

**RANDOMISED CONTROLLED CLINICAL STUDY OF KUSHTADI YONI VARTI ON CERVICAL EROSION****Sindhu Umesh<sup>1</sup>, Jayasudha G. C<sup>2</sup>, Ramesh M<sup>3</sup>**

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**Article Received:**26/10/2021 - **Peer Reviewed:**07/11/2021 - **Accepted for Publication:**08/11/2021**ABSTRACT**

Cervical Erosion may present with symptoms like vaginal discharge or serious problems of female infertility and thus gains importance in the gynaecological practice<sup>1</sup>. This entity is correlated with *GarbhashayaMukhaGata Vrana* (GGV), of *Vatakaphaja* variety. In the present study, *Kushtadi YoniVarti* (KYV)<sup>2</sup> is proposed as a local treatment for Cervical Erosion. The present study has two groups: Group A:30 patients, were treated with *Kushtadi Yoni Varti*, followed by *Sukhoshna Jala Prakshalana* for 7 consecutive days. Group B:30 patients were advised with *Pathya* and *apathy* for 7 days. The Follow up for both groups were on 14<sup>th</sup> Day and 21<sup>st</sup> Day. The results were analysed statistically with paired and unpaired t-test. On comparing the two groups, it was found that the efficacy of treatment in Group A was better than the efficacy of treatment in Group B with reference to amount and odour of discharge, appearance and degree of erosion.

**Keywords:** Cervical Erosion, *Kushtadi Yoni Varti*, *GarbhashayaMukhaVrana*, PAP Smear.

## INTRODUCTION

The unopposed oestrogen in females leads to the destruction of squamous epithelial tissue of the cervix and replacement by columnar epithelial tissue resulting in Cervical Erosion which is clinically evident by excessive mucoid discharge per vagina. With reference to the physical signs and symptoms exhibited by this pathological process, it can very well be correlated to the concept of *Vatakapahaja Vrana* characterized by *Shweta*, *Pichchila Srava* simulates to the specific symptom of white mucoid discharge per vagina in the case of Cervical Erosion. *Karnini Yoni Vyapat* is the clinical correlation. The local vaginal treatments which are more effective and act faster are more preferred due to the ease of use. Thus, *Kushtadi Yoni Varti*, mentioned in *Karnini Yoni Vyapat*, which is *Vata Kapahaja* was selected for the treatment of Cervical erosion.

### OBJECTIVE

1. To evaluate the efficacy of *Kushtadi Yoni Varti* in Cervical Erosion.
2. To study the mode of action of *Kushtadi Yoni Varti* on Cervical Erosion

### METHODOLOGY

This clinical study was carried out on 60 patients who attended the OPD and IPD sections of *Prasooti Tantra* and *Stree Roga* Department, SKAMCH &RC, Bangalore.

#### Inclusion criteria

- Diagnosed cases of Cervical Erosion
- Married female patients between the age group of 18-45 yrs.

#### Exclusion criteria

- Pregnant women
- Puerperal erosion
- Local pathology of the cervix interferes with the treatment.
- Systemic disorders which interfere with the course of treatment

#### Assessment criteria with gradation.

Signs and symptoms will be assessed using the following parameters along with grading from 0 to 3

## ASSESSMENT CRITERIA

### Subjective Criteria:

1. *Yoni Srava* / (Vaginal Discharge)
2. *Gandha* of *Srava* (Odour of Discharge)
3. *Yoni Kandu* (Vaginal Itching)
4. Low back pain (*Kati Shoola*)
5. Lower abdominal pain
6. Burning micturition
7. Dyspareunia-

### Objective Criteria: -

1. Amount of Discharge
2. Odour of discharge
3. Evidence of pruritis
4. Cervical Tenderness
5. The extent of Erosion (% Scale system)
6. Appearance of Erosion
7. Degree of Erosion
8. Bleeds on touch

### Investigations

- Blood –Hb%, TC, DC, ESR, RBS
- Urine examination (Albumin, Sugar, Micro)
- Vaginal pH
- Pap smear
- Urine Pregnancy Test (UPT), (in patients with h/o amenorrhoea)

### STUDY DESIGN

A controlled clinical study with pre-test and post-test analysis was conducted on 60 randomly assigned patients with signs and symptoms of Cervical Erosion.

