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A CLINICAL STUDY OF JATYADI TAILA APPLICATION ON EPISIOTOMY WOUND

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ABSTRACT:

Episiotomy is a surgically planned incision on the perineum and posterior vaginal wall during 2nd stage of labour to facilitate the birth of the baby and prevent perineal lacerations. The wound thus formed is associated with immense pain and discomfort and seeks appropriate medical. If ignored, it may lead to immediate complications like infection, dehiscence or remote complications like dyspareunia etc. Episiotomy wound can be compared to chinna vrana (a kind of Sadhyo Vrana) and so it's treatment can be inferred as that of Sadhyo Vrana.

Aim: to evaluate the effect of jatyadi taila on episiotomy wound.

Materials and methods: patients fulfilling the inclusion and exclusion criteria were selected from I.P.D of S.D.M. College of Ayurveda & hospital, Hassan for the study. Sukhoshana Jatyadi Taila was applied on the wound with sterile gauze daily for 7 days after Prakshalana with Rutsheeta Jala, and follow up was done on 8th and 31st day.

Results: the study gave significant results on pain and tenderness and helped in preventing infection thereby aiding in wound healing w.r.t REEDA scale.

Conclusion: Jatyadi Taila was found effective in reducing the pain, tenderness and inflammation of episiotomy wound

Keywords: Chinnavrana, Episiotomy, Jatyadi taila.

INTRODUCTION

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Giving birth to a child is an ordeal for every woman and along with the healthy mother, a healthy baby without any iatrogenic injuries is the requirement of an obstetrician. Hence, an episiotomy becomes inevitable at times. Acharyas have mentioned many measures for *Sukhaprasava*, one of which is *Yoni prasarana* mentioned in cases of perineal insufficiency during *Prasava* by Acharya Vagbhata. *Yoni prasarana* can be achieved either by dilating with the fingers or by making an incision on the perineum which can be inferred to as Episiotomy.

In India the overall rate of episiotomy was 40.6%¹ in 2003. A current medical literature documented that 60% of women with episiotomies reported severe postpartum pain, 25% experienced infection at the site and 20% had problems during intercourse for up to 3 months after childbirth². Hence it is evident that special care must be taken to prevent infection, hasten healing. After delivery, puerperal

sepsis is one of the important areas of concern. 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 care, episiotomy wound may lead to immediate complications like infection, dehiscence or remote complications like dyspareunia, scar endometriosis or chances of perineal lacerations in subsequent labour³. Episiotomy wound can be compared to *Chinna vrana*^{[4] [5]} (a kind of *Sadhyo vrana*) and so its treatment can be inferred as that of *Sadhyo vrana*.

MATERIAL AND METHODS

Patients with sutured episiotomy wound following normal vaginal delivery and fulfilling the inclusion and exclusion criteria were selected from I.P.D of S.D.M.College of Ayurveda & Hospital, Hassan for the study. *Jatyadi taila* was taken from the pharmacy of SDMC & H, Udupi.

INCLUSION CRITERIA

All primi and multi gravida who underwent vaginal delivery with Episiotomy.

EXCLUSION CRITERIA

1. History of impaired wound healing.
2. Patient with 3 degree and 4 degree perineal tears.
3. Patients with local hematoma or abscess.
4. Patients with local skin diseases.
5. Patients with HIV, HBSAg, VDRL positive.
6. Systemic disorders in pregnancy like diabetes mellitus, hypertension, pulmonary tuberculosis, impaired thyroid functions.

PLAN OF TREATMENT

After washing the episiotomy wound with *Rutsheeta jala*, *Sukhoshna* Jatyadi taila was applied with sterile gauze and *Sootika* was advised to be in the position for atleast 10 minutes and to retain the same gauze for 6 hours.

She was also told not to indulge in any kind of strenuous work during the course of treatment and follow up period and to maintain local hygiene.

