatment and After treatment and also before treatment and follow up for pricking sensation, Statistically Significant results were obtained, P = 0.034 whereas in Group 2 When results were compared Before treatment and After treatment and also before treatment and follow up for pricking sensation Statistically Not

Significant results were obtained, P = 0.157.

This means that there was no difference seen on the effect of treatment on pricking sensation in both the groups.

Effect of treatment on Tenderness

Parameter	Negative ranks			Positive ranks			Ties	Total	Z value	P value	Inference
	N	MR	SR	N	MR	SR					
SHARAPUNKHA MOOLATWAK (GROUP 1)											
BT -AT	9	5	45	0	0	0	0	9	-2.75	0.006	S
BT-FU	9	5	45	0	0	0	0	9	-2.72	0.006	S
JATYADI TAILA (GROUP 2)											
BT -AT	13	7.65	99.5	1	5.50	5.50	0	14	-3.08	0.002	S
BT-FU	13	7	91	0	0	0	1	14	-3.31	0.001	HS

No	N	Sharapunk ha moola twak (N)	Jatya di taila (N)	Mean Rank		Sum of rank		U value	Z value	P value	Interpr etation
				Grp 1	Grp 2	Grp 1	Grp 2				
BT-AT	23	9	14	11.1 1	12.5 7	100. 0	176. 0	55.00	-0.60	0.54	NS
BT-FU	23	9	14	10.3 9	13.0 4	93.5	182. 5	48.50	-1.05	0.29	NS

In Group 1 When results were compared Before treatment and After treatment and also before treatment and follow up for tenderness Statistically Significant results were obtained with P = 0.006. In Group 2 When results were compared before treatment and after treatment for tenderness Statistically Significant results were obtained with P = 0.002. And When results were compared before treatment and Follow up for tenderness highly significant results were obtained with P = 0.001.

This means that there was no marked difference was seen on the effect of treatment on pain in both the groups.

Effect of treatment on swelling

Parameter	Negative ranks			Positive ranks			Ties	Total	Z value	P value	Infer ence
	N	MR	SR	N	MR	SR					
SHARAPUNKHA MOOLATWAK (GROUP 1)											
BT -AT	5	3	15	0	0	0	0	5	-2.07	0.038	S
BT-FU	5	3	15	0	0	0	0	5	-2.07	0.038	S
JATYADI TAILA (GROUP 2)											
BT -AT	1	1	1	0	0	0	0	1			
BT-FU	1	1	1	0	0	0	0	1			

No	N	Sharapunk ha moola twak (N)	Jatya di taila (N)	Mean Rank		Sum of rank		U value	Z value	P value	Interpr etation
				Grp 1	Grp 2	Grp 1	Grp 2				
BT- AT	6	5	1	3.70	2.50	18.50	18.50	1.50	-0.70	0.48	NS
BT- FU	6	5	1	3.70	2.50	2.50	2.50	1.50	-0.70	0.48	NS

In Group 1 When results were compared Before treatment and After treatment and also before treatment and follow up for swelling, Statistically Significant results were obtained with P = 0.038. In Group 2 When results were compared before treatment and after treatment for the parameter swelling, statistical test cannot be computed as there is one subject available for analysis.

Effect of treatment on redness

Parameter	Negative ranks			Positive ranks			Ties	Total	Z value	P value	Infer ence
	N	MR	SR	N	MR	SR					
SHARAPUNKHA MOOLATWAK (GROUP 1)											
BT -AT	5	3	15	0	0	0	0	5	-2.12	0.034	S
BT-FU	5	3	15	0	0	0	0	5	-2.23	0.025	S
JATYADI TAILA (GROUP 2)											
BT -AT	5	3	15	0	0	0	0	5	-2.23	0.025	S
BT-FU	5	3	15	0	0	0	0	5	-2.23	0.025	S

No	N	Sharapunk ha moola twak (N)	Jatya di taila (N)	Mean Rank		Sum of rank		U value	Z value	P value	Interpr etation
				Grp 1	Grp 2	Grp 1	Grp 2				
BT-AT	10	5	5	6.0	5.0	30.0	25.0	10.00	-1.00	0.317	NS
BT-FU	10	5	5	5.50	5.50	27.50	27.50	12.50	0.00	1.00	NS

In Group 1 When results were compared before treatment and after treatment for redness Statistically Significant results were obtained with P = 0.034. And when results were compared before treatment and Follow up for redness Statistically Significant results were obtained with P = 0.025.

