A COMPARATIVE CLINICAL STUDY OF DANTYADI GUTIKA IN THE MANAGEMENT OF ARTAVAKSHAYA

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ABSTRACT

Background and Objectives- Normal menstruation represents the hormonal and gynaecological health of a female reproductive system, it is controlled by hypothalamus pituitary ovarian axis and other associated hormones. Ayurveda gives due importance to Suddha Artava and mention that Artava Dushti is one of the causative factor for infertility. In present era there is high prevalence of this condition in society. Keeping it under consideration this topic was taken up for present study. Ayurveda suggest both Shodhana and Shamana therapy by Agnivardhaka and VataSamak Dravyas the line of treatment in Artavakshaya. Dantyadi Guti and Krishna Tilakashaya mentioned in Yoga Ratnakara were used here as the trial and control group to see and compare their efficacy in the management of Artavakshaya. Methodology- This research work was a randomized comparative clinical study of 40 patients suffering from the symptoms of Artavakshaya, patients were randomly selected in and categorized into 2 groups of 20 patients each. Group A was treated with Krishna Tila Kashaya and group B with Dantyadi Guti for a period of 2 consecutive menstrual cycles and follow up for further 2 cycles. Result- Clinical parameters were assessed statistically. Both the groups showed statistically significant results. Statistically there was no significant difference between the groups. Interpretation and Conclusion- Thus both Krishna Tila Kashaya and Dantyadi Guti are equally effective in the management of Artavakshaya.

Keywords: Artavakshaya; Dantyadi Guti; Krishna Tila Kashaya.
Artavakshaya is explained by Acharya Sushruta and is characterized by yathochita kala adarshanam, alpartava and yonivedana. It can be compared with oligomenorrhea and hypomenorrhea based on their signs and symptoms. Menstrual bleeding occurring more than 35 days apart and which remains constant at that frequency is called oligomenorrhea. And when the menstrual bleeding is unduly scanty and lasts for less than 2 days it is called hypomenorrhea.

As Artavakshaya is precursor of nastartava explained by Sushrutacharya and he explained that it is caused due to the involvement of vata and kapha, which will leads to margavarodha of artavavaha srotas which are also explained as the causes of vandhyatwa and in present era there is high prevalence of this condition in society. Statistics says that out of 80.7% women suffering from irregular menstrual cycle, 19.3% are suffering from oligomenorrhea so this topic was undertaken for present study.

For the treatment of artavakshaya, Sushrutacharya has explained that shodhana and agneyachikitsa should be done. In our classics various yogas have been explained. Among all the yogas, DantyadiGutika and Krishna Tila Kashaya explained in Yoga Ratnakara were used here as the trial and control group to see and compare their efficacy in the management of Artavakshaya.

Objectives of study:

a) To evaluate the efficacy of Dantyadi Gutika and Krishna Tila Kashaya in the management of Artavakshaya.

b) To compare the efficacy of Dantyadi Gutika and Krishna Tila Kashaya in the management of Artavakshaya.

MATERIALS AND METHODS:
Selection of patients:
1. A minimum 40 patients diagnosed with Artavakshaya attending Prasooti Tantra and StreeRoga OPD in Alva’s Ayurveda Medical College and Hospital, Moodbidri.
2. Other available sources were selected for the present study.

Selection of drug
DantyadiGutika explained in Yoga Ratnakara consist of Dantimoola, Hingu, Yavakshara, Katutumbi, Pipalli, Guda, Snuhikshira, these were identified, selected and confirmed from Dravyaguna department after they were bought from the local market. Gutika was prepared in Rasa Shastra and Bhaishhya Kalpana Laboratory, Alva’s Ayurveda Medical College, Moodbidri as per the references given in classical texts.

Method of data collection:
- 40 Patients suffering from Artavakshaya were selected based on diagnostic, inclusion and exclusion criteria. Treatment is done then for 2 consecutive menstrual cycles.
- Group A (control group) was treated with Krishna Tila Kashaya 50 ml along with water twice daily before food for 2 menstrual cycles starting from the 3rd day of menstruation.
- Group B (trial group) was treated with DantyadiGutika 500 mg 2 tabs three times a day with water after food for 2 menstrual cycles starting from the 3rd day of menstruation.

Follow-up: On the 3rd day of menstrual cycle after completion of treatment for 2 consecutive cycles.