Duration of Treatment: 7 days

Follow up: was done on 8th & 30th day

ASSESSMENT CRITERIA

SUBJECTIVE PARAMETERS

1. The Numerical Rating Scale (NRS) to measure the intensity of perineal pain⁶
2. Odour
3. Discharge

OBJECTIVE PARAMETERS

1. The Standardized REEDA Scale (Redness, Edema, Ecchymosis, Discharge, Approximation)⁷
2. Tenderness
3. Fever
4. Size of the wound

LABORATORY INVESTIGATIONS

Hb%, RBS, CT, BT, VDRL, HBsAG , HIV, Blood group with Rh factor.

STATISTICAL ANALYSIS

- Statistically analyzed with Statistical package for social sciences, (SPSS) version 20.
- Completed 30 patients were taken for statistical analysis
- Friedman's test was used to analyze the significance of change in subjective parameters; Wilcoxon signed rank test was done for post-hoc with Bonferroni correction on parameters which show significance in Friedman's test, to interpret the time of significant change
- Repeated measures of ANOVA was applied on REEDA scale to for analyzing the different time of significant change in wound healing.

RESULTS

Pain:

There was a statistically highly significant reduction in Pain, $\chi^2 (3) = 55.320$, $p = 0.0001$. Post hoc analysis with Wilcoxon signed-rank tests was conducted with a

Bonferroni correction at $p < 0.016$. There were significant reduction observed in Pain between the BT vs AT ($Z = -4.794, p = 0.0001$) and between the AT vs AT1 ($Z = -2.714, p = 0.007$). (Table no.1 and 2)

Tenderness:

There was a statistically highly significant reduction in tenderness, $\chi^2 (3) = 51.941, p = 0.0001$. Post hoc analysis with Wilcoxon signed-rank tests was conducted with a Bonferroni correction at $p < 0.016$. There were significant reduction observed in Tenderness between the BT vs AT ($Z = -4.507, p = 0.0001$) and between the AT vs AT1 ($Z = -3.739, p = 0.001$). (Table no.1 and 3)

Discharge:

Statistically the effect of treatment on discharge was not found to have significant result on discharge where $\chi^2 (3) = 5.429$ and $p = 0.066$. (Table no.1)

Effect of treatment w.r.t REEDA scale:

A repeated measures ANOVA with a Greenhouse – Geisser correction determined that mean REEDA SCALE differed statistically significantly between daypoints { $F (2.472, 109.294) = 37.941, p < 0.05$ }. On comparing the effect of treatment in between different days it was found that treatment was statistically significant on all days Post hoc tests using the Bonferroni correction 0.016 revealed a decrease in REEDA Scale i.e from D0 to D1 there was reduction in REEDA scale (mean = 2.57vs. 1.90, respectively), from D1 to D2 (mean = 1.90 vs. 1.27, respectively), from D2 to D3(mean = 1.27 vs. 1.03, respectively), from D3 to D8 (mean = 1.03vs. 0.67, respectively) and from D8 to D30 (mean = 0.67 vs. 0.20, respectively)which was statistically significant. Therefore, we can conclude that treatment aids in wound healing.(Table no.4)

DISCUSSION

Healing of wound was appreciable in most of the patients as most of them were young i.e 89.74% belonged to the age group < 30 years and in young age, skin and muscle tone is good, metabolism is faster and circulation is good.

67 % of the patients were primipara as episiotomy is majorly practiced in primigravida. Most of them (69%) belonged to lower middle class but since majority of patients had a minimum of

primary education, they were able to understand and follow the instructions given on wound care and personal hygiene.

The size of episiotomy wound of maximum number of patients (62%) ranged between 4-5 cms and only 5% had episiotomy size more than 5cms.The length of the wound was not pre decided. As per the condition of the fetus, the size of the fetal head, progress of labour, slight

difference in size of episiotomy was observed. There was no difference of wound healing observed as per the length of the wound as tissue involved in all the cases were same.

