Difficult vaginal delivery, hormonal imbalance, vaginal infections and congenital factors made women suffer from cervical erosion. In Ayurveda it can be correlated with cervical ulcer which is named as Garbhahagriyagata Vrana. In Ayurveda classics Ksharakarma is mentioned in the treatment of cervical ulcer due to its shodhana and ropana properties. Hence Ksharakarma can be very beneficial in the management of cervical erosion. No side effects were observed during this course of treatment. It is Cost effective, non operative and less invasive.
Efficacy of Yava Kshara Application in the Management of Cervical Erosion: A Case Study
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ABSTRACT

Background
Cervical erosion is one of the causative factors for vaginal discharge. Cervical erosion, a benign lesion is sometimes much troublesome due to its chronic nature and recurrence. Cauterization and cryosurgery are most common treatment for cervical erosion in modern science. As per Ayurveda classics Garbhashayagrivagatavrana can be correlated with cervical erosion. Ksharakarma is described in the treatment of Vrana. Methods Case of cervical erosion was diagnosed and selected for this case study. Yavakshara application was done for two consecutive cycles for 7 days in OPD of Prasuti Tantra and Stree Roga department.

Results
At the end of treatment ksharakarma along with internal medication resulted significant improvement in amount of discharge, color of erosion and size of erosion.

Conclusion
Topical application of Ksharakarma is effective in the management of Cervical erosion (Garbhashayagrivagatavrana). It has shown encouraging results in treating cervical erosion. No untoward reactions were observed in this case study.

KEYWORDS
Cervical erosion, Garbhashayagrivagatavrana, Yavakshara.

I. INTRODUCTION

The physiological conditions like menstruation, pregnancy, vaginal discharges and other gynaecological disorders trouble women a lot. Among which vaginal discharge is the most common factor which creates disturbances in women's freedom. Cervical erosion is a benign lesion and commonest gynaecological condition seen in the OPDs. The squamous covering of the vaginal aspect of the cervix is replaced by columnar epithelium which is usually continuous with that lining the endocervix. About 80% of cervical cancer cases are in developing countries, only 5% of women have ever been screened for cervical abnormalities.

Direct reference regarding the cervical erosion cannot be traced in Ayurveda classics. However, considering the etiopathogenesis and clinical features like discharge and erosion of cervical erosion, it can be correlated with Garbhashayagrivagata Vrana. In modern system of medicine cryosurgery and diathermy are used to destruct the columnar epithelium and facilitate the growth of new healthy stratified squamous epithelium. Various side effects like excessive mucoid discharge per vagina for a long time, sometimes cervical stenosis, accidental burns, bleeding and recurrence of the disease are associated with this treatment. Due to serious consequences of the disease, it becomes necessary to pay immediate attention towards this most troublesome disease of female. One indirect reference of Yonivrana is available in Ashtanga Sangraha in the context of "Yoni Vranekshan Yatra". Vrana which is situated on Griva of Garbhashaya is known as "Garbhashaya Grivagata Vrana". The Ayurveda management seems to be more practical, cost effective, non-surgical, and have negligible side effects. The application of Kshara is having the properties of lekhana, sodhana, ropana, stambhana, kaphaghna, can effectively cure this disease.
2. MATERIAL AND METHODS

2.1 Properties of Yavakshara
Yavakshara has properties like Tikshna, Ushna, Laghu, Chhedan, Bhedana, Lekhana, Tridoshaghatvatva, Vrisheshा kriya avcharana, Dahana, Pachana, Vilayana Darana, Vrana Shodhana and ropana, Vranakled Shoshana, Stambhana. [11-14]

2.2 Preparation of Yavakshara
Fresh and mature barley (Hordeum vulgare) plant was collected as whole (panchang) from Surat, Gujarat and then it was dried under shade. Then dried Yava Panchanga was cut into small pieces, ignited by sesame stalks (Tila) with pebbles of limestone. When it is burnt out, the ash and the slake lime was collected separately. One Drona (10.24 kg) of the ash was dissolved in six Dronas of water and filtered 21 times. It is heated on fire in a big pan, while it is slowly stirred by a ladle. When it becomes clear, red, sharp and slimy, it was filtered through a wide piece of fine cloth and the filtrate was placed again on fire after removing the separated residue.

2.3 Case report
A 28 year old woman who is house wife with marital life of 5 years attended OPD of Prasuti Tantra and Streec Roga at OH Nazar Ayurveda Hospital, Surat, Gujarat, India in August 2018 with the chief complaint of white discharge since 1½ year associated with back ache and lower abdominal pain since 1 year. Informed written consent was taken from the patient in her own language and case was recorded as per Performa.

2.4 History of present illness
Patient was apparently healthy 1½ year back. After delivery she noticed severe white discharge per vagina associated with back ache and lower abdominal pain. Patient has taken treatment at different modern hospitals and got relief but there was reoccurrence of symptoms like white discharge, itching at vulval region at certain intervals. After 2 months she approached the hospital for further treatment.

2.5 History of past illness
Patient had complained that she had suffered from the white discharge and per vaginal itching three years back. No abnormalities like fungal infection, STD was found in her partner.

2.6 Personal history
Patient was vegetarian who is having good appetite. Her bowel and micturition habits were regular and sleep was sound.

2.7 Menstrual history
Patient has regular menstruation with duration of 5 days with the interval of 28 to 30 days with moderate quantity of menstrual blood.

2.8 Obstetrical history
She has 1 child normally delivered at hospital through vagina with the age of 1½ year. The delivery was conducted by obstetrician and mid wife. No history of abortion, still born or death was found.

2.9 Ashtavidhapariksha
All the parameters like Nadi, Mala, Mootra, Jihwa, Shabda, Sparsha, Drika, Aakriti were found to be normal.

2.10 Dashavidhaparicchaksha
The patient was having Vatakaphaprakruti and vikruti of kaphadosha. Rest of the parameters like sara, samhanana, pramana, satmya, satva, aharashakti, vyayama shakti, and vaya were found to be normal.

2.11 General examination
On examination general condition of the patient was stable.

2.12 Systemic Examination
Systemic examination was found to be normal with no abnormalities.

2.13 Local examination
Per speculum: Cervix – hypertrophied with erosion around cervical OS of 2nd degree. Watery white discharge ++, vaginal walls appears healthy. Bimanual examination - Anteverted uterus, no lump or tumour felt at fornices, non tender on cervical motion.

2.14 Investigation
Hb - 11.2 gms%, RBS - 88 mg/ dl, Ultrasoundography - Normal, Urine for routine and microscopy – Normal, Pap’s Smear report - Mild inflammatory changes.

2.15 Treatment
Main line of Treatment: As per the classics the Vrana (ulcers) can be treated by pradeha, parisechana, langhan and pachana kind of treatment modalities.[15]

Sthanikchikitsa: Yavakshara application was done at eroded part of cervix from 6th to 12th day of cycle for 2 consecutive cycles. During the period of application of yavakshara the patient was advised oral medicaments named pushyanug churna 3g twice a day mixed with tandalodaka (rice water) and honey, and chandraprabhavati 2 tablets twice a day with warm water.

Procedure: Under all aseptic measures, with empty bladder patient was made to lay down in supine position, vulval hair clipping and toileting done. Couscous speculum was inserted in to the vagina. Cervix was exposed and cleaned with gauze piece. Eroded area was exposed well. Then 2 gm yavakshara was applied on eroded area for 15 to 20 minutes. After that yavakshara was cleaned with lemon juice.

3. RESULTS
Results were assessed on the bases of change of color, reduction in the size of eroded part. Per vaginal discharge was assessed through history taken at the day of visit.
### Table 1. Improvement in Cervical Erosion

<table>
<thead>
<tr>
<th>SN</th>
<th>Days</th>
<th>Appearance of cervix &amp; Percentage of Healing</th>
<th>discharges per vagina</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1st day</td>
<td>Pink and eroded</td>
<td>+++ (Severe)</td>
</tr>
<tr>
<td>2</td>
<td>10th day</td>
<td>Light pink-40% (Healed)</td>
<td>++ (Mild)</td>
</tr>
<tr>
<td>3</td>
<td>30th day</td>
<td>Light pink-80% (Healed)</td>
<td>+ (Mild)</td>
</tr>
<tr>
<td>4</td>
<td>60th day</td>
<td>Normal appearance-100% (Healed)</td>
<td>No white discharge per vagina</td>
</tr>
</tbody>
</table>

### 4. DISCUSSION

*Kshara karma* is a better alternative in the treatment of cervical erosion. As per the classics *yavakshara* application is mentioned in the treatment of cervical erosion. Application of *yavakshara* causes vasoconstriction, death of superficial cells, shed off regeneration of underlying basal cells with growth of squamous epithelium.\(^{[16]}\) *Kshara* has property like *usna virya, katu vipak, katu rasa and laghu, tishtna guna* as of which *Kshara* is *chedana, bhedan, soshana & lekhan*.\(^{[17]}\) Lemon juice is used to clean applied *kshara* to neutralized effect of it. Due to *chedan* and *lekhana karma* it was able to destruct the columnar epithelium without developing any complication like profuse vaginal discharge. On the basis of result, it can be said that the *Yavakshara* is much more effective in the management of cervical erosion.

### 5. CONCLUSION

The application of *yavakshara* was safe, simple, economical and can be done at OPD level gives more comfort to the patient. This case study proves that *yavakshara* is an efficient as well as an ideal therapy for cervical erosion. No side effects were observed in this case. Yet large sample study should be conducted clinically to evaluate the efficacy of *yavakshara* application in the management of cervical erosion.

### CONFLICT OF INTEREST
Nil

### SOURCES OF SUPPORT
Nil

### CONTRIBUTORS
Dr Vaishali Dave performed *ksharkarma* in this case study. Dr Krup Vasavda has participated in choosing the drug and manuscript preparation-editing and reviewing.

### REFERENCES