

CASE STUDY

Clinical Study on Management of Cervical Erosion by *Agnikarma*

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ABSTRACT

Cervical erosion (or cervical ectopy) is a benign condition where the ectocervix's squamous epithelium is replaced by columnar epithelium. It is often linked to precancerous lesions at the squamocolumnar junction. *Ayurveda* suggests *Agnikarma* as an effective treatment for this condition. This study compares the effects of *Agnikarma* using *Chandrodaya Varti* and *Lauha Shalaka* on cervical erosion. 60 patients were divided into two groups, each receiving one of the treatments. Both groups showed similar improvements, with 66.6% of Group A and 63.3% of Group B reporting marked improvement. The treatments were applied during the 6th to 12th day of the menstrual cycle, with *Murchita tila tail picchu* used for one week. The study found no significant difference between the treatments ($P>0.05$), indicating that both are similarly effective. Both methods have wound-healing properties, with *Chandrodaya Varti* providing immediate antimicrobial action, while *Lauha Shalaka* shows antimicrobial effects after 1.5 months.

Key Words *Agnikarma, Chandrodaya Varti, Lauha Shalaka, Cervical Erosion*

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INTRODUCTION

Ayurveda is an ancient science which has given more importance to female reproductive system in every stage of life for restoring and maintaining the balance of *Tridosha* (*Vata*, *Pitta* and *Kapha*). Women health encompasses many different issues during the different stages of her life, among which Cervical erosion is common condition seen in most of all the age groups. Its prevalence is 17- 50% of all the gynaecological conditions¹. Cervical erosion is a common benign condition where the stratified squamous

epithelium of the ectocervix region is replaced by the columnar epithelium of endocervix². As Cervical erosion causes great discomfort to the woman due to troublesome discharge and some other symptoms like contact bleeding, lower backache, intermenstrual bleeding, dyspareunia so it's very important to pay attention towards this disease. Precancerous lesions mainly develop at the squamocolumnar junction. So, Cervical erosion treatment is a kind of preventive measure for reducing the risk of Cervical Carcinoma^{3,4}.

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AIMS AND OBJECTIVES

To identify and compare the utility of the *Chandrodaya Varti* & *Lauha Shalaka* for *Agnikarma* in Cervical erosion.

MATERIAL AND METHODS

The materials and methods section are the section in the research work containing the experimental design of the study.

1. PLAN OF STUDY-

A. Conceptual Study:

Details of available description on *Garbhashaya Grivamukhgata Vrana* were studied from various sources of *Ayurvedic* and Modern texts of medical science, previous and ongoing research work, journals and publications.

B. Clinical Study:

• Selection of patients:

Total 64 patients were registered for the study, out of which 4 patients dropped out before the completion of the study (30 patients in group A completed the *Agnikarma* therapy by *Chandrodaya Varti* and 30 patients in group B completed the *Agnikarma* therapy by *Lauha Shalaka* in the study.

Selection of Drug:

Group A- Raw herbal drugs of *Chandrodaya Varti* were identified on the basis of their macroscopic characters in the department of *Dravya Guna* in Rishikul Campus Haridwar. *Manahashila Shodhana* procedure was done in Ras shastra evum bshhajaya kalpana department, Rishikul Campus Haridwar. *Shodith Shankhnabhi* powder was bought from Anamika

pharmacy Sidcul, Haridwar. *Chandrodaya Varti* was prepared in the Anamika pharmacy Sidcul, Haridwar⁵.

Group B- Usually they are made of metals, but in case of non-availability their substitutes are used. *Lauha* (iron) is the most commonly used metal for the formation of various *Yantras* and *Shastras*, which is why it was selected for the formation of the *Shalaka*^{6,7}.

CRITERIA FOR SELECTION OF PATIENTS:

Inclusion criteria:

- Married women between 20 years to 45 years age group
- C/O Discharges per vagina.
- Contact bleeding.
- Lower abdomen pain
- Cervical erosion presents after 3 months of delivery or 3 months after the stoppage of contraceptive pills.
- On per speculum examination- cervical ectropion present.

Exclusion Criteria:

- Female patient of age < 20 years and > 45 years.
- Pregnant woman
- Menopausal woman
- Lactating mother
- Abnormal Uterine Bleeding
- H/O taking contraceptives pills.
- H/O last delivery in duration of 3 months
- **Chronic illness:** Tuberculosis, Hypertension, Diabetes mellitus, Hep B, Sexual

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transmitted disease (HIV, Syphilis) Cervical Stenosis, CA of cervix, 2nd and 3rd degree uterine prolapsed, HPV infection, Urinary tract infection (If pus cells >5) and other benign growth of genital organ.

CRITERIA FOR WITHDRAWAL

- Personal Matters.

- Aggravation of complaints.
- Inter-current Illness.
- Leaving Against Medical advice

The assessment was done on the basis of clinical improvement of patients as per subjective & objective parameters according to scoring pattern mentioned in Table no. 1, 2, 3.

Table 1 Assessment for subjective parameter

S.no	Subjective Parameters	Severity of symptoms	Grades	
1.	Dyspareunia	Nil	Absent	0
		Pain during coitus	Mild	1
		Pain during forceful Coitus	Moderate	2
		Patient tries to avoid martial relationship	Severe	3
2.	Postcoital bleeding	Nil	Absent	0
		Bloodstained mucus discharge	Mild	1
		Only spotting	Moderate	2
		Fresh blood discharge	Severe	3
3.	Discharge P/V	Nil	Absent	0
		Occasionally, not moisten the under garments	Mild	1
		Undergarments become wet but no need of vaginal pad	Moderate	2
		Undergarments become wet all time, need for vaginal pad	Severe	3
4.	Lower back ache	Nil	Absent	0
		Occasionally (no interference with daily routine)	Mild	1
		Backache during any effort and forward bending (interference with daily routine and relief after taking medicine)	Moderate	2
		Excessive (affect daily routine, no relief taking medicine)	Severe	3
5.	Pruritis vulvae	Nil	Absent	0
		Occasionally	Mild	1
		Disturb daily routine / increases after specific time like –menstruation, micturition etc.	Moderate	2
		Intolerant itching (urge in public places)	Severe	3

ASSOCIATED SYMPTOMS

Sr.no	Associated Symptoms	Grade	Before t/t	After t/t
1.	Burning	Absent	0	
	Micturition	Present	1	

Table 2 Objective parameter for assesment (p/s and p/v examination)

S.no	Objective Parameters	Severity of symptoms	Grades
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1.	Vulval Congestion (By inspection)	Absent	0
		Present	1
2.	Skin discoloration (By inspection)	Absent	0
		Reddish discoloration	1
		Oedematous- Reddish discoloration	2
		Rashes and oedema of vulva, vagina and thighs	3
3.	Amount of discharges	No discharge	0
		Discharges collected only on fornices	1
		Cervix coated with discharges along with collection in fornices	2
		Cervix coated with thick discharges with abundant collection on blades of speculum	3
4.	Consistency of Discharge P/V	Normal	0
		Thin	1
		Thick	2
5.	Colour of Discharge P/V	Normal	0
		Curdy discharge	1
		Greyish white discharge	
		Greenish yellow discharge	
6.	Site of Erosion	Nil	0
		Anterior lip/ Posterior lip of Cervix	1
		Around OS /Both (Anterior and Posterior lip of cervix)	2
		Whole cervix covered	3
7.	Area covered by erosion	0%	0
		00 – 25% (1 quadrant involve)	1
		26 – 50% (< 1-2 quadrant involve)	2
		51 – 75% (<2- 3 quadrant involve)	3
8	Types of Erosion	Absent	0
		Flat (Red glistening area)	1
		Papillary (Proliferation folds or papillary projections in cervical erosion)	1
		Follicular / Nabothian cyst (Nabothian follicles)	1
		Mixed type of erosion	2
9	Severity of bleed on touch	No bleed on touch	0
		Mild oozing seen around Os / 1 swab used	1
		Bleed on touch/ more than 1 swab used	2
10	Vaginal Ph	3.8 – 4.5	0
		>4.5– 6	1
		7-10	2
11	HVS	Sterile	0
		Infection	1
12	PAP Smear	Normal	0
		Presence of borderline atypical cells – probably due to infection. No evidence of malignancy	1

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13 Measurement of eroded Anterior lip of cervix part by caliper device (in cm)

Posterior lip of cervix

Table 3 Criteria for assessment of total effect of therapy

Sr.no.	PARAMETER	% RELIEF
1	Unchanged	Up to 25% relief
2	Mildly Improved	26 – 50 % relief
3	Markedly Improved	51 – 75 % relief
4	Cured	More than 75% relief

LABORATORY INVESTIGATIONS:

➤ Hematological:

Complete hemogram -Hb gm%, TLC, DLC, ESR, BT, CT.

➤ Biochemical:

Blood sugar (RBS)

Blood Urea

➤ Serological:

HIV 1 & 2

VDRL

➤ Urine: Routine & Microscopic

Urine Pregnancy Test (To exclude pregnancy))

Urine culture & sensitivity

➤ Cervical and Vaginal smear:

PAP smear (For screening)

Vaginal pH

HVS (HPV 16,18, HSV)

Tissue biopsy (If required)

Management- The whole procedure was done in three steps after taking informed written consent, proper examination and investigations of patient.

Agnikarma procedure divided into 3 parts:

1.Purva karma

2.Pradhana karma

3.Pashchata karma

PURVA KARMA:

Pre requisites: Consent to be taken

Linen: Sterile gloves, draping sheet, Surgical Cut sheet, Sterile gauze pieces, Sterile *picchu*.

Instruments-Calliper Device, sponge holder, Cusco's speculum, uterine sound, vulsellum, spirit lamp.

Others: *Chandrodaya Varti/ Lauha Shalaka*, autoclaved *Murchita Tila Tail*, sterile water.

- Patients were asked to lie down on lithotomy position.

- Patients should have passed their natural urges.

PRADHANA KARMA:

"Cusco's speculum was inserted to allow proper visualization of the cervix. *Agnikarma* was then performed in a clockwise direction on the ectocervical eroded region: heated *Chandrodaya Varti* with fumes was used for Group 'A' patients, and heated *Lauha Shalaka* was used for Group 'B' patients, both applied in a customized *Vinduvat Agnikarma* technique. The procedure was considered complete upon the appearance of signs of *Samyaka Dagdha*, indicated by *Kapota Varnata* and a marked bluish-brown discoloration" ^{8,9}.

PASHCHATA KARMA:

After completion of *Agnikarma* uterine sounding was done (To ensure against cervical stenosis.) than *Murchit til taila picchu* was applied over the treated part for 7 continuous days. Vitals were

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taken, then patient was advised to take rest for 15 minutes to avoid any complication.

Advice given to patient after procedure-

1. Marital relationship should be avoided during treatment period.

2. Patient was made aware about the fact that there will be excess mucinous discharge p/v after *Agnikarma* till 15 days due to shed of the necrosed epithelium.

Group 'A'- Overall effect of group 'A' therapy shows marked improvement (>75% relief) i.e 66.6%.

Group 'B'-Overall effect of group 'B' therapy shows marked improvement ((>75% relief) i.e 63.3%.

Discussion: - Out of 64 patients, 30 patients completed the treatment in Group A and 30 patients completed the treatment in Group B.

Discussion on the subjective parameter-

Dyspareunia was the most common symptom, with 96.6% relief in Group A and 93.3% in Group B, both showing highly significant results ($P < 0.001$). The improvement was attributed to the *Shodhana* and *Ropana* properties of *Chandrodaya Varti* and *Lauha Shalaka*, which regenerate epithelial tissues and balance *Vata* and *Kapha doshas*. For post-coital bleeding, 93.3% in Group A and 90% in Group B showed significant relief ($P < 0.001$). *Agnikarma* resolved bleeding by

sealing microcapillaries, while the therapies promoted squamous epithelium regeneration. Regarding vaginal discharge, Group A showed 90% relief and Group B showed 93.3% relief, with both therapies replacing columnar epithelium and restoring tissue integrity, leading to moderate improvement.

Discussion on objective parameter p/s: -

- **Site of Erosion:** 83.3% relief in Group A and 76.6% in Group B.

- **Area Covered by Erosion:** 83.3% relief in Group A and 80% in Group B.

- **Type of Erosion:** 93.3% relief in Group A and 90% in Group B.

Group 'A'- Overall effect of group 'A' therapy shows marked improvement (>75% relief) i.e 66.6%.

Group 'B'-Overall effect of group 'B' therapy shows marked improvement ((>75% relief) i.e 63.3%.

- The Wilcoxon Signed Rank Test shows a highly significant effect of therapy in Group A & Group B with P-values for all parameters less than 0.001. results are mentioned in table no. 4,5.

- The Paired t-test reveals a highly significant effect in Group A & Group B, with P-values for all parameters less than 0.001. results are mentioned in Table no 6,7.