In the study, right medio-lateral episiotomy was adopted for all the patients.

Medio-lateral episiotomy was preferred to a median (midline) incision as the latter is associated with a higher risk of injury to the anal sphincter and the rectum. The repair was done in layers with chromic catgut no. 1. Acharya Sushruta has also advised *Seevana karma* in *Sadhyovrana*, followed by *bandhana karma*. *Seevana karma* should be performed only in a *Shudda vrana*^[8]. Episiotomy can be correlated to *Chinnavrana*, so suturing the wound with was the first line of intervention adopted to facilitate wound healing by primary intention. Though episiotomy is *Sukhsadhya vrana* (as it is *Sadhyovrana*⁹, is located in *Prajanana* (genital area)¹⁰ and done in young women¹¹), still proper care is required as the perineum is highly susceptible to infection due to different secretions like vaginal discharges, faeces and urine. *Acharya Sushruta* also mentions that if wound is not taken care then *Sadhya vrana* may convert to *Yapya* and *Yapya* into *Asadhya*¹².

On day 0, 96.66% patients had pain on sitting, on day 8, 33.33% of patients

had pain on sitting and on day 30, no patients had the complaint. Almost all the patients had got relief by the end of the treatment and on the follow up. Because the wound is on the genital area and there were mattress sutures over the skin, so while sitting due to the body weight there was tenderness on the knots and as the wound got healed and the knots started to dissolve the pain disappeared.

70 % patients complained of difficulty in squatting position on day 0 which was completely relieved by the day 8. After delivery, the woman is weak due to extensive labour pains and may find difficulty in squatting position. Also, it was observed that squatting position poses stress on the perineal area and wound thereby causing pain.

As, it is on the perineal area, some i.e 60 % of women felt pain during movements on day 0 which was completely relieved by the day 8.

No patient complained of difficulty in defecation during the course of treatment except one. Difficulty in defecation, lead to straining by the patient thereby causing wound gapping and discharge.

Out of the 30 completed patients 13 patients had no anemia (Hb >11g/dl), 15 patients had mild anemia (Hb 9-11g/dl), 2 patients had moderate anemia (Hb = 7-8g/dl). As no patient had severe anemia,

this influenced easier and healthier wound healing.

Statistically the effect of treatment on discharge was not found to have significant result. In a wound with intact suture material and with more fat tissue, slight increase in the discharge is expected. This may be the reason for slight increase in watery discharge which was noted on 8th day and in few on 30th day. However, this was not present once the suture material was removed.

PROBABLE MODE OF ACTION OF JATYADI TAILA

Jatyadi Taila comprises drugs like *Jati*, *Nimba*, *Patola*, *Naktamala*, *Siktaka*, *Madhuka*, *Kushta*, *Haridra*, *Daruharidra*, *Katukarohini*, *Manjistha*, *Padmaka*, *Lodhra*, *Abhaya*, *Nilotpala*, *Tuttha* and *Sariva* in *Tila Taila*¹³.

Jatyadi taila has mainly *Ushna veerya* drugs due to which *Pachana karma* is seen as quoted by Acharya Dalhana '*Pachanam Vranadinam*'. So, this helped in proper blood supply to the wound area and thus relieved pain. *Daruharidra*, *Yashtimadhu*, *Jati* and *Abhaya* present in it have *Vedanasthapana Prabhava*. Also, *Tuttha* present in it is *Shoolahara*¹⁴. Proved analgesic action of *Berberis aristata*¹⁵ and *Saussurea lappa*¹⁶ and anti inflammatory action of drugs like *Curcuma longa*¹⁷, *Glycyrrhiza glabra*¹⁸, *Rubia cordifolia*¹⁹

and *Symplococus racemosa*^{20,21} is an evidence of effect of *Jatyadi taila* on pain and tenderness. Steroids and alkaloids present also help in this.