**INTERVENTION** Diagnosed patients were randomly assigned into two groups.

**Group A:**30 diagnosed patients with Cervical Erosion, were treated with *Kushtadi YoniVarti*, following all aseptic measures, followed by *Sukhoshna Jala prakshalana* for 7 consecutive days. (*Varti* was administered in the posterior fornices of the Vagina for 2 hours each day, starting from the 7<sup>th</sup> day of the menstrual cycle for 7 days.)

**Group B:**30 diagnosed patients of Cervical Erosion advised with *Pathya* and *Apathya* for 7 days

#### For Both Groups:

Pre-Test- 1<sup>st</sup> Day

Post Test- 7<sup>th</sup> Day

Follow up 14<sup>th</sup> Day and 21<sup>st</sup> days.

### OBSERVATIONS

The data recorded are presented under the following criteria:

- Rogi Pareeksha
- Roga Pareeksha
- Prayoga Shaala Pareeksha (PAP Smear)

<b>Rogi Pareeksha</b>		<b>Roga Pareeksha</b>	
Age group of 18- 26 yrs.	50%	<i>Kaphakara nidana</i>	56.66%
Mixed diet	75%	White mucoid discharge	90%
Consuming <i>madhura rasa</i>	48.33 %	Nebothian Follicle	60%
<i>Abhishyandi ahara</i> like curd daily	65%	<i>Kandu</i>	50%
<i>Divaswapna</i> .	56.66%	The extent of erosion in 50% of patients	26 – 50%
<i>Kapha vata Prakruti</i>	38.33%	The appearance of erosion in 50% of patients	Degree 2
Multigravida	80%	Degree of erosion in 70% of patients	Degree 2
FTND	65%	<b>Prayoga Shaala Pareeksha</b>	
Intercourse 3 to 4 times per week	50%	Changes in cellular Pattern	78.34%

### RESULTS

The study showed highly significant results among patients in Group A in terms of relief in amount and odour of discharge, itching, Low backache and lower abdomen pain, Cervical tenderness, appearance and degree of erosion. The study showed just significant results in Group B in terms of amount and odour of discharge, Low backache and lower abdomen pain

and non-significant result in Cervical tenderness, appearance and degree of erosion. On comparing the two groups, it was found that the efficacy of treatment in Group A was better than the efficacy of treatment in Group B with reference to amount and odour of discharge, appearance and degree of erosion.

### Statistical Results Within groups and Between 2 groups

Subjective Criteria					
			Group A	Group B	B/w Grp A –Grp B
1.	<i>Yoni Srava</i> (Vaginal Discharge)	T value	17.02	2.44	8.56
		P Value	<0.001	<0.05	<0.001
		Result	HS	JS	HS
2.	Odour of discharge	T value	4.11	2.17	3.8
		P Value	<0.001	<0.01	<0.001
		Result	HS	JS	HS
3.	Vaginal itching	T value	3.66	1.6	1.58
		P Value	<0.001	<0.1	<0.1
		Result	HS	NS	NS
		Result	JS	JS	NS
Objective Criteria					
1.	Amount of Discharge	T value	4.6	2	1.1
		P Value	<0.001	<0.1	<0.1
		Result	HS	NS	NS
5.	Extent of Erosion	T value	3.28	0.87	0.86
		P Value	<0.05	<0.1	<0.1
		Result	JS	NS	NS

6.	Appearance of Erosion	T value	7.5	1.11	4.2
		P Value	<0.001	<0.1	<0.001
		Result	HS	NS	HS
7.	Degree of Erosion	T value	7.5	1.18	4.6
		P Value	<0.001	<0.1	<0.001
		Result	HS	NS	HS
8.	Bleed on Touch	T value	3.32	0.6	0
		P Value	<0.5	<0.1	<0.1
		Result	JS	NS	NS

## DISCUSSION

### 1. Discussion on the Disease

The entity of Cervical Erosion is compared to *Garbhashaya Mukha Vrana* as mentioned earlier. The etymology of *Vrana* goes as, “*Vrana gatra vichurnane*”<sup>3</sup>. This means any pathology causing *vichurnana*, i.e., the denudation or destruction of the part of the body is taken as *Vrana*. This is similar to

the pathology of Cervical Erosion characterized by denudation or destruction of Squamous epithelium and replacement by Columnar Epithelium. Further, the following correlation establishes the type of *vrana* w.r.t Doshha and the Dhatu, and accordingly, **Cervical erosion** is Correlate to *Vata Kaphaja*<sup>4</sup> – *Mamsa gata Garbhashaya Mukha Vrana*<sup>5</sup>

<i>Vatakaphaja Garbhashaya Mukha Varana Lakshanas</i>		<i>Mamsa gata Vrana Lakshanas</i>
<i>Lakshanas due to Vata</i>	<i>Lakshanas due to Kapha</i>	
<i>Aruna Varna Vrana, Vedana in the Kati – Udara, Maithun Asahishnuta.</i>	<i>Shukla Sheeta, Guru, Paandu, Pichchila, Kandu Yukta Srava</i>	<i>Sandra, Shweta, Pichchila, Sarpiprakasha Srava.</i>

2. **Discussion on the Procedure and mode of action:** *Yoni Varti* is one among the *Bahirparimarjana Chikitsa* Indicated for *Twak* and *Mamsagata Rogas*. to bring about the desired therapeutic action, directly targeting the site of pathology. Suppositories form a major part of the Vaginal Drug Delivery System (VDDS)

**Vaginal Drug Delivery System (VDDS):** The vagina, unlike other systems like buccal or gastrointestinal, is highly dynamic with respect to its physiology

3. **Discussion on the Drug and its mode of action:** C.E considered to be a *Vatakaphaja Vrana*, needs *Ushna-Teekshna* and *Agneya Guna Dravya* to combat its *Doshas*. The drug selected for the study is the *Kushtadi Yoni Varti*. The *Churnas* of *Kushta, Arka, Pippali, Saindhava lavana* is given *Bhavana* with *Aja Mutra*, made into *Varti* and used after being dried under shade.

Drugs	<i>Pradhana Karma</i>	
	<i>Doshagnata</i>	<i>Rogagnata</i>
<i>Kushta</i> <sup>6</sup>	<i>Vatakaphahara</i>	<i>Vrana, Kandu Kotha-pidakanasha</i>
<i>Arka</i> <sup>7</sup>	<i>Vatahara</i>	<i>Krimi hara, Vranashodana</i>
<i>Pippali</i> <sup>8</sup>	<i>Vatakaphahara</i>	<i>Shoolahara.</i>
<i>Saindhava Lavana</i> <sup>9</sup>	<i>Vatakaphahara</i>	<i>Vranahara, Udara, shulahara</i>
<i>Aja Mutra</i> <sup>10</sup>	Tridosahara specifically <i>Vatakaphahara</i>	<i>Krimi hara</i>

**Samprapti Vighatanaby active principles of Drugs**

Active Principle	Mode of Action	Result
Tannin	Coates the orifices of mucous secreting glands, reducing its secretion	Stypticaction
Cynaropicrin, saussurine, uscherin, amyryn, piplasterol, Essential minerals	Inhibit TNF $\alpha$ from lipopolysaccharide-, inhibit nitric oxide production in lipopolysaccharide.	Anti-Inflammatory
Aromatic oils, giganteol, calotropin, piperin, piplartine	Affect the cell wall synthesis and cell membrane function of microbes and ultimately affect their survival.	Anti-microbial, Anti-bacterial
Costunolide, calotoxin, piperine	Peripheral inhibition of prostaglandin synthesis.	Analgesic

Tannin<sup>11</sup>, one of the major components of *Kushta*, being a phenolic functional group produces tannic acid which coats the orifices of mucous secreting glands, reducing its secretion, thus bringing about styptic action. Cynaropicrin and saussurine of *Kushta*,<sup>12</sup>Uscherin and amyryn of *Arka*,<sup>13</sup>Piplasterole and sesamin of *Pippali*,<sup>14</sup>Essential minerals of *Saindhava Lavana* and *Ajamutra* are anti-inflammatory. They act by inhibiting TNF  $\alpha$  from lipopolysaccharide-stimulated murine macrophage and also inhibit nitric oxide production in lipopolysaccharide activated murine macrophages.<sup>15</sup>Aromatic oils of *Kushta* and *Pippali*, giganteol of *Arka* are antimicrobial. Calotropin of *Arka*, Piperine and piplartine of *Pippali*, essential minerals of *Saindhava Lavana*, Uric acid levels of *Aja mutra* act as antibacterial, by affecting the cell wall synthesis and cell membrane function of microbes, which ultimately affect their survival. Thus, the main action of the active principles of *Kushtadi Yoni Varti* are anti-inflammatory (combats primitive cell pathology), Styptic, anti-microbial, anti-bacterial, analgesic), thus helping in healing of erosion.