In Group 2, When results were compared Before treatment and After treatment and also before treatment and follow up for redness Statistically Significant results were obtained with P = 0.025.

This means both the drugs are equally effective.

Effect of treatment on redness (REEDA SCALE)

Parameter	Negative ranks			Positive ranks			Ties	Total	Z value	P value	Infer ence
	N	MR	SR	N	MR	SR					
SHARAPUNKHA MOOLATWAK (GROUP 1)											
BT -AT	6	3.5	21	0	0	0	0	6	-2.25	0.024	S
BT-FU	6	3.5	21	0	0	0	0	6	-2.23	0.026	S
JATYADI TAILA (GROUP 2)											
BT –AT	5	3	15	0	0	0	0	5	-2.07	0.038	S
BT-FU	5	3	15	0	0	0	0	5	-2.12	0.034	S

No	N	Sharapunk ha moola twak (N)	Jatya di taila (N)	Mean Rank		Sum of rank		U value	Z value	P value	Interp retation
				Grp 1	Grp 2	Grp 1	Grp 2				
D1-D2	11	6	5	6	6	36	30	15.00	0.00	1.00	NS
D1-D3	11	6	5	5.75	6.30	34.50	31.50	13.50	- 0.31	0.75	NS
D1-D30	11	6	5	6.83	5.0	41.0	25.0	10.00	- 1.07	0.28	NS

In Group 1 When results were compared before treatment and after treatment for redness (REEDA scale), Statistically Significant results were obtained with P = 0.024. When results were compared before treatment and Follow up for redness (REEDA scale), Statistically Significant results were obtained with P = 0.026.

In Group 2 When results were compared before treatment and after treatment for redness, Statistically Significant results were obtained with P = 0.038. When results were compared before treatment and Follow up for redness, Statistically Significant results were obtained with P = 0.034. This means both the drugs are equally effective.

Effect of treatment on edema (REEDA SCALE)

Parameter	Negative ranks			Positive ranks			Ties	Total	Z value	P value	Infere nce
	N	MR	SR	N	MR	SR					
SHARAPUNKHA MOOLATWAK (GROUP 1)											
BT –AT	6	3.5	21	0	0	0	0	6	-2.44	0.014	S
BT-FU	6	3.5	21	0	0	0	0	6	-2.22	0.026	S
JATYADI TAILA (GROUP 2)											
BT –AT	3	2	6	0	0	0	0	3	-1.63	0.102	NS
BT-FU	3	2	6	0	0	0	0	3	-1.63	0.102	NS

No	N	Sharapunk ha moola twak (N)	Jatya di taila (N)	Mean Rank		Sum of rank		U value	Z value	P value	Interpr etation
				Grp 1	Grp 2	Grp 1	Grp 2				
D1-D2	9	6	3	5	5	30	15	9.0	0.00	1.00	NS
D1-D3	9	6	3	5.5	4	33	12	6.00	- 1.41	0.157	NS
D1- D30	9	6	3	5.33	4.33	32	13	7.0	- 0.55	0.58	NS

In Group 1 When results were compared before treatment and after treatment for oedema (REEDA scale), Statistically Significant results were obtained with P = 0.014.When results were compared before treatment and Follow up for oedema (REEDA scale), Statistically Significant results were obtained with P = 0.026.

In Group 2 When results were compared before treatment and after treatment for oedema, Statistically Not Significant results were obtained with P = 0.102. When results were compared before treatment and Follow up for oedema, Statistically Significant results were obtained with P = 0.102. This means both the drugs are equally effective.

DISCUSSION

Episiotomy is a surgically planned incision on the perineum and the posteriorly vaginal wall during the second stage of labour. It is given to enlarge the vaginal introitus to facilitate easy and safe delivery of the fetus and also to minimize the overstretching and rupture of the perineal muscles and fascia to reduce the stress and strain on the fetal head.

Episiotomy wound can be considered as Sadyovrana as the incision given in the perineum to provide space for the out coming fetus, which can be sub-categorized under Chinna Vrana. So, Sadyovrana chikitsa is taken for the management of episiotomy wound.

