COMPARATIVE STUDY OF KUMARI SWARASA AND KANYASARA IN THE MANAGEMENT OF KASHTARTAVA

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ABSTRACT

Kumari (Aloe barbadensis Miller) is a miracle plant. In Ayurvedic texts Kumari has different rasapanchaka (properties) than Kanyasara, on the basis of this comparative study has been done to analyse its effect in the management of Kashtartava (dysmenorrhea). Two groups each of 15 patients of age group 15 to 30 were studied by giving Kumari swarasas 10 ml BD to group 1 and Kanyasara vati 250 mg BD to group 2 for 10 days before expected commencement of menstrual cycle for 3 menstrual cycles. Results of group 2 were 25.11% better than group 1, significant at p<0.05 (t =3.283). Kumari rasas and katu vipaka has predominance of vayu + Agni rahuaboota. Due to this Kanyasara has strotasa- shodha & kaphahara properties that removes clots, increases flow of menstrual blood and its ushna virya improves rhythmic contractions of uterus. Hence Kanyasara is best line of treatment in Kashtartava.

Key words: Kashtartava, Kanyasara, Kumari Swarasas, Rasapanchaka

INTRODUCTION

Kumari (Aloe barbadensis Mill.) was firstly documented as a plant of great healing power and laxative herb in sumerian clay tablet, found in the city of Nippur; written around BC. 2200 and later on was mentioned as silent healer, skin protective, anti-inflammatory, immunomodulator & used in radiation injuries, ulcers, burns, leprosy sores, dermatitis, tuberculosis & is functional ingredient of foods1. It is also called as miracle plant for containing vitamins A, C, E, B1, B2, B3, B5, B6, B12, folic acid, choline, amino acids, enzymes, calcium, chromium, selenium, magnesium, manganese, zine, copper, iron, potassium, phosphorus, sodium, carbohydrates, anthraquinones, fatty acids, salicylic acid, linin and saponins. “The mucilage of its leaves is clinically and experimentally proved anti-diabetic 16.”

In Ayurvedic texts Kumari was firstly mentioned in Bhela Samhita for vatayadh and later on it was indicated for various ailments, especially in context of present study it is mentioned in Bhaishiyaratnavali /Yoniyapadachikitsa/57-58 in the formulation named as Rajahpravartini vati indicated for Kashtartava (dysmenorrhea) and Rajorodha (amenorrhea), where Kanyasara and Kumari Swarasas both are ingredients at the same place.

Rasapanchaka of Kumari in Ayurvedic texts is mentioned as :- Guna (properties)- Guru (heavy), Snigdha (unctuous), Pichhia (slimy); Rasa- (taste)- Tikta (bitter), Madhur (sweet); Vipaka(final formulation after digestion)- Katu; Veerya (potency)- Sheeta (cold) whereas Rasapanchaka of Kanyasara is mentioned as:- Guna- Laghu (light) Ruksha (dry), Teekshna (sharp); Rasa- Katu (pungent); Veerya- Ushna (hot) ; Vipaka- Katu1.

As Charaka has mentioned that “Sanskaro hi Gunantradhanamuchayte” (Ch.Vi.1/22)

Being different Rasapanchaka the rationality of incorporating both Kumari swarasas and Kanyasara as ingredients of Rajahpravartini vati, the comparative study has been done to analyse their effect in the management of Kashtartava.

Aims and objectives

To study, the therapeutic efficacy of Kumari swarasas and Kanyasara (Musabbar) comparatively in the management of Kashtartava.

MATERIALS AND METHODS

Selection of drug

- Kumari is indicated as Vattapramuta4 (balancing the vatta dosha). It is also an ingredient of Raja pravartani vati which is indicated in Kashtartava and Rajorodha.
- Kanyasara is mentioned in Raja pravartani vati, Kumari vati and Vijayadi vati for the management of Kashtartava5. It is also indicated as Pushpajanana (increase menstrual flow) in Ayurveda Vijnana.

Collection of drug

Drug was collected in its mature stage from herbal garden Jogindernagar after proper identification of species by botanists of herbal garden and P.G. department dravyaguna of Rajiv Gandhi Ayurvedic College Paprola (H.P.)

Preparation of drug

Drug was prepared in pharmacy under the guidance of rasasasstra and bhaiishya kalpana department of Rajiv Gandhi Ayurvedic College Paprola (H.P.). Kanyasara was prepared by cutting the lower end of leaf blade to exude the juice, which was collected, pulverized and heated in low temperature up to complete evaporation of water and then vati kalpana was prepared 15. Kumari swarasas was prepared freshly for each patient by pulverizing the pulp.
Selection of patients
Patients were selected on the basis of criteria for selection, after careful examination and by taking written informed consent from OPD/IPD of R.G.G.A. Hospital. Ethical clearance was obtained before the trial.