Statistical test - Paired ‘t’ test and unpaired ‘t’ test

Diagnostic criteria:
Diagnosis was based upon the presence of any one or more of the following criteria.
A. Yathochitakala Adarshanam of Artava
   - Menstrual cycle > 35 days
B. Alpartavam –
   a) Duration of bleeding < 2 days
   b) Decrease in quantity of bleeding
C. Yoni Vedana - Pain during menstruation

Inclusion criteria
a) Patients fulfilling cardinal symptoms of Artavakshaya.

b) Patients between the age group of 20-35 years
Exclusion criteria
a) Pregnant & lactating women.
b) Women on OCPs, IUCD.
c) Congenital anomalies of uterus or ovaries.
d) Women having systemic diseases which interfere with the present study.
e) Women with any pelvic pathology or malignancy.
f) HB% less than 8 gm%
g) Thyroid Dysfunction

Investigation – if necessary
a) ESR
b) CBC
c) RBS
d) Urine R/M
e) UPT (urine pregnancy test)
f) USG uterus and adnexa (TVS/TAS)
g) Thyroid profile.

Assessment criteria:
Two parameters- subjective and objective were used in initial and consecutive follow up time, for assessment of progress. Subjective criteria- Pain (lower abdomen pain), Objective criteria- Duration of flow (menstrual phase), Scanty menstruation (amount of bleeding on basis of no. of pads/day), Duration of Inter menstrual period.
These parameters were assessed based upon scoring and analyzed statistically.

RESULT AND OBSERVATION-
It was observed that maximum number of patients i.e. 76% were from middle class this can be explained middle class women are under increasing stress due to dual responsibility of having a job and at the same time managing home. Job related stress and competition is comparative more in this class.
And 74% patients were involved in addiction habits, out of them 26% addicted to tea, 36.9 % to coffee, and 10.8 % to tobacco. Addiction habit to these stimulates C.N.S. causing insomnia and vitiation of Vata, Artavakshaya is observed to be Vata Kapha vitiated Vyadhi only.

Table 1: Statistic Result

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Group A</th>
<th>Group B</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sign and Symptoms</td>
<td>Mean score</td>
<td>Percentage of relief</td>
<td>Mean score</td>
</tr>
<tr>
<td></td>
<td>BT</td>
<td>AF2</td>
<td>BT</td>
</tr>
<tr>
<td>Duration of flow</td>
<td>2.1</td>
<td>1.35</td>
<td>64.28%</td>
</tr>
<tr>
<td>Interval between two menstrual cycle</td>
<td>1.2</td>
<td>.90</td>
<td>75%</td>
</tr>
<tr>
<td>Amount of bleeding</td>
<td>1.9</td>
<td>1.55</td>
<td>81.6%</td>
</tr>
<tr>
<td>Pain during menstruating days</td>
<td>1.85</td>
<td>1.2</td>
<td>64.8%</td>
</tr>
</tbody>
</table>

Statistically and clinically significant effect of the treatment was observed in both the groups.

Table 2: Overall effect of therapy

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Effect of therapy</th>
<th>Group A</th>
<th>Percentage</th>
<th>Group B</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Marked improvement</td>
<td>13</td>
<td>65%</td>
<td>11</td>
<td>55%</td>
</tr>
<tr>
<td>2.</td>
<td>Moderate improvement</td>
<td>02</td>
<td>10%</td>
<td>04</td>
<td>20%</td>
</tr>
<tr>
<td>3.</td>
<td>Mild Improvement</td>
<td>01</td>
<td>05%</td>
<td>02</td>
<td>10%</td>
</tr>
<tr>
<td>4.</td>
<td>No improvement</td>
<td>04</td>
<td>20%</td>
<td>03</td>
<td>15%</td>
</tr>
</tbody>
</table>

Out of total 40 patients, 24 patients had marked improvement, 6 patients had moderate improvement, 3 patients had mild improvement and 7 in patients no improvement was observed.