Nimba, *Agaru*, *Haridra*, *Devadaru*, *Daruharidra* & *Sikta* present in it have *Krimihara* property. In *Tuttha* & *Devadaru*, *Lekhana* property is found. Due to all these and overall *Vranashodhana* & *Ropana* action, *Jatyadi taila* helps check infection though the wound is situated in perineum and prone to infections. Drugs like *Jati*, *Agaru*, *Devadaru*, *Naktamala*, *Haridra* and *Kushta* have properties like *Twakdosha hara*. *Haridra* and *Lodhra* have *Yoni doshahara* property. *Priyangu* has *Dourgandhyanashaka* property^[22]. Hence, *Jatyadi taila* is also effective in preventing infectious odour from the episiotomy wound. Tannins & phytosterols help to promote the wound healing process with increased capillary formation & fibroblast proliferation enhancing the rate of epithelization²³. Calcium present in *Tila taila* is important factor for the granulation tissue development^{24, 25}. Vitamin C in *Tila Taila*, *Patola* and *Haridra* helps in maturation of collagen²⁶. *Tuttha* [purified blue vitriol (CuSO₄)] induces Vascular Endothelial Growth Factor (VEGF) expression in the wound²⁷. *Katuka* helps to improve re epithelizationn, neo vascularisation and migration of endothelial cells, dermal myofibroblasts and fibroblasts into the wound bed.

CONCLUSION

The contents of Jatyadi taila have *Shodhana*, *Ropana*, *Krimihara*, *Kandughna* & *Shothahara* property which is necessary for wound healing. Proved antiseptic, antimicrobial and antibacterial action of it's component drugs also help in

faster wound healing. In the present study Jatyaidi taila was found effective in reducing the pain, tenderness and inflammation.

Table no.1 Friedman's test for pain, tenderness and discharge

	N	Mean Rank			χ^2	P value	Remarks
		BT	AT	AT1			
Pain	30	2.98	1.65	1.37	55.320	0.0001	HS
Tenderness	30	2.92	1.87	1.28	51.941	0.001	HS
Discharge	1.88	1.88	2.13	1.98	5.429	0.066	NS

HS - highly significant , NS – not significant, Friedman's Test, BT – before treatment, AT – after treatment, AT1 – after treatment 1st follow-up

Table no.2 Wilcoxon signed-rank test for pain

Parameters	Negative Rank			Positive Rank			Ties	N	Z value	P value	R
	N	MR	SR	N	MR	SR					
Pain BT – AT	29	15.00	435.0	0	.00	.00	1	30	-4.794	.0001	HS
Pain AT – AT1	8	4.50	36.0	0	.00	.00	22	30	-2.714	.007	HS

HS – highly significant, S – Significant, MR – mean rank, SR – sum of ranks, NS – not significant, N – total number, Wilcoxon Signed Rank Test (Post hoc)

Table no.3 Wilcoxon signed-rank test for tenderness

Parameters	Negative Rank			Positive Rank			Ties	N	Z value	P value	R
	N	MR	SR	N	MR	SR					
Tenderness BT – AT	25	13.00	325.0	0	.00	.00	5	30	-4.507	.0001	HS
Tenderness AT – AT1	17	9.00	153.0	0	.00	.00	13	30	-3.739	.0001	HS

HS – highly significant, S – Significant, MR – mean rank, SR – sum of ranks, NS – not significant, N – total number, Wilcoxon Signed Rank Test (Post hoc)

Table no.4 Repeated measures of ANOVA

Parameters	N	Mean	GREENHOUSE - GEISSER				Green house – geisser Error df	Remarks
			Df	f value	p value	Size effect		
D0	30	2.57	2.472	37.941	.0001	.567	109.294	HS
D1		1.90						
D2		1.27						
D3		1.03						
D8		0.67						
D30		.20						

HS – highly significant, df – degree of freedom, Repeated Measures ANOVA, BT – before treatment, AT1 – after 1st day

treatment, AT2 – after 2nd day treatment, AT3 – after 3rd day treatment

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