Criteria for Selection

Inclusion Criteria
- Patients coming with chief complaint of pain during menstruation.
- Patient willing for trial.
- Under the age group 15 – 35 years. (Married were advised for abstinence) below 15 years cycles are anovulatory and above 35 age is menopausal. Married were advised for abstinence because drug has mentioned as abortificent in Ayurveda vijnana.

Exclusion Criteria
- Patients not willing for trial.
- Patients having congestive dysmenorrhoea
- Patients below 15 and above 35 years.
- Patients with chronic general illness like known case of severe anaemia, diabetes mellitus, hypothyroidism, hyperthyroidism etc.
- Patients with intrauterine contraceptive device.
- Patients of urinary tract infection.
- Patients with irregular cycles.
- Patients suffering from menorrhagia.
- Any pelvic or uterine pathology.

Study design
Trial Group I: Fifteen patients were given Kumari Swarasa (orally) in the dose 10 ml BD for 10 days before expected commencement of menstrual cycle.
Trial Group II: Fifteen patients were given Kanyasara Vati (orally) in the dose 250 mg BD for 10 days before expected commencement of menstrual cycle.
Duration of trial: Three Menstrual cycles.
Follow up:-
- Just after completion of trial
- After Completion of one menstrual cycle following trial.

Statistical analysis
All the observations were analyzed statistically in terms of mean (x), standard deviation (S.D.) and standard error (S.E.), paired t test was carried out at P < 0.05 - Significant; P < 0.01 - Highly Significant, P < 0.001 - Extremely significant. Percentage relief in treatment was calculated by the method:

Relief% = BT-AT/BT%

Overall results
Markedly improved: >75%, moderately improved: 51% - 75%, improved: 25% - 50%, unimproved: <25% relief in total symptoms.
Computer software used for statistical analysis was IBM SPSS statistics 20.

RESULTS
Intergroup comparison over criteria of assessment

Table 1: Cardinal Symptoms

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Group I</th>
<th>Group II</th>
<th>Difference in percentage</th>
<th>Unpaired ‘t’ test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intensity of pain</td>
<td>23.33</td>
<td>71.06</td>
<td>47.73</td>
<td>2.840 &lt;0.05</td>
</tr>
<tr>
<td>Duration of pain</td>
<td>15.38</td>
<td>54.18</td>
<td>38.8</td>
<td>2.318 &lt;0.05</td>
</tr>
</tbody>
</table>

Table 2: Associated symptoms

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Group I</th>
<th>Group II</th>
<th>Difference in percentage</th>
<th>Unpaired ‘t’ test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of flow</td>
<td>-25</td>
<td>-50</td>
<td>-75</td>
<td>-2.646 &lt;0.05</td>
</tr>
<tr>
<td>Nausea</td>
<td>50</td>
<td>35.6</td>
<td>14.4</td>
<td>-1.549 &lt;0.05</td>
</tr>
<tr>
<td>Vomiting</td>
<td>50</td>
<td>40.03</td>
<td>9.97</td>
<td>-1.058 &lt;0.05</td>
</tr>
<tr>
<td>Breast Tenderness</td>
<td>25</td>
<td>42.1</td>
<td>17.1</td>
<td>-0.475 &lt;0.05</td>
</tr>
<tr>
<td>Headache</td>
<td>50</td>
<td>100</td>
<td>50</td>
<td>1.468 &gt;0.05</td>
</tr>
<tr>
<td>Giddiness</td>
<td>66.6</td>
<td>50</td>
<td>16.67</td>
<td>-2.121 &lt;0.05</td>
</tr>
<tr>
<td>Loose stool</td>
<td>-33.35</td>
<td>40</td>
<td>73.35</td>
<td>0.00 &gt;0.05</td>
</tr>
<tr>
<td>Anorexia</td>
<td>99.9</td>
<td>66.6</td>
<td>33.3</td>
<td>-1.468 &gt;0.05</td>
</tr>
<tr>
<td>Irritability</td>
<td>46.15</td>
<td>54.16</td>
<td>8.01</td>
<td>-1.009 &gt;0.05</td>
</tr>
<tr>
<td>Constipation</td>
<td>85.7</td>
<td>100</td>
<td>14.3</td>
<td>1.00 &gt;0.05</td>
</tr>
</tbody>
</table>