DISCUSSION
Artavakshaya is one of the menstrual disorders which indicate scanty menstrual flow associated with pain in variable duration where vitiation of vata and kapha are predominant. As we all know that artava is formed from rasa dhatu within a month.
after proper metabolism of *rasa dhatu* by its dhatwagni and bhutagni. The *kshaya* of *rasa dhatu* cause *artavakshaya* and *raktakshaya* will develop simultaneously. As stated above *artava* and *rakta* are interlinked due to same *uptattisrotas* i.e. *rasa dhatu* and same nature i.e. *agneya*. Therefore *artavakshaya* may also develop due to *raktakshaya* also. Maharshi *Sushruta* has mentioned that *artava* is *agneya* and in *artavakshaya*, there is reduction of *agneyaaguna* of body i.e. *pitta kshaya* will take place and *vruddhi* of vata and *kapha* will be there.

As in our classics *artavakshayah* has not explained as a separate disease, but it has been explained as a symptom for many of the *yoni vyapad* and *artavudushhti*. *Acharya Sushruta* explained *artavakshaya* in *doshadhatu mala kshayavrudu vigyanam* in *sutrasthana*.

**Samprapti**

- Vitiation of *Dosha* takes place along with *Agni mandhya*, due to *Dosh dusti karana hara* and *vihara*, because of which proper digestion of *ahara* not take place which leads to production of *dushtahara rasa* and *ama*. It will further produce *dushita rasa dhatu*. Subsequently there is vitiation of *samanahaya*, *pachaka pitta* and *kledakakapha* due to *jatharagnimandhya*.

- *Vikrutakapha* obstruct the *marga* of *apanavayu* and hence *karmahani* of *vata* take place resulting in reduced flow of *artava*. In this condition, the *vrudhakapha* (*avaraka*) symptoms become predominant and there is decreased activity of *vata* (*avruta*) which are expressed. Hence there is *kapha* aggravation and diminution *pitta dosha* in quality, which further leads to *jatharagnimandya* and finally *kshaya* of *rasa* and *rakta dhatu* take place leading to *artavakshaya*.

- *Artavavahasrotas* are obstructed by the *vikrutatapanavayu* and *kapha* which leads to *artavakshaya*.

**Possible process of manifestations**

1. The formation of *artava*, where the role of *prakruta rasa dhatu* and *prakrutakaphadosha* is involved is affected, due to which *ritukala* is prolonged i.e. *yathochita kala adarshanam of artava* take place.

2. Due to obstruction of *apanavayu*, the *artava pravrutti* will not take place at its proper time as *artava pravrutti* is the *karma* of *apanavayu*.

3. Due to *kshaya* of *pitta*, the *artavapramana* is decreased. The function of *apanavayu* to excrete the formed *artava* in proper quantity is hampered resulting in scanty menstruation that is *almartavam* develops as a symptom in *artavakshaya*.

4. *Yoni vedana* results due to improper evacuation of *artava* which is caused by improper action of *apanavayu*.

**Chikitsasidhanta**

- The management should be to correct the pathology i.e. *sampraptivighatanamevachikitsa* should be adopted. The correction should be in such a way as to remove the *margavarodha* from the *artavavahasrotas* by breaking the *avarana* and *agnideepana* which in turn resulting into proper function of *rasa* and *rakta dhatu*, and leads to *artavruddhi*.

- In classics both *shodhana* and *shaman chiktsa* has been mentioned for *artavakshaya*. *Acharya Adhalana* has explained that for *shodhana karma*, *vamana* should be done as it will remove only *saumya dhatu* and increase the *pitta* which will lead to *artavavruddhi*. For *shamanachikitsa*, *agneya dravyas* should be used which will improve the *agni* as well as *pitta* and in turn increase the *artava* and helps in *vatanulomana*.

- Thus *vata, pitta* and *kaphadosha* should be brought to normalcy to perform their respective function during *rituchakra* thereby establish the normal *artavapravrutti*. Hence in this context *agneyadravyas* are very relevant.

- Use of *agneyadravyas* not only relieves the *kapha* which does *avarana* to *apanavayu* but also increase the quantity of *artava*. As *agneyadravya* have *ushnavirya*, it maintains the nor-
mal *ruksha* and *sheetaguna* of *vayu*, *snigdha* and *picchil aguna* of *kapha*.

- There are many *agneya* drugs mentioned in *ayurveda* which are having *artavajanana* property. *Dantyadi Gutika* is one among them which was the trial drug in this study.