Table-4 Effect of *Chandrodaya varti Agnikarma* on subjective parameter in group a (n= 30)

S.no	Subjective Parameter	N	Mean		Mean diff.	S.D.	S. E	% effect	W	P value	Res.
			BT	AT							
1.	Dyspareunia	27	1.44	0.03	1.41	0.664	39.78	96.6	378	<0.001	HS
2.	Postcoital bleeding	8	0.71	0.14	0.57	0.583	4.62	93.3	21	<0.001	HS
3.	Discharge P/V	28	1.42	0.10	1.32	0.729	38.08	90	351	<0.001	HS

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4.	Lower backache	19	1.5	0.11	1.39	0.791	22.19	86.6	171	<0.001	HS
5.	Pruritis vulvae	15	1.35	0.2	1.15	0.716	12.13	90	78	<0.001	HS
	Burning	20	1	0	1	0.479	23.47	93.3	210	<0.001	HS
6.	Micturition										

Table 5 Effect of *Lauha Shalaka Agnikarma* on Subjective parameter in Group B (N= 30)

S.no	Subjective Parameter	N	Mean		S.D.	S. E	% effect	W	P value	Res.	
			BT	AT							
1.	Dyspareunia	26	1.33	0	1.33	0.76	36.00	93.3	132	<0.001	HS
2.	Postcoital Bleeding	7	1.14	0.14	1	0.43	5.29	90	28	<0.001	HS
3.	Discharge P/V	22	1.68	0.04	1.64	0.92	30.12	93.3	253	<0.001	HS
4.	Lower Backache	13	1.69	0.07	1.62	0.98	12.54	90	78	<0.001	HS
5.	Pruritis Vulvae	17	1.52	0.29	1.23	0.79	17.04	83.3	120	<0.001	HS
6.	Burning Micturition	18	1	0	1	0.49	20.15	90	171	<0.001	HS

Table 6 Effect of *Chandrodaya Varti Agnikarma* on Objective parameter Group A (N= 30)

S.no	Objective Parameter	N	Mean		S.D.	% Effect	T	P-value	Res.	
			BT	AT						
1.	Site of erosion	30	1.66	0.3	1.36	0.85	83.3%	-8.8	<0.001	HS
2.	Area covered by erosion	30	2.76	0.23	2.53	0.97	83.3%	-14.2	<0.001	HS
3.	Cervical erosion category	30	1.5	0.23	1.27	0.34	85%	-13.7	<0.001	HS
4.	Severity of bleed	30	1.3	0	1.3	0.67	93.3%	-3.4	<0.001	HS
5.	Amount of Discharge P/V	30	1.07	0.10	0.97	0.40	90%	-12.2	<0.001	HS
6.	Consistency of Discharge P/V	30	1.22	0.18	1.04	0.62	83.3%	-4.95	<0.001	HS
7.	Maximum length of lesion of ant. lip	30	1.09	0.21	0.88	0.33	89%	-7.5	<0.001	HS
8.	Maximum length of lesion of post. lip	30	0.91	0.18	0.73	0.35	90%	-7.4	<0.001	HS
9.	Vaginal pH	30	1	0.11	0.89	0.77	88.8%	-11.3	<0.001	HS
10.	HVS	30	1	0	1	0.50	93.3%	-5.7	<0.001	HS
11.	Pap smear	30	1	0.34	0.66	0.30	93.3%	-16.1	<0.001	HS

Table 7 Effect of *Lauha Shalaka Agnikarma* on Objective parameter Group B (N= 30)

S.no	Objective Parameter	N	Mean		S.D.	% Effect	T	P-value	Res.	
			BT	AT						
1.	Site of erosion	30	1.4	0.26	1.14	0.59	76.6%	-10.7	<0.001	HS
2.	Area covered by erosion	30	2.53	0.26	2.27	0.76	80%	-15.9	<0.001	HS
3.	Cervical erosion	30	1.3	0.16	1.14	0.37	83%	-12.4	<0.001	HS

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category										
4.	Severity of bleed	30	1	0	1	0.46	93.3%	-3.52	<0.001	HS
5.	Amount of Discharge P/V	30	1.17	0.17	1	0.23	90%	-6.23	<0.001	HS
6.	Consistency of Discharge P/V	30	1.36	0.18	1.18	0.49	81.81%	-7.07	<0.001	HS
7.	Maximum length of lesion of ant. lip	30	1.02	0.14	0.88	0.42	91.6%	-10.2	<0.001	HS
8.	Maximum length of lesion of post. lip	30	0.83	0.10	0.73	0.44	93%	-7.4	<0.001	HS
9.	Vaginal pH	30	1	0.03	0.97	0.62	92.4%	-14.1	<0.001	HS
10.	HVS	30	1	0.5	0.5	0.34	93.3%	-2.11	<0.001	HS
11.	Pap smear	30	1	0.06	0.94	0.25	93.33%	-20.1	<0.001	HS

• The Mann-Whitney U test was used to compare the therapy effects between Group A and Group B on subjective parameters, showing a non-significant result with P-values for both groups. results show in Table no 8.

• The Unpaired T test was used to Compare the effect of therapy in Group ‘A’ and Group ‘B’

Table- 8 Inter- group comparative effect of Subjective parameter in Group ‘A’ & Group ‘B’

Variables	Group	N	% Relief	U- value	P- value	Results
Dyspareunia	Group A	27	96.6%	434	0.8181	N. S
	Group B	26	93.3%			
Post coital bleeding	Group A	8	93.3%	442	0.9124	N. S
	Group B	7	90%			
Discharges p/v	Group A	28	90%	440	0.8886	N. S
	Group B	22	93.3%			
Lower back ache	Group A	19	86.6%	379	0.2983	N. S
	Group B	13	90%			
Pruritis vulvae	Group A	15	90%	394	0.4179	N. S
	Group B	17	83.3%			
Burning micturition	Group A	20	93.3%	411	0.7188	N. S
	Group B	18	90%			

Table 9 The Unpaired T test was used to Compare the effect of therapy in Group ‘A’ and Group ‘B’ on the objective parameter, the result is shown below the table

Variables	N	% Relief		t- value	P value	Results
		GroupA	GroupB			
Site of erosion	30	83.3%	76.6%	1.057	0.1473	N. S
Area covered by erosion	30	83.3%	80%	0.711	0.7025	N. S
Cervical erosion category	30	85%	83.3%	0.355	0.361	N. S
Severity of bleed	30	93.3%	93.3%	0.273	0.392	N. S
Amount of discharges	30	90%	90%	2.45	0.008	N. S
Consistency of discharges p/v	30	83.3%	81.8%	0.23	0.408	N. S

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Maximum length oflesion of ant. Lip	30	89%	91.6%	-0.128	0.449	N. S
Maximum length oflesion of post. lip	30	90%	93%	-0.038	0.484	N. S
Vaginal PH	30	88.8%	92.4%	0	0.5	N. S
HVS	30	93.3%	93.3%	3.618	0.003	Significant
Pap smear	30	93.3%	90%	0	0.5	N. S

Table -10 Overall effect of therapy

TOTAL EFFECT	Group A	%	Group B	%
Unchanged (Up to 25% relief)	0	0%	0	0%
Mildly improved (26-50% relief)	4	13.3%	3	10%
Moderate improved (51-75% relief)	6	20%	8	26.6%
Marked improvement (>75% relief)	20	66.6%	19	63.3%

RESULTS

ost-therapy, there was a noticeable reduction in the ectopic surface area of columnar epithelium at the ectocervical region due to *Agnikarma*. Additionally, *Yoni Pichu*, which creates a sterile environment, supported the regeneration of new squamous epithelium.

93.3% relief in Group A and 90% relief in Group B. *Agnikarma*, using *Chandrodaya Varti* or *Lauha Shalaka*, destroys unhealthy columnar cells and promotes regeneration, improving tissue health. This leads to significant recovery in flat, papillary, and follicular cervical erosions, restoring normal tissue integrity.

PROBABLE MODE OF ACTION OF AGNIKARMA-

Agnikarma by *Chandrodaya Varti* (Group -A)

Agnikarma → Therapeutic heat transferred fumes originate → *Krimighana* properties and *Vyavayi*, *Vikasi* property of fumes originate by *varti* responsible for *Dagdha* of *Dushya Dhatu* and antimicrobial action → pacification of *Dosha*, Increased *Dhatwagni* leads to activation of regeneration process from basal layer , stabilization of the natural microbiome of vaginal

cavity→ replacement of columnar epithelium by stratified squamous epithelium → regeneration of healthy tissue on cervix and cervical erosion cured.

Agnikarma by *Lauha Shalaka* (Group B)

Agnikarma → Therapeutic heat transferred by *Lauha Shalaka* → *Dagdha* of *Dushya Dhatu* → The *Dhatu Agni* becomes *utkleshita* (activated) → *Dosha* pacification by *pachana* action *Agni* → regeneration of healthy squamous epithelium by intact basal layer after a period → completer healing of cervical erosion.

CONCLUSION

Agnikarma therapy using *Chandrodaya Varti* and *Lauha Shalaka* regenerates cervical cells by replacing columnar epithelium with stratified squamous epithelium. *Chandrodaya Varti* also provides acute antimicrobial effects via fumes in Group A, absent in Group B. So, both therapies are showed statistically significant improvements in subjective and objective parameters¹⁰.

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