**4. Discussion on Observations**

The age group 18 – 26 years is the period when the woman is sexually most active as well as inactive childbearing age fluctuating levels of oestrogen is a peak in the reproductive age. <sup>1</sup>Non-vegetarian food, *Madhura* Ahara and curd intake and *Diwaswapan* causes *Kapha* Vriddhi and *Agnimandya*, aggravating the condition. Most of the patients were of *Kaphavata Prakruti*, establishing the fact that they are more prone to *Kapha Vataja* disorder. 90% of patients were multigravida, Majority had FTND and more frequent intercourse. So, a greater number of deliver-

ies make a female more prone to suffer from repeated vaginal infections. Repeated p/v examination, intrusion by instruments, unsterile conditions around the lady during the time of delivery, intercourse lead to Extensive intrusion of the vagina and cervix and result as a potential cause for Pathology. Thick–white mucoid discharge is a typical nature of discharge in cases of Cervical Erosion and the *Vata kaphaja Vrana*.

**5. Discussion on Results**

The Highly significant effect of the treatment in Group A is due to the *Doshaghnata* and *Rogaghnata* of the *Dravyas* of *Varti*. The Kashaya rasa of *Aja Mutra Exhibitsstambhana*, *Sangraha*, *Shoshana*, *Kledashoshaka* and *Kaphanashaka* properties which along with, *Ruksha Guna* of *Kushta* and *Arkaare* responsible for relief from *Srava*. The high content of Tannins in *Ajamutra* helps in the reduction of excess discharge. The cause of *Dourgandha* or foul smell can be attributed to increased cell debris secondary to inflammation in the vaginal area. The *Tikshna*, *Ushna Guna* of *Kushta* and *Arka* brings about *Lekhana* of this debris. *Kushta* and *Pippali* predominantly contain aromatic oil, which prevents the possibility of thriving micro-organisms and thus helps in reducing the offensive odour in the vaginal environment.

The *Kleda Pradhyanya* and *Snigdhatta* of the *Yoni Srava* are mainly responsible for the *Lakshana* of *Kandu*. The *Katu Rasa* of *Kushta*, *Arka* and *Pippali* and *Ruksha – Tikshna –Ushna Guna* of *Kushta* and *Arka* are responsible for *Shoshana* of *Srava* and thereby reduce the *Kledatva* and *Snigdhatta* of *Srava*. This ultimately brings about relief from *Kandu*. The sesame and the piplartine active principles of *Pip-*

*pali* brings about the scarifying action and reduce the moisture content in the vaginal discharge and thus relieving itching sensation. *Katishoola* and *Udara shoola* are a direct result of chronic or persistent irritation of the cervix caused by excessive vaginal discharge. The referred pain from the cervical area or due to cervical irritation is perceived at the lower back region or upper and lower sacral vertebral area. So, when the *Srava* is reduced, the persistent irritation to the cervix also resolves, further resolving *Katishoola* and *Udara Shoola*. The exclusive *Shoola Hara* action of *Pippali* as told in the classics substantiates the relief from cervical tenderness. Accordingly, piperine acts as a local analgesic. *Vrana Hara* action of *Kushta* and *Saindhava* along with *Vrana Shodhana* brought in by *Arka* contributes towards reducing the degree of erosion. The Exfoliation of Epithelial cells helps in reversing the *Samprapti*.

The significant result in group B is due to the effect of *Nidana Parivarjana* in terms of *Ahara* specifically.

## CONCLUSION

*Kushtadi Yoni Varti*, a *Sthanika Chikitsa* modality has a highly significant effect in the treatment of Cervical Erosion. This Clinical trial has to be done on a large population for the establishment of the efficacy.

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