**DISCUSSION ON THE DRUG REVIEW - DANTYADI GUTIKA**

The trial drug *Dantyadi Gutika* contains *Dantimoola*, *hingu*, *katutumbi*, *yavakshara*, *pippali*, *puranguda* and *snuhiksheera* for mardan. This given to the patients suffering from *artavakshaya* is said to give ultimate effect on *artavavahasrotasa*. The most of the contents of the drug are said to be *agneya*dravyas and have *garbhashayasankochaka* properties. Hence it will directly act on *artavakshaya*. *Artavajanakadravya* are the substances which enhance the amount of menstrual blood and also regularise the menstrual cycle. *Artavais* said to be *agneya*, hence the drugs need to be attributed with *katu rasa*, *tikshnaguna*, *ushnavirya* and *Katuvipaka* to be called as *artavajanaka dravyas*.

Use of *agneya*dravyas relieves the *kapha* which has done the *Avarana* of the *apana vayu* by blocking the *artavavaha srotasa* and thereby removes the *margavrodha* and also increases the quantity of *artava*. These *dravyas* increases the amount of menstrual flow by improving the vascular supply or by increasing the thickness of endometrium.

**Probable Mode of Action of Drug:**
Most of the ingredients in *Dantyadi Gutika* are having *katu rasa*, *tikshnaguna*, *ushnavirya* and *katuvi- paka*, *kaphavatashamana* property and *pittavardhakushulaprashamana*, *deepana* and *pachana* properties.

<table>
<thead>
<tr>
<th>Sr.no</th>
<th>Dravya</th>
<th>Rasa</th>
<th>Guna</th>
<th>Virya</th>
<th>Vipaka</th>
<th>Karma</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td><em>Dantimoola</em></td>
<td><em>Katu</em></td>
<td><em>Tikshna</em>, <em>Guru</em></td>
<td><em>Ushna</em></td>
<td><em>Katu</em></td>
<td><em>Kaphavatahara, Recana, Deepana</em></td>
</tr>
<tr>
<td>2.</td>
<td><em>Hingu</em></td>
<td><em>Katu</em></td>
<td><em>Laghu, Snigdha, Tikshna</em></td>
<td><em>Ushna</em></td>
<td><em>Katu</em></td>
<td><em>Kaphavata Shamaka Pittavardhaka</em></td>
</tr>
<tr>
<td>3.</td>
<td><em>Yavakhsara</em></td>
<td><em>Katu</em></td>
<td><em>Laghu, snigdha</em></td>
<td><em>Ushna</em></td>
<td><em>Katu</em></td>
<td><em>Kaphavatahar</em></td>
</tr>
<tr>
<td>4.</td>
<td><em>Katutumbi</em></td>
<td><em>Tikta</em></td>
<td><em>Laghu, Rukhsa</em></td>
<td><em>Sheeta</em></td>
<td><em>Katu</em></td>
<td><em>Kaphapitirhara, rakshshotak, Shothahara</em></td>
</tr>
<tr>
<td>5.</td>
<td><em>Pipalli</em></td>
<td><em>Katu</em></td>
<td><em>Laghu, Snigdha, Tiksa</em></td>
<td><em>Ushna</em></td>
<td><em>Madhura</em></td>
<td><em>Kaphavatahara, Deepana, Rasayna</em></td>
</tr>
<tr>
<td>6.</td>
<td><em>Puran Guda</em></td>
<td><em>Madhura</em></td>
<td><em>Picchila, Laghu, Tikshna</em></td>
<td><em>Ushna</em></td>
<td><em>Madhura</em></td>
<td><em>Pittavardhaka, Agnedeesana</em></td>
</tr>
<tr>
<td>7.</td>
<td><em>Snuhiksheera</em></td>
<td><em>Katu</em></td>
<td><em>Laghu, Snigdha, Tikshna</em></td>
<td><em>Ushna</em></td>
<td><em>Katu</em></td>
<td><em>Kaphavatasamana, Deepana, Recana</em></td>
</tr>
</tbody>
</table>
**Chart 1: Mode of action of DantiyadiGutika and Samprapti Vighatana**

![Diagram of mode of action]

**Agneyadravya**-
As almost all the dravyas of DantiyadiGutika are agneya in nature and have agnideepana property, proper pachana of ahara take place leads to formation of proper ahara rasa and then suddha rasa dhatu therefore normal utpatti and pravrtti of artava occurred due to the use of this yoga. Most of the drugs had kaphavata hara and pitta vardhaