



Original Article

Clinical evaluation of the efficacy of kshara karma with Apamarga kshara and Jatyadi taila pichu in the Management of Cervical Erosion (Karnini Yonivyapada)

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ABSTRACT

Cervical erosion is one of the commonest gynecological diseases which includes large section of women among her reproductive age group and needs medical attention and non surgical treatment. In modern system its treatment done with diathermy and cryosurgery which has various side effect like cervical stenosis, accidental burns, etc. In Ayurveda science treatment of karnini yonivyapada by kaphahara chikitsa with Apamarga kshara which have property of lekhana, sodhana, ropana, stambhana, kaphghna and so many properties and Jatyadi taila which have property of vatashamak ,sheshmhara, mansapkarshana, shodhana and ropana . All these properties facilitate destruction of columnar epithelium and facilitate the re-epithelization of new healthy stratified squamous epithelium on ectocervix with this entire basis, this research work was done. karnini yonivyapada described in ayurvedic text books can be correlated with cervical erosion. Apamarga kshara (Sushruta Samhita Sutrasthana-11/5) and Jatyadi taila (Bhava Prakash Madhyama Khand.- 47/90-95) . Group I- this group 15 registered patients were administered with application of 'Apamarga kshara' on cervix and 'Jatyadi Taila' Pichu in the vagina for 7 sitting alternate day in a month Group II- In this group 15 registered patients of Cervical erosion were administered with 'Jatyadi Taila ' Pichu in the vagina daily for 14 days in a month. Treatment was done after bleeding phase of menstrual cycles over. Overall percentage relief was higher in group I 72.17% followed by group II i.e. 68.44% . Statistically the results were highly significant ($p < 0.001$) in both groups. Combined use of kshara karma and Jatyadi taila pichu (Group I) is more effectively helps in managing the disease cervical erosion.

Keywords: Jatyadi taila pichu, Apamarga kshara, cervical erosion

INTRODUCTION

Clinically cervical erosion is defined as the development of red velvety area on the portio vaginalis around the external os. Pathologically, cervical erosion is a condition in which the squamous epithelium of the ectocervix is replaced by columnar epithelium which is continuous with the endocervix. In cervical erosion the cervix is not eroded and there is no ulceration, the reason to make cervix look red and raw is that the columnar epithelium is much thinner than the squamous epithelium and so the underlying blood vessels show more clearly, making it look red and raw. The one of the important symptom of cervical erosion is discharge per vagina, the discharge however varies in character from mucoid to mucopurulent when associated with some infection enter through the columnar epithelium, because the columnar epithelium having less power of resistance to infection than the normal stratified squamous epithelium covering, the other symptoms which may be associated are contact bleeding or post coital bleeding, dyspareunia, pruritis vulvae ,backache, lower abdominal pain, burning micturation, sickness feeling, psychological upset, infertility etc. Though it is not a fatal one, yet the long term association with the disease and a number of symptoms both related to genitourinary system as well as psychological upset in the patient, needs attention.

In classical ayurvedic texts almost all the gynecological disorders comes under the term '**Yonivyapad**' All the classics have given the **number of yonivyapad** as **twenty**. '**Karnini yonivyapad**' is one among of them, the description of which seems to be near to cervical erosion.

Etymology of Karnini

Literally the word 'Karnini' is derived from 'Karnin' which refers to 'having ear' or 'relating to ear', 'barbed' or 'furnished with knots' etc.

The disease got its name due to development of 'Karnika' on garbhashaya dwarmukha. Karnika means 'round protuberance', 'pericarp of lotus', small brush' and 'tip of an elephant's trunk.

On the basis of etymology of disease i.e. 'Karnini' or its clinical features i.e. development of 'Karnika' on garbhashaya dwaramukh, it appears to be a muscular structure covered with small sprouts or knots, growing over cervix.

Definition of Karnika

In classics, karnika described as a singular growth of mansa and several mansankur like pericarp of lotus. Indu, the commentator of Ashtang Sangraha has mentioned the place of origin as **garbhashayadwar mukha** i.e. **cervix**. (**Astang sangraha uttartastra -38/51 Indu**)

Correlation between word '**Karnini**' of karnini yonivyapad with gynaecological disorders mentioned in modern science are -

1. Cervical polyp.
2. Cervical erosion.

Cervical Polyp

Cervical polyps coming out of external on has barbed growth or brush like structure as seen in papilloma, adenoma and polypoidal fibroid resemble with knotted structure or with pericarp of lotus, similarly mucous polyps sometimes appear like tip of elephant's trunk.

But fibroid polyp comes under 'Mansarbuda', a type of arbuda which is said to be incurable in ayurvedika classics, while karnini yonivyapada is easily curable. Considering all the facts, Karnini Yonivyapada cannot be equated with cervical polyps.

Cervical Erosion

Karnini can be compared with cervical erosion. In cervical erosion the cervix becomes somewhat hypertrophied, congested and covered with small red projection resembling sprouts (described by Indu), this erosion is often associated with nabothian cysts which are small pea sized smooth nodular structures, thus due to presence of small sprouts the cervix assumes the shape of barbed wire or small brush and when associated with nabothian cysts then assumes to the pericarp of lotus.

According to Acharya Charaka in chikitsasthana due to straining during labour in the absence of labour pains, the **vayu** obstructed by fetus, with holding **kapha** and getting mixed with **rakta** produces '**karnika**' in yoni, which obstructs the passage of rakta(raj). Due to presence of **karnika** this condition is termed as '**karnini**'.

Acharya Sushruta uttarsthan says that vitiated kapha along with rakta produces karnika in yoni. Other features of vitiation of kapha i.e. unctuousness and itching etc. are also present.

It is further described by Acharya charaka that yoni of woman afflicted with doshas can not retain sukra hence the female become infertile, besides she can also suffer from gulma. arsha, pradara and other disorders of vata.

These all symptoms and some complication of karnini yonivyapada are also described in cervical erosion explained in modern gynecological text books. Thus the karnini yonivyapada described in ayurvedic text books can be correlated with cervical erosion.

The principle of treatment of Ayurveda is comparable to that of modern system of medicine in which cryosurgery and diathermy are used to destruct the columnar epithelium and facilitate the growth of new healthy stratified squamous epithelium. But because of various side effect like excessive mucoid discharge per vagina for a long time, sometimes cervical stenosis, accidental burns, bleeding and recurrence of the disease. Hence the Ayurvedic management seems to be more practical, effective and have negligible side effects.

According to the pathogenesis and clinical features of karnini yonivyapada the affected doshas are **vata** and **kapha** and the affected dhatu is **rakta**. So the treatment should be aimed at to pacify the **vata** and **kapha** and to pasify the **rakta**. For this purpose uttarbasti, kusthadi varti dharna and **kaphahar chikitsa** i.e. other various measures capable of suppressing the kapha have been mentioned in Ayurvedic texts. Looking into the pathogenesis of cervical erosion it become clear that the Ayurvedic treatment having the properties of lekhana, sodhana, ropana, stambhana, kaphaghna can effectively cure this disease with this background kshara i.e. Apamarga Kshara and Jatyadi taila pichu is used for the treatment of this disease

To evaluate the efficacy of Kshara Karma with Apamarga Kshara and Jatyadi tail pichu in the management of cervical erosion (Karnini Yonivyapada).

To compare the clinical efficacy of kshara karma with Apamarga Kshara and Jatyadi taila pichu and only Jatyadi taila pichu in the management of cervical erosion (Karnini Yonivyapada).

METHODS AND MATERIAL

Selection of cases

Total 30 clinically diagnosed and confirmed cases of cervical erosion were registered for the present clinical trial. The cases were selected from the O.P.D. / I.P.D. of P.G. department of *Prasuti & Stri Roga*, National Institute of Ayurveda (N.I.A.) Hospital, Jaipur.

Inclusion criteria

Clinically diagnosed and confirmed patients of cervical erosion who were married were registered for the present clinical trial.

Exclusion criteria

- ◆ Adolescent girl (vaginally treatment is avoided in this patient medicolegally).
- ◆ Pregnant women (Kshara karma contraindicated).
- ◆ Patient having organic pathology of uterus and adnexae like Cervical carcinoma, any malignant growth (Line of treatment is different).
- ◆ Patient having coagulation disorders (it may cause severe bleeding).
- ◆ Patient having 2nd and 3rd degree of prolapsed (pichu was expelled outside).

Group I- this group 15 registered patients were administered with application of '**Apamarga kshara**' on cervix and '**Jatyadi Taila**' Pichu in the vagina for 7 sitting alternate day in a month

Group II- In this group 15 registered patients of Cervical erosion were administered with '**Jatyadi Taila**' Pichu in the vagina daily for 14 days in a month

Treatment was done after bleeding phase of menstrual cycles over.

Duration of trial - 2 months

All registered patients were enquired in details, about their chief complaints along with duration, history of present and past illness especially any STD's and family history. Special attention was paid to age at marriage, menstrual history, obstetrical and contraceptive history consent will be taken, Complete demographic profile of each patient was recorded.

Gynaecological Examination

- i. **Local examination-** Local examination was carried out to exclude any disease of external genital organs.
- ii. **Per speculum** - Examination of the vagina and cervix was done to find out any abnormality like mucosal inflammation or infection, any discharge coming out through it, condition of vaginal mucosa and special attention was given to appearance of cervix like any laceration on cervix, oedema, extent and type of erosion was diagnosed by visual examination, oozing of blood on touch, presence of any nabothian follicles / cyst or polyp along with characteristics of discharge coming out through the external os.

Special measurement of Cervical Erosion-

For measurement of cervix, it is measured at six to eight different angles with modified compass and measurements were marked on a graph paper having 100 division in one square inch and shape and size of cervix was drawn. Then the area covered with erosion was also measured and drawn on graph over diagram of cervix. The squares of graph paper covered with cervix and erosion were counted separately and percent area of cervix covered with erosion was calculated by following formula,

$$\frac{\text{No. of square covered with erosion}}{\text{No. of square covered with cervix}} \times 100$$

iii) **Bimanual examination** - Size, shape and position of uterus, approximate length of cervix, along with its feeling on touch with fingers, mobility of uterus were noted. Fornices were checked for any mass or growth and any tenderness.

Investigations-

Pap smear- Before starting the trial, smear from the cervix was taken.

pH of vagina- was recorded before and after the trial.

Complete urine examination

It was advised to all the patients to rule out any urinary tract infection.

Routine blood investigation

Hb gm%, TLC, DLC, ESR were advised to all the patients before and after the completion of trial.

SELECTION OF DRUG

Content of apamarga kshara - Apamarga panchanga Pharmaceutical analysis

The pharmaceutical study of Apamarga Kshara was done in the 'OASIS TEST HOUSE LIMITED' Jaipur an 'ISO 9001' certified lab and has certificate of Analysis, and the findings are as follows.

- pH of 5% w/v solution in water - 10.44
- Total Ash - 53.207% w/w
- Loss on drying - 7.245% w/w

- Water soluble extractive - 92.471% w/w
- Acid in soluble ash - 1.299% w/w
- Calcium as Ca - 0.444% w/w
- Magnesium as Mg - 0.449% w/w
- Iron as Fe - 0.014% w/w
- Chloride as Cl - 11.334% w/w
- Sodium as Na - 3.848% w/w
- Potassium as K - 23.632% w/w
- Sulphate as SO_4 - 11.910% w/w
- Phosphate as P_2O_5 - 0.079% w/w
- Carbonate as CO_3 - 37.035% w/w

Pharmaceutical analysis of Jatyadi taila-

- Refractive index at 40°C - 1.4725 IP-2010
- Acid Value - 13.228 IP-2010
- Saponification value - 234.214 IP-2010
- Iodine Value - 72.517 IP-2010
- Unsaponifiable matter - 1.820% w/w IP-2010

Statistical analysis

Various observations made and results obtained were computed statistically using **Student's t - test** to find out the significance of the values.

RESULTS

Table 1: Showing the pattern of clinical recovery in various symptoms of Cervical erosion in 15 patients treated with 'Kshara karma with apamarga kshara and jatyadi taila pitchu' - Group I

S No.	Symptoms	Mean		Dif.	% of Change	SD	SE	t	p	Results
		BT	AT							
1.	Amount of vaginal discharge	2.47	1.00	1.47	59.46	0.52	0.13	11.00	<0.001	H.S.
2.	Character of vaginal discharge	2.67	0.67	2.00	75.00	0.53	0.14	14.49	<0.001	H.S.
3.	Dyspareunia	2.07	0.57	1.50	72.41	0.52	0.14	10.82	<0.001	H.S.
4.	Pruritis Vulvae	1.67	0.22	1.44	86.67	0.53	0.18	8.22	<0.001	H.S.
5.	Lower Backache	1.80	0.67	1.13	62.96	0.52	0.13	8.50	<0.001	H.S.
6.	Lower abdominal pain	1.80	0.33	1.47	81.48	0.52	0.13	11.00	<0.001	H.S.
7.	Burning micturation	1.30	0.20	1.10	84.62	0.32	0.10	11.00	<0.001	H.S.
8.	Sickness feeling	2.47	0.80	1.67	67.57	0.62	0.16	10.46	<0.001	H.S.
9.	Post coital bleeding	1.00	0.25	0.75	75.00	0.50	0.25	3.00	<0.05	S.
10.	Area of eroded cervix	2.47	0.27	2.20	89.19	0.68	0.17	12.60	<0.001	H.S.
11.	Oozing of blood from cervical erosion on rubbing with a gauze piece	1.27	0.07	1.20	94.74	0.41	0.11	11.22	<0.001	H.S.
12.	Vaginal pH	6.67	5.53	1.13	17.00	0.74	0.19	5.91	<0.001	H.S.

