A STUDY TO DETERMINE THE EFFICACY OF TAGARADI TAILA ON MOOLADHARA CHEDANA (SADYO VRANA) WITH SPECIAL REFERENCE TO EPSIOTOMY

ABSTRACT

Background: Prasutitantra, the sub-branch of Ayurveda dealing with the medical, para-surgical and surgical approach towards diseases of women, pregnancy and delivery related issues. Episiotomy is a routinely performed surgical procedure in the conduct of vaginal delivery. Episiotomy wound can be compared to chinna vrana. (a kind of sadhyo vrana) and so its treatment can be inferred as that of sadhyo vrana. Objectives: To study about Mooladhara Chedhana and Episiotomy as per Ayurvedic and modern literature. To study the efficacy of Tagaradi Taila on Mooladhara Chedana. Methodology: It was a single blind clinical study of 40 patients; divided into 2 equal groups. Tagaradi Taila application given twice daily after prakshalana of episiotomy wound for 8 days in Group A while Betadine application twice a day after prakshalana of episiotomy wound for 8 days in Group B. Results: In symptom Redness, Edema, Ecchymosis, Discharge, Pain and Approximation the p value obtained was < 0.001 in both groups which was statistically highly significant. Conclusion: Tagaradi Taila can be used for episiotomy wounds safely in clinical practice as that of betadine is being used routinely. Keywords: Sadhyo Vrana, Prakshalana, Chedhana, Episiotomy, Tagaradi Taila.

INTRODUCTION: Prasutitantra, the sub-branch of Ayurveda dealing with the medical, para-surgical and surgical approach towards diseases of women, pregnancy and delivery related issues. Episiotomy is a surgically planned incision on the perineum and posterior vaginal wall during second stage of labour with the aim of increasing soft tissue outlet dimensions to help with easier childbirth and prevent perineal lacerations which may extend to anus, anal sphincter or even upto rectum. Episiotomy wound can be compared to chinna vrana (a kind of sadhyo vrana) and so its treatment can be inferred as that of sadhyo vrana. Taila is one among the sixty treatment modalities which have been incorporated in our classics for better wound healing with minimum scar formation and control pain. Tagaradi Taila has been mentioned in our classics as Vrana shodhaka and Ropaka. It is also said to treat Vrana caused by Sadhyo Shastra Prahaara.

AIM AND OBJECTIVES:
1. To study about Mooladhara Chedhana and Episiotomy as per Ayurvedic and modern literature.
2. To study the efficacy of Tagaradi Taila on Mooladhara Chedana.

MATERIALS AND METHODOLOGY:
This study was conducted in between December 2014 to January 2017. Patients with sutured episiotomy wound following normal vaginal delivery from IPD of Dept. of Prasooti Tantra and Stree Roga, Shri
J.G.C.H’S Ayurvedic Hospital, Ghataprabha were selected.

Drug source:
Raw drugs procured from herbal garden and certified from pharmacy, Tagaradi Taila was prepared in Rasshashtra and Bhaishajyakalpana dept. of our college, as per taila paka vidhi.

Study design: It was a single blind clinical study of 40 patients; patients fulfilling the inclusion criteria were selected, divided into 2 equal groups.

Group A: Tagaradi Taila application twice daily after prakshalana of episiotomy wound for 8 days.

Group B: Betadine application twice a day after prakshalana of episiotomy wound for 8 days. Follow up was done on 16th day for both groups.

Selection Criteria
Inclusion criteria:
1. All primi and multi gravida who will undergo vaginal delivery with episiotomy and having age group between 18 to 35 years.
2. Uncomplicated pregnancy where mother and baby are in good condition.

Exclusion criteria:
1. History of impaired wound healing.
2. Patients having blood coagulopathy, hematoma, abscess are excluded.
3. Patient with skin diseases.
4. Severe anaemia in which Hb% is below 6gm%.
5. Patient having systemic disorders in pregnancy like Tuberculosis, Hypertension, Diabetes mellitus, Immuno-suppressed patients will be excluded.

Subjective Criteria

VAS (Visual Analogue Scale)
1 The Visual Analogue Scale (VAS) is a subjective measure of pain. It consists of a 10cm line with two end-points representing “no pain” and “unbearable pain.” Patients are asked to rate their pain by placing a mark on the line corresponding to their current level of pain. According to this method, scores were given as follows:

- No pain – 0
- Mild pain – 1 to 3
- Moderate pain – 4 to 7
- Intolerable pain – 8 to 10

Objective criteria

The REEDA Scale2 (Redness, Edema, Ecchymosis, Discharge, Approximation) is a scale for grading the severity of perineal trauma associated with episiotomy or laceration associated with delivery.

Procedure of utility of REEDA Scale – Patient taken in Sims position. A 4cm wide piece of papertape is placed so that, its midline runs along with the length of the wound. Recorded the measurements according to the run of the incision.

Gradation Index of REEDA Scale.

<table>
<thead>
<tr>
<th>Sl. PARAMETER FINDING Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>01. Redness</td>
<td>0. None</td>
</tr>
<tr>
<td></td>
<td>Within 0.25cm of the incision bilaterally</td>
</tr>
<tr>
<td></td>
<td>Within 0.50cm of the incision bilaterally</td>
</tr>
<tr>
<td></td>
<td>Beyond 0.50cm of the incision bilaterally</td>
</tr>
<tr>
<td>02. Edema</td>
<td>0. None</td>
</tr>
<tr>
<td></td>
<td>Perineal, &lt;1 cm from the incision</td>
</tr>
<tr>
<td></td>
<td>Perineal and or vulvar, 1-2 cm from the incision</td>
</tr>
<tr>
<td></td>
<td>Perineal and / or vulvar, &gt; 2cm from the incision</td>
</tr>
<tr>
<td>03. Ecchymosis</td>
<td>0. None</td>
</tr>
</tbody>
</table>
Within 0.25 cm bilaterally or 0.5 cm unilaterally 1
Within 1.00 cm bilaterally or 0.5 cm to 2.00 cm unilaterally 2
> 1 cm bilaterally or > 2 cm unilaterally 3

04. Discharge
None 0
Serum 1
Serosanguinous 2
Bloody, purulent 3

05. Approximation
Closed 0
Skin separation ≤ 3 mm 1
Skin and subcutaneous fat separated 2
Skin, subcutaneous fat and fascial layer separation 3

Results:
Age: Among 40 patients 72.5% were between 18-23 years, 25% were between 24-29 years and 2.5% between 30-35 years.
Religion: Among 39 patients 97.5% were Hindus and 2.5% were Muslims.
Occupation: Among 40 patients 77.5% were housewives, 22.5% were working.
Socio-economical Status: Among 40 patients 17.5% were lower class, 30.0% were lower middle class, 30.0% were middle class, 22.5% were upper middle class.
Prakriti: Among 40 patients 40% were of vata-pitta prakriti, 40% were of vata-kapha and 20% were pitta kapha prakriti.

Clinical study: The Wilcoxon signed-rank test is a non-parametric test for the case of two related samples or repeated measurements on a single sample. For the analysis of subjective criteria in experimental group the Wilcoxon Signed Rank Test was applied for Symptom score and findings are as follows.

Table No.1 Effect of Therapy on Symptoms in Experimental Group Statistically:

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Mean score</th>
<th>Mean decrease</th>
<th>%</th>
<th>SD</th>
<th>SE</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Redness</td>
<td></td>
<td></td>
<td>91.6</td>
<td>1.944</td>
<td>0.604</td>
<td>3.16</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Edema</td>
<td></td>
<td></td>
<td>90</td>
<td>1.909</td>
<td>0.609</td>
<td>3.16</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Ecchymosis</td>
<td></td>
<td></td>
<td>90</td>
<td>1.909</td>
<td>0.609</td>
<td>3.16</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Discharge</td>
<td></td>
<td></td>
<td>92</td>
<td>1.909</td>
<td>0.4138</td>
<td>3.16</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Approximation</td>
<td></td>
<td></td>
<td>96.6</td>
<td>2.050</td>
<td>0.6487</td>
<td>3.16</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Pain</td>
<td></td>
<td></td>
<td>95%</td>
<td>2.015</td>
<td>0.6152</td>
<td>3.16</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

In symptom Redness, Edema, Ecchymosis, Discharge, Pain and Approximation the p value obtained was < 0.001 which was statistically highly significant.

Table No.2 Effect of Therapy on Symptoms in Control Group Statistically:

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Mean score</th>
<th>Mean decrease</th>
<th>%</th>
<th>SD</th>
<th>SE</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Redness</td>
<td></td>
<td></td>
<td>66.66</td>
<td>1.414</td>
<td>0.4474</td>
<td>3.16</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Edema</td>
<td></td>
<td></td>
<td>63.3</td>
<td>1.909</td>
<td>0.609</td>
<td>3.16</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Discharge</td>
<td></td>
<td></td>
<td>90</td>
<td>1.272</td>
<td>0.4026</td>
<td>3.16</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Approximation</td>
<td></td>
<td></td>
<td>96.6</td>
<td>2.050</td>
<td>0.6487</td>
<td>3.16</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Ecchymosis</td>
<td></td>
<td></td>
<td>65</td>
<td>1.378</td>
<td>0.4026</td>
<td>3.16</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Pain</td>
<td></td>
<td></td>
<td>76.6</td>
<td>1.626</td>
<td>0.5145</td>
<td>3.16</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>
In symptom Redness, Edema, Ecchymosis, Discharge, Pain and Approximation the p value obtained was < 0.001 which was statistically highly significant.

OVERALL RESULT:

Table No.3 The Percentage of improvement in individual parameter in REEDA and VAS scale after 8 days of the treatment.

<table>
<thead>
<tr>
<th>SL.</th>
<th>Parameters</th>
<th>Percentage relief</th>
</tr>
</thead>
<tbody>
<tr>
<td>01.</td>
<td>Redness</td>
<td>91.6</td>
</tr>
<tr>
<td>02.</td>
<td>Edema</td>
<td>90</td>
</tr>
<tr>
<td>03.</td>
<td>Ecchymosis</td>
<td>90</td>
</tr>
<tr>
<td>04.</td>
<td>Discharge</td>
<td>92</td>
</tr>
<tr>
<td>05.</td>
<td>Approximation</td>
<td>96.6</td>
</tr>
<tr>
<td>06.</td>
<td>Pain</td>
<td>95</td>
</tr>
</tbody>
</table>

When overall results were glanced Tagaradi Taila showed good results compared to Betadine ointment. On redness Tagaradi Taila showed 91.6% effect and Betadine Ointment showed 66.66% effect. On redness trial drug showed 91.6% that of Betadine Ointment i.e about 66.66% . On edema Tagaradi Taila showed 90% of good results compared to Betadine which was 63.3% On ecchymosis Tagaradi Taila showed 90 % of good results compared to Betadine ointment which is 65% . On discharge Tagaradi Taila showed 92% results as compared to Betadine Ointment which was 90%. In approximation Tagaradi Taila and Betadine ointment showed marked Effect i.e 50% and 60% respectively. In pain Tagaradi Taila showed 95% results as compared to Betadine Ointment which was 76.66% .

DISCUSSION: Episiotomy is a routinely performed surgical procedure in the conduct of vaginal delivery. Various studies show that, the efficacy of midline and medio-lateral conduct episiotomy shows no significant difference in outcome. But there is a risk factor in midline episiotomy is perineal tears, incontinence of stool, discomfort in perineal area and sexual intercourse. Though, there are several studies conducted on the efficiency of episiotomy on maternal health, fetus during birth, neonatal life, and even during future life. But, there is not enough data which shows
the actual efficiency of episiotomy. Hence, the actual conduct of episiotomy on regular basis and research basis stands on controversial issue. Episiotomy is a wound on perineum and has every chance of getting infected due to stool, urine and lochia. Hence, its care should be taken in a proper way. The complicated nature of anatomy of perineum should be taken under consideration while dealing with its management.