Sharapunkha moola twak kalka with honey was selected for the study for the trial group as the ingredients of this drug possess antibacterial, antimicrobial, anti-inflammatory, analgesic activity. Therefore kalka was prepared and applied over the episiotomy wound for faster healing. As Sharapunkha Moola twak kalka comprises drugs like Sharapunkha Moola twak churna and Honey.

Sharapunkha: it possesses Tikta and Kashaya Rasa. As Kashaya Rasa does Vrana Shodhana, Vrana Ropana and Kleda Shoshana.

Sharapunkha Moola possesses a definite property of Vraapaha (quick wound healing), Shastrasrajit (useful in weapon injuries), prohealing action and improved collagen maturation by cross-linking and also increase in dry granuloma weight. It also contain flavonoids which have potent antioxidant, antibacterial and free radical scravenging activities. Antioxidant enzymes (Superoxide dismutase and catalase) are known to quench the superoxide radial thus prevent the damage of cells caused by free radicals, so that the scavenging effect might be one of the most important component of wound healing. Ethanolic extract of Sharapunkha moola

effectively stimulates wound contraction by increasing tensile strength. In this way it helps in the management of wound healing.

Honey: Acharya Sushruta was aware of the importance of wound management and has described Shashti Upakramas for Vrana Ropana (Wound healing), of which the application of Madhu is one.

Madhu is having properties like Lekhana, Sandhana, Shodhana, Ropana, Tridoshaghna and Yogavahi. It is used as an external application in vrana, either alone or in combination with other drugs.

Madhu has Vrana ropana properties and is believed to act by pacifying the three vitiated dosha.

Vata, Pitta and Kapha by multiple actions attributable to its Madhur rasa, Kashaya uparasa, Ruksha guna, Sheeta Virya, Madhur Vipaka and Sukshma marga anusari (ability to permeate in micro channels) prabhava. Madhur rasa gives nutrition to the tissues, which helps in granulation tissue formation, while Kashaya rasa provides Lekhana that helps in desloughing, preparing the wound for healing. Thus Madhu has excellent properties to heal the wound by virtue of its Shodhana and Sandhana actions.

Probable mode of action

When the Kalka is applied over the surface of skin, the active principles of the ingredients of kalka are released into the skin. After that this combination enters Romakupa and further gets absorbed through the Sweda vahi Srotas and Siramukha. This increases the blood circulation which removes Sthanika dosha avarodha and does Vrana Shodhana and Vrana Ropana.

Pharmaceutically lepa kalpana is a form of kalka kalpana.

While explaining the efficacy of lepas it is mentioned that, by pouring water over a burning house, how the fire is get stopped immediately, same manner by application of lepa provoked dosas of vrana and the complications of vrana like Vedana, Sotha etc., will get subsided.

Jatyadi taila

Taila is one among the 60 Upakramas mentioned by Sushruta.
Jatyadi taila is well known for its Vrana ropana and Vrana Shodhana properties.

Most of the ingredients of Jatyadi taila are having Shodhana, Ropana and Vedana Sthapana properties, they are -

• Jati, Nimba, Patola, Naktamala, Madhuka, Kushta, Haridra, Daruharidra, Manjistha, Padmaka, Lodhra, Abhaya, Nilotpala, Sariva, Tuttha and Tila.

Because of the Kashaya rasa it does Shodhana which is helpful in Vrana Ropana. Because of Tikta Rasa it does twak Mamsa sthireekaran and Lekhana which helps in increasing tensile strength of wound and removal of slough. Because of having Katu rasa it has vrana Shodhana and avasaadana properties.

Probable mode of action

Taila as a base probably extracts or hold lipid soluble active fractions from the ingredients used and because of its Vyavayi, Vikasi and Sukshma gunas, it might help in reaching the minute channels by means of its Sukshma, Vyavayi, vikasi gunas and show its action on healing of wound.

CONCLUSION

There was statistically significant improvement observed in pain, tenderness, discharge and inflammation and also the wound healing was assessed by the REEDA scale.

Both the drugs were equally effective in the terms of wound healing.

Only the use of Sharapunkha moola twak kalka with honey was found effective in the management of pain and reducing tenderness and inflammation and it also helped in wound healing.

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