Table2: Showing the pattern of clinical recovery in various symptoms of Cervical erosion in 15 patients treated with 'Jatyadi taila pitchu' - Group II

S No.	Symptoms	Mean		Dif.	% of Change	SD	SE	t	p	Results
		BT	AT							
1.	Amount of vaginal discharge	2.53	1.20	1.33	52.63	0.49	0.13	10.58	<0.001	H.S.
2.	Character of vaginal discharge	2.73	0.33	2.40	87.80	0.74	0.19	12.62	<0.001	H.S.
3.	Dyspareunia	2.00	0.23	1.77	88.46	0.60	0.17	10.65	<0.001	H.S.
4.	Pruritis Vulvae	1.11	0.00	1.11	100.00	0.33	0.11	10.00	<0.001	H.S.
5.	Lower Backache	1.87	0.40	1.47	78.57	0.52	0.13	11.00	<0.001	H.S.
6.	Lower abdominal pain	1.91	0.36	1.55	80.95	0.69	0.21	7.45	<0.001	H.S.

7.	Burning micturation	1.14	0.29	0.86	75.00	0.69	0.26	3.29	<0.00	S.
8.	Sickness feeling	2.07	1.00	1.07	51.61	0.80	0.21	5.17	<0.001	H.S.
9.	Post coital bleeding	1.00	0.50	0.50	50.00	0.58	0.29	1.73	<0.05	N.D.
10.	Area of eroded cervix	2.13	0.87	1.27	59.38	0.59	0.15	8.26	<0.001	H.S.
11.	Oozing of blood from cervical erosion on rubbing with a gauze piece	1.27	0.27	1.00	78.95	0.53	0.14	7.25	<0.001	H.S.
12.	Vaginal pH	6.67	5.47	1.20	18.00	0.77	0.20	6.00	<0.001	H.S.

Table3: Showing the pattern of haematological changes in 15 patients of Cervical erosion treated with "Kshara karma with Apamarga kshara and Jatyadi taila pitchu" - Group I

S No.	Haematological investigations	Mean		Dif.	% of Change	SD	SE	T	p	Results
		BT	AT							
1.	Hb gm%	11.19	11.57	0.38	3.40	0.96	0.25	1.53	>0.10	N.S.
2.	TLC	7226.67	7780.00	553.33	7.66	4250.86	1097.57	0.50	>0.10	N.S.
3.	DLC-N	57.87	62.13	4.27	7.37	7.27	1.88	2.27	>0.10	N.S.
4.	DLC -L	37.20	32.53	4.67	12.54	7.71	1.99	2.35	>0.10	N.S.
5.	DLC-E	2.53	2.73	0.20	7.89	1.01	0.26	0.76	>0.10	N.S.
6.	DLC-M	2.40	2.60	0.20	8.33	1.01	0.26	0.76	>0.10	N.S.
7.	DLC-B	0.00	0.00	-	-	-	-	-	-	N.D.
8.	ESR	15.00	13.87	1.13	7.56	4.36	1.12	1.01	>0.10	N.S.

Table 4: Showing the pattern of hematological changes in 15 patients of Cervical erosion treated with Jatyadi taila pitchu" - Group II

S No.	Haematological investigations	Mean		Dif.	% of Change	SD	SE	T	p	Results
		BT	AT							
1.	Hb gm%	10.76	10.99	0.23	2.17	1.05	0.27	0.86	>0.10	N.S.
2.	TLC	7129.33	7673.33	544.00	7.63	2127.42	549.30	0.99	>0.10	N.S.
3.	DLC-N	57.33	59.53	2.20	3.84	12.75	3.29	0.67	>0.10	N.S.
4.	DLC -L	37.20	35.60	1.60	4.30	12.51	3.23	0.50	>0.10	N.S.
5.	DLC-E	2.60	2.40	0.20	7.69	1.21	0.31	0.64	>0.10	N.S.
6.	DLC-M	2.93	2.60	0.33	11.36	1.23	0.32	1.05	>0.10	N.S.
7.	DLC-B	-	-	-	-	-	-	-	-	N.D.
8.	ESR	14.20	13.73	0.47	3.29	4.37	1.13	0.41	>0.10	N.S.

DISCUSSION

Maximum no. of patients i.e. 11 were in the age group of 20-25yrs, this incidence of age manifests that disease mainly affects the reproductive age group as the period is of greater sexual activity, child birth, abortions, trauma on cervix and infection. Maximum no. of patients i.e. 15 were multiparous women, observation related to parity shows that the incidence of the disease increases with the parity because during child birth there is more chances of development of cervical erosion due to Akalevahamanaya explained Maximum no. of patients i.e. 28 were having normal (Vaginal) mode of delivery This observation strongly favours Acharya Charaka, according to whom 'Akalevahmanya' is the main etiological factor responsible for the disease. All patients were having complain of vaginal discharge.

DRUG DISCUSSION

Looking into the pathogenesis of cervical erosion it become clear that the Ayurvedic treatment having the properties of lekhana, sodhana, ropana, stambhana, kaphaghna can effectively cure this disease. with this background kshara i.e. Apamarga Kshara(S.S.Su.-11/5) and Jatyadi taila pichu (B.P.M.K.- 47/90-95) is used for the treatment of this disease.

Probable mode of action of Kshara

From the treatment point of view i.e. Kaphahara Chikitsa, Kshara has property of Kaphahara due to its Usna Virya, Katu Vipak, Katu rasa (mainly) and laghu, tikshna guna.

Kshara it self is chedana, bhedan, sosahana, lekhnaya karma by its tiksna, usna, laghu guna. Due to its chedan, lekhan karma it was able to destruct the columnar epithelium without developing any complication like profuse vaginal discharge.

Chemical analysis of Kshara

The apamarga kshara was found strongly alkaline in reaction (pH = 10.44) and hygroscopic. It was analysed for identifying the inorganic acid and basic radicals and pH of a water suspension. The result of this study were pH = 10.44, acid radicals as CO_3^{2-} , SO_4^{2-} , Cl^- , phosphate as P_2O_5 and basic radicals Ca^{++} , Mg^{++} , Na^+ , K^+ , Fe^{+++} etc.

As its strong alkaline nature (pH = 10.44) was responsible for its corrosive action i.e. destruction (slough off) of columnar epithelium, after destruction of this epithelium re-epithelisation of squamous epithelium occurred easily.

Probable mode of action of Jatyadi Taila Pichu

The classical drug '*Jatyadi Taila*' is one of the best drugs of Ayurveda, advised for local application in the management of *vrana*. *Acharya Bhavmishra* has described this oil for the management of all kinds of *vrana* in *Bhavprakashya Madhyama Khand* in chapter 47, '*Vranashothaadhikaar*.' Describing the effectiveness of this oil *Acharya* mentions that with the use of this oil necrosed and dead tissue (*Dushta mamsa*) is removed and finally the wound is healed by virtue of its *shodhana* and *ropana* properties.

In Ayurveda science looking into the pathogenesis of this disease and ayurvedic treatment of karnini yonivyapada the kaphahara chikitsa with kshara which have property of lekhanaya, shodhana, ropana, stambhana, kaphghna and so many properties and Jatyadi taila which have property of vatashamak, shlesmhara, mansapkarshana, shodhana and ropana and its base is Tilataila so it has property of yonivishodhana. All these properties facilitate destruction of columnar epithelium and facilitate the growth of new healthy stratified squamous epithelium on ectocervix.

DISCUSSION REGARDING TOTAL EFFECT OF THERAPY

After the application of apamarga kshara the colour of erosion was changed to dark violet in colour probably due to vasoconstriction and death of superficial cells of columnar epithelium.

Re-epithelization of healthy squamous epithelium begins earlier in group I in comparison to group II the basis was same that as soon as the destruction of columnar epithelium occurs re-epithelisation of squamous epithelium occurs earlier. And in group I after kshara karm used of jatyadi taila pichu probably provide lubrication and ropan karma by its own properties.

During the trial it was observed that pattern of healing of erosion was centripetal i.e. towards the external os. Healing / reepithelization started earlier with the use of Apamarga kshara and jatyadi taila pichu simultaneously (by the end of 1st week) and was completed with 4-6 weeks in group I while in case of group II (jatyadi taila pichu) it was continuous even after 6 weeks.

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