Table 3: Intergroup comparison over total criteria

<table>
<thead>
<tr>
<th>Groups</th>
<th>Mean score</th>
<th>Percentage</th>
<th>X (B.T.-A.T)</th>
<th>S.D ±</th>
<th>S.E.±</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B.T.</td>
<td>A.T.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group I</td>
<td>0.6768</td>
<td>0.4567</td>
<td>32.52</td>
<td>0.2201</td>
<td>0.2007</td>
</tr>
<tr>
<td>Group II</td>
<td>1.9575</td>
<td>0.4100</td>
<td>57.63</td>
<td>0.5475</td>
<td>0.7309</td>
</tr>
</tbody>
</table>
Table 4

<table>
<thead>
<tr>
<th>Comparison</th>
<th>Percentage relief difference</th>
<th>T</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group I vs. Group II</td>
<td>25.11</td>
<td>3.283</td>
<td>p&lt;0.05</td>
</tr>
</tbody>
</table>

In the intergroup comparison over total criteria, group II showed 25.11% more relief than group I which is significant at p<0.05. (t = 3.283).

Table 5: Overall effect in two groups in 30 patients

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Group-I patients</th>
<th>Group-II patients</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Markedly Improved</td>
<td>3</td>
<td>5</td>
<td>8</td>
<td>26.6%</td>
</tr>
<tr>
<td>Moderately Improved</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Improved</td>
<td>5</td>
<td>9</td>
<td>6</td>
<td>20%</td>
</tr>
<tr>
<td>Unimproved</td>
<td>7</td>
<td>0</td>
<td>7</td>
<td>23.3%</td>
</tr>
</tbody>
</table>

**Comparative Probable mode of action of Kumari Swarasa and Kanyasara**

- **Kanyasara**
  - Katu rasa, Katu Vipaka, Teekshna Guna
- **Kumari Swarasa**
  - Katu Vipaka
  - Tikta Rasa
  - Madhura rasa

- Capitolizar, Agradccpa
- Dilates the pathways, liquefying the clots
- Increase pain threshold
- Shool Vinya, Guru Guna
- Action hampered (less relief)

**Laboratory Investigations**
Routine blood and urine investigations were carried out before and after the treatment, but no appreciable changes were observed.

**DISCUSSION**
Shudha artava (pure menstruation) is important for conception. It has agneya (hot) property. Kashtartava means kastha purna artava (difficult and painful menstruation) which is caused by vitiation of vata dosha associated with other doshas like kapha. Vitiation of vata dosha is mainly caused by 3 reasons - Dhatu kshaya (catabolism) resulting from consumption of vata prakopaka ahara – vihara, Kaphoplepa with other doshas resulting in agni mandya (dyspepsia) and Strotomukha avrodha (obstruction of micro channels). Vata kopa can occur in two ways, svadhatus vaishamitya (unbalanced vata dosha) and unmargagamana (detraction if vata dosha) causing dysrhythmia in uterine muscles. Margavroda (obstruction of passage) – vitiation of vata and kapha doshas obstruct the passage of...
channels carrying arta\textsuperscript{10} which results in formation of clots, less and painful menstruation & patients get relief by expulsion of Artava\textsuperscript{11}.

Kanyasara contains katu rasa, katu vipaka having predominance of vayu + agni mahaboota, ushna virya, teekshna guṇa have agni mahaboota and laghu, ruksha guṇa have vayu mahaboota. Ushna virya is vatta kaphahara, rakta vardiha, agnivardiha and strotasā dilator\textsuperscript{12}. Katu rasa, katu vipaka and teekshna guṇa dilates the pathways, liquefy the clots and are kaphahara, agnideepana\textsuperscript{13}. Hence by ushna virya, katu rasa, katu vipaka & teekshnā guṇa- Digestion is improved leading to dhatupushpa. Optimization of the vatta kapha results in rhythmic movements of uterus, decreased formation of big clots and decrease in the pain during menstruation. The channels which are carrying the artava are dilated and cleared so that easy expulsion of big clots takes place resulting in immediate relief of pain.

Kumari is sheet virya which is said to cause agnimandya, delayed digestion, obstruction of channels and decreased flow of blood\textsuperscript{14}. It can act upon dysmenorrhoea by katu vipaka (as explained above) and madhura rasa by increasing pain threshold as it is immune booster but its action is hampered by sheet virya, guru, snigdha, pichhila guṇa so that it is less effective than Kanyasara.

CONCLUSION

Study showed that Kanyasara is 47.73% better than Kumari Swarasa in pain intensity, 38.8% better in duration of pain, 75% better in respect of amount of flow and 25.11% better in overall symptoms whereas Kumari swarasa is better in associated symptoms like giddiness, nausea, vomiting and anorexia. Hence Kanyasara is better than Kumari Swarasa but Kanyasara and Kumari Swarasā in combination can prove the best line of treatment by relieving cardinal as well as associated symptoms of Kashtartava.

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