A COMPARATIVE CLINICAL STUDY ON THE EFFICACY OF PALASHA KSHARA AND TANKANA IN KARNINI YONI VYAPAT (CERVICAL EROSION)

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ABSTRACT

Introduction: Cervical erosion is one of the very common gynaecological ailments of women of active reproductive age. While considering symptomatology and treatment, the disease cervical erosion simulates Karnini yonivyapat described in Ayurvedic classics. Objective: The objectives of the study are 1. To evaluate the effect of Tankana bhasma application in Karnini Yonivyapat (Cervical erosion). 2. To evaluate the effect of Palasha kshara application in Karnini Yonivyapat (Cervical erosion). 3. To compare the effect of Tankana bhasma and Palasha kshara in Karnini Yonivyapat (Cervical erosion).

Materials and methods: A total 32 patients were registered and divided in two groups viz group A (Tankana bhasma) and group B (Palasha kshara). Out of them 31 patients completed the course of treatment. Kshara application was done only one sitting, after the menstrual bleeding stopped. First follow up was taken on 7th day and second follow up on 30th day. Results: For statistical analysis, Friedman test, Wilcoxon Signed Rank test and Man Whitney U test were done for different subjective and objective parameters. There was statistically significant improvement observed in the Signs and Symptoms of cervical erosion in both the groups. Conclusion: In group A, Tankana bhasma has shown highly significant effect in relieving the symptoms of cervical erosion. In Group B, Palasha kshara has also shown highly significant effect in relieving the symptoms of cervical erosion. Statistical analysis between the groups did not show any significant difference between efficacies of the drugs.

Keywords: Ayurveda, Karnini Yoni Vyapat, Kshara, Tankana bhasma, Palasha kshara, Cervical erosion.

INTRODUCTION: Cervical erosion is a common condition seen in most of the women and in all the age groups. It is a condition where the squamo columnar epithelium of the ecto cervix is replaced by columnar epithelium which is continuous with endocervix. Most common treatment used according to modern science is cauterization and cryosurgery. Cauterization is the known treatment for cervical erosion. It is proved that the effect of cauterization is temporary one and the chances of the recurrence of the disease are high. The complications which have been described after cauterization of the cervix are haemorrhage, pelvic infection and atresia or stenosis of the cervical canal (Dell 1938; Henkin 1937 and others). Certain studies states that during cauterization most patients experienced aching lower abdominal
pain similar to that of which they had previously complained. The cervical erosion simulates mostly with Karmini yonivyapat described in ayurvedic classics, where kshara karma is one of the treatment modality explained\textsuperscript{3,4}. An attempt is made to apply principles of ayurveda in resolving the problem of cervical erosion. Clinically the development of reddened area on the portio vaginalis around the external os is seen in cervical erosion. Cervical erosion as such is not an ulcer and it will never ulcerates unless it turns into malignancy. In cervical erosion there is no loss of surface tissue from the cervix, but cervical ectopy may become a gateway for chlamydia, gonococci, herpes simplex virus. There are many studies done on various parasurgical procedures in cervical erosion\textsuperscript{4,5,6,7}. Present study was aimed at modulating a method of treatment and its effectiveness, which impart cure to the condition without any side effects. Many methods are available in the classics both in the form of shodhana as well as shamana. Keeping all these things in view, the drugs as well as the procedure were selected. Kshara karma is found to give good results in cervical erosion. Palasha kshara is mentioned as kshara shreshtha by shodhal nighantu and tankana bhasma is mentioned under kshara varga in rasatarangini. Thus these are used for external application over eroded area. Hence, in this study, an effort was made to reduce the signs and symptoms of cervical erosion and associated symptoms such as vaginal discharge, low back ache, lower abdominal pain etc by application of kshara. It was conducted as an interventional study with comparison of the effects before and after the study.

**MATERIALS AND METHOD:** 32 patients who fulfill the inclusion criteria were selected from outpatient department and inpatient department of Prasuti Tantra evam Stree Roga Department of SDM College of Ayurveda and Hospital, Hassan. The Ethical Clearance for the study was obtained from Institutional Ethical Committee. The informed consent and specifically designed case proforma were prepared.

**AIMS AND OBJECTIVES**
- To evaluate the effect of Tankana bhasma application in Karmini Yonivyapat (Cervical erosion).
- To evaluate the effect of Palasha kshara application in Karmini Yonivyapat (Cervical erosion).
- To compare the effect of Tankana bhasma and Palasha kshara in Karnini Yonivyapat (Cervical erosion).

Patients were diagnosed as per diagnostic criteria of Cervical Erosion which included:
- Detection of erosion by per speculum examination
- Associated with any of the following -
  - Vaginal discharge
  - Vulval itching
  - Low back pain
  - Lower abdominal pain.

**Exclusion criteria**
- Pregnant women
- Cervical polyps
- Carcinoma of cervix
- Patients suffering from sexually transmitted diseases
- Other systemic disorders like uncontrolled Diabetes mellitus.
Investigations
Routine hematological, including hemoglobin, total count, differential count and ESR were carried out in all patients. Mainly Pap smear test was done to rule out major illness like CA Cervix.

Trial drugs: Palasha Kshara- Palasha kashtha was taken in an iron vessel and subjected to fire till it turns into bhasma. That bhasma was taken in a vessel and six times water was added in it and mixed well. The vessel was kept still for overnight. Then the contents of vessel were filtered with a three times folded cloth. The procedure was repeated for 21 times. The obtained filtrate was heated over moderate flame. When the consistency of filtrate changed to semi solid and when the water content was evaporated, it was kept under sun to dry. Then the kshara which was collected at the bottom of the vessel was taken and stored in an air tight container.

Tankana Bhasma- Tankana is taken and powdered. Then it is put into an iron vessel. Thereafter it is heated on a medium flame and stirred well continuously. When the water content of the powder is evaporated, tankana blossoms up. Then it is taken off the heat source and allowed for swangasheeta. Thereafter it is powdered and stored in an air tight container.

Grouping: A total of 32 patients were randomly grouped into A and B. Group A (n=16) received treatment with Tankana Bhasma and Group B (n=15) received treatment with Palasha Kshara.

Intervention (Treatment Plan)
The selected patients were subjected to Ksharakarma.

Purva karma- Vaginal examination was performed to note condition of Vulva, Vagina, Cervix, Size, consistency, position, mobility of the uterus and adenexe. Ushnajala for yoni prakshalana particularly before kshara karma.

Pradhana karma – After the yoni prakshalana was done, the cervix was exposed with the help of Cusco’s speculum. The affected part was to be rubbed with the help of gauze piece till it reaches the point of laceration. The Kshara was applied over the affected area with the help of a cotton swab. It was allowed to be in place till pakwajambu phalavarna was observed. Then the kshara was removed and the area was wiped with cotton swab dipped in nimbu swarasa.

Pashchat karma - The surrounding tissues were examined carefully to any untoward effects, like irritation or sign and symptoms of inflammation or any discomfort to the area. Thereafter yashtimadhu taila pichu was applied over the treated part and covered with sterile gauze piece. Pichu was changed twice daily .Yoni pichu was kept twice daily every day for 7 days.

Duration of study
- Application of kshara – once after the menstrual bleeding completed
- Ushna jala prakshalana and yashtimadhu taila pichu twice daily for 7 days
- First follow up – at 7th day
- Second follow up – at 30th day

Assessment criteria
The effect of therapy was assessed on the following signs and symptoms by assigning self-graded score in terms of relief observed in amount of yonisrava, yonikandu, katishula and udarashula condition of erosion – extent, appearance, degree of erosion.

Statistical analysis
Obtained data were statistically analyzed using Friedman’s test, Wilcoxon signed rank test with Bonferroni correction, and Mann Whitney U test.

**OBSERVATIONS AND RESULTS**

<table>
<thead>
<tr>
<th>AGE</th>
<th>FREQUENCY</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-22 yrs</td>
<td>2</td>
<td>6%</td>
</tr>
<tr>
<td>22-26 yrs</td>
<td>4</td>
<td>13%</td>
</tr>
<tr>
<td>26-30 yrs</td>
<td>6</td>
<td>19%</td>
</tr>
<tr>
<td>30-34 yrs</td>
<td>10</td>
<td>31%</td>
</tr>
<tr>
<td>&gt;34 yrs</td>
<td>10</td>
<td>31%</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>SOCIO ECONOMICAL STATUS</th>
<th>FREQUENCY</th>
<th>PERCENTAGE</th>
</tr>
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<tbody>
<tr>
<td>Middle class</td>
<td>4</td>
<td>12%</td>
</tr>
<tr>
<td>Lower middle class</td>
<td>23</td>
<td>72%</td>
</tr>
<tr>
<td>Poor</td>
<td>5</td>
<td>16%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NO. OF DELIVERIES</th>
<th>FREQUENCY</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nullipara</td>
<td>1</td>
<td>3%</td>
</tr>
<tr>
<td>1</td>
<td>9</td>
<td>28%</td>
</tr>
<tr>
<td>&gt;= 2</td>
<td>22</td>
<td>69%</td>
</tr>
</tbody>
</table>

**Effect of therapy on Subjective parameters:** In Group A, 75% cases got reduction in *yonisrava* whereas in Group B, 100% cases got reduction in *yonisrava*. In Group A 100% cases got reduction in *yonikandu*, whereas in Group B, 100% cases got complete relief from *yonikandu*. On comparing the effect on *katishula*, in Group A, 87% cases got reduction and in Group B, 92% cases got reduction. Comparing the effect on *udarashula*, in Group A, 81% cases got reduction whereas in Group B, 80% cases got reduction. In Group A, 87% cases got reduction in severity of cervical tenderness and in Group B, 86% cases got reduction.

**Effect of therapy on Objective parameters**

Reduction in area of erosion was seen in 50% of cases in Group A and in 74% of cases in Group B. Appearance of erosion was improved in 87% of cases in Group A and in 86% of cases in Group B. In Group A, overall improvement in the condition of erosion was observed in 75% cases whereas in Group B overall improvement was observed in 94% of cases.
RESULTS: The most important parameter for assessing the efficacy of the drug was decrease in the extension of cervical erosion, together with the decrease in the severity of associated complaints. For the purpose of comparison of the efficacy before and after treatment, the complaints were converted into scores in the following manner. The obtained results were statistically analyzed using SPSS VER. 20. Completed 31 patients were taken for statistical analysis excluding the drop outs (1). Friedman’s test was used to analyze the significance of change. Wilcoxon signed rank test was done with Bonferroni correction on parameters which show significance in friedman’s test, to interpret the time of significant change. Mann Whitney U test was done to compare the outcome between two groups.

1. TANKANA BHASMA

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Bt mean rank</th>
<th>At 7th day mean rank</th>
<th>At 30th day mean rank</th>
<th>Chi sq. Value</th>
<th>Asymp. Sig.</th>
<th>Remarks</th>
</tr>
</thead>
</table>

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### 2. PALASHA KSHARA

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Bt mean rank</th>
<th>At 7th day mean rank</th>
<th>At 30th day mean rank</th>
<th>Chi sq. Value</th>
<th>Asymp. Sig.</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yonisrava</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>HS</td>
</tr>
<tr>
<td>Yonikandu</td>
<td>2.37</td>
<td>1.93</td>
<td>1.70</td>
<td>10.300</td>
<td>0.006</td>
<td>S</td>
</tr>
<tr>
<td>Katishula</td>
<td>2.60</td>
<td>2.07</td>
<td>1.33</td>
<td>19.158</td>
<td>0.0000</td>
<td>HS</td>
</tr>
<tr>
<td>Udarashula</td>
<td>2.47</td>
<td>1.97</td>
<td>1.57</td>
<td>13.556</td>
<td>0.001</td>
<td>HS</td>
</tr>
<tr>
<td>Cervical tenderness</td>
<td>2.80</td>
<td>1.93</td>
<td>1.27</td>
<td>23.130</td>
<td>0.000</td>
<td>HS</td>
</tr>
<tr>
<td>Area of erosion</td>
<td>2.43</td>
<td>2.27</td>
<td>1.30</td>
<td>19.824</td>
<td>0.000</td>
<td>HS</td>
</tr>
<tr>
<td>Appearance of erosion</td>
<td>2.77</td>
<td>2.03</td>
<td>1.20</td>
<td>23.532</td>
<td>0.000</td>
<td>HS</td>
</tr>
</tbody>
</table>

### 3. BETWEEN THE GROUPS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Mann-Whitney U</th>
<th>Wilcoxon W</th>
<th>Z</th>
<th>Asymp. Sig. (2-tailed)</th>
<th>Exact Sig. [2*(1-tailed Sig.)]</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yonisrava</td>
<td>86.500</td>
<td>206.500</td>
<td>-1.294</td>
<td>0.196</td>
<td>0.285</td>
<td>NS</td>
</tr>
<tr>
<td>Yonikandu</td>
<td>105.000</td>
<td>225.000</td>
<td>-1.000</td>
<td>0.317</td>
<td>0.775</td>
<td>NS</td>
</tr>
<tr>
<td>Katishula</td>
<td>110.500</td>
<td>230.500</td>
<td>-0.093</td>
<td>0.926</td>
<td>0.935</td>
<td>NS</td>
</tr>
<tr>
<td>Udarashula</td>
<td>78.500</td>
<td>198.000</td>
<td>-1.765</td>
<td>0.078</td>
<td>0.161</td>
<td>NS</td>
</tr>
<tr>
<td>Cervical tenderness</td>
<td>82.500</td>
<td>202.500</td>
<td>-1.466</td>
<td>0.143</td>
<td>0.217</td>
<td>NS</td>
</tr>
</tbody>
</table>
Overall effect of therapy: Both the groups showed highly significant results within the areas of erosion. To analyze which group has got more significant results Mann-Whitney test was applied, which showed no significant difference (p>0.05) between the groups. Both are equally effective statistically. But when we observed clinically, in overall grading of erosion, palasha kshara exhibited better results by acting on yonisrava, appearance of erosion and the shula by its tiksna, ushna and faster healing property.

DISCUSSION: Ayurvedic medicine has unique features and it emphasizes on the promotion of positive health and prevention of disease. Kshara is a better treatment for cervical erosion because of its lesser side effects\textsuperscript{10,11}. According to Susruta, kshara itself is chedan, bhedan, shoshan, lekhaniya karma by its tiksna, usna and laghu guna\textsuperscript{12}. The drugs having katu rasa, laghu, tiksna, usna, virya rasa and katu vipaka corrects kapha dusti. Kshara has various qualities\textsuperscript{13}. Kshara because of its ushna virya, does the kaphavata nirharana, which inturn reduces the pain or cervical tenderness and it also does the pachana which accelerates the phase of paka and thus reducing the inflammation in lesser time. Because of its tiksna, usna and laghu guna, it does the kapha nissarana which helps in reducing the yonisrava and yonikandu which are pure kapha conditions. Finally because of its main property of lekhana, it does the dushita mamsa haran. This can be correlated to strong alkaline nature which is responsible for is corrosive action i.e. destruction of columnar epithelium, after destruction of this epithelium re-epithelisation of squamous epithelium occurs. Also it removes the vitiated doshas which enhances the healing process. Kshara gives better results in chronic and recurrent cases\textsuperscript{14}.
CONCLUSION

- In group A, Tankana bhasma has shown highly significant effect in relieving the symptoms of cervical erosion. 12(75%) patients got reduction in yonisrava, 5(100%) patients got reduction in yonikandu, 13(87%) patients got reduction in katishula, 9(81%) patients got reduction in udarashula, 14(87%) patients got reduction in cervical tenderness, 8(50%) patients got reduction in area of erosion, 14(87%) patients got reduction in grade of appearance of erosion and 12(75%) patients got reduction in overall grade of erosion. It might have acted because of its kshariya rasa, ruksha-tikshna guna, ushna virya.

- In Group B, Palasha kshara has also shown highly significant effect in relieving the symptoms of cervical erosion. 15(100%) patients got reduction in yonisrava, 6(100%) patients got complete relief from yonikandu, 12(92%) patients got reduction in katishula, 8(80%) patients got reduction in udarashula, 13(86%) patients got reduction in cervical tenderness, 11(74%) patients got reduction in area of erosion, 13(86%) patients got reduction in grade of appearance of erosion and 14(94%) patients got reduction in overall grade of erosion. Probable mode of action might be because of its katu-tikta-kashaya rasa and ushna virya.

- Statistical analysis between the groups did not show any significant difference between efficacies of the drugs.

- If cost effectiveness is concerned, then tankana bhasma would be better choice. If severity is concerned palasha kshara is more efficient.

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10. Ambikaduttashastris K. Susruta samhita of Susruta, Sutra sthana; Ksharapakavidhi


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