**Probable Mode of Action of Taila**

**Mode of action of Taila**: Taila is one of the most important Sneha among the 4 important Sneha i.e. Ghee, Majja, Vasa, Taila. Tila Taila is sthavar sneha as it is derived from the plant origin. Taila is best among the vatashamaka sneha; as it is ushna and sukshma srotogami, it is also kaphanashak, Balya i.e. it increases the uttarottar dhatu. It is twachya i.e. beneficial for twacha. It makes the body stronger and cleanses the yonimarg. It is vyavayi, vikasi, sookshma srotogami.

<table>
<thead>
<tr>
<th>Guna</th>
<th>Guru &amp; Snigdha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rasa</td>
<td>Madhura, Kashaya, Tikta, Katu</td>
</tr>
</tbody>
</table>

**Veerya** - Ushna

**Vipaka** - Madhura

Due to ushna veerya it is vatashamak, Madhur vipaki, Guru, Snigdha Guna leads to pacification of vata. Kashaya rasa is mainly acting as ropana and sthambhan. Tikta rasa act as shodhana. Hence it is vedanasthapan, Sandhaniya, Vranashodhak, Vranaropana, Shoolaghna, Puyaghna and Balya.

So, Tila taila formulation is ushna, sookshma, vyavayi, snigdha, srotogami, vata-kapha shamaka, vedanasthapan, vranashodhna, ropana, shoolghna, puyaghna and helps in healing of the sadyo vrana.

**Probable Mode of Action of Tagaradi Taila**

**Tagaradi Taila** as per the given reference, Tagaradi Taila is been indicated in vrana due to its vranaropak property. The lakshana of vrana like shool (pain), shoth (edema), strav (discharge), vranaoshtha (edges), are markedly reduced by the virtue of Tagaradi Taila.

**CONTENTS:**

**Tagar**: helps to reduce pain at the site of vrana by its prabhava i.e vedanasthapana.

**Agar**: due to its ushna virya helps relieving pain, as its predominant symptom of vata.

**Ela** - due to its prabhava i.e dahaprashamana, helps to reduced burning sensation at the vrana site and has anti-inflammatory and analgesic action.

**Jati** – it is twachya and vranaropka helps in formation of granulation.

**Chandan** - helps in wound healing by its sheet virya and dahaprashmana prabhava, also possesses antibacterial property.

**Padmaka** - also helps in reducing pain by vedanasthapan prabhava and relieves burning sensation by sheet virya.

**Tutta** and **Manasheela** are mineral ingredients in Taila. They have kandughna and krimighna action and thus reducing oedema and infection at local vrana site, also due to lekhaniya guna they help to remove cell debris at local vrana site hence improves granulation i.e. vranaropana.

**Daruharidra** - helps granulation at vrana site and reduces oedema by ushnavirya, katu – tikta rasa and acts as local anaesthetic.

**Guduchi** - Due to its tikta rasa, madhur vipak helps in relieving pain, increases granulation and reduces strava also it has
bactericidal and anti-inflammatory property.

**Probable Mode of Action of Betadine Povidone** – Iodine is an antiseptic solution that is usually used all around the world for episiotomy wound care. It is an antiseptic solution used to prevent the secondary infection. Moreover, it doesn’t have any role in wound healing. It is fast bactericidal and even on exposure for longer duration it works on ova and cysts.

**CONCLUSION:** In this clinical, Group A patients with *Tagaradi Taila* and Group B patients were treated with Betadine ointment. Betadine is control drug and conventional method of wound management in episiotomy wounds. It has no role in pain management and wound healing rather than the asepsis measure. *Tagaradi Taila* can be used for episiotomy wounds safely in clinical practice as that of betadine is being used routinely. No side effects were noted because of these drugs.

**REFERENCES:**
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**Corresponding Author:**
Dr Salunke Sujata K
MS (Prasutitantra streeroga) Lecturer Dept of Prasutitantra and streeroga K.C.Ajmera Ayurved Mahavidyalaya, Dhule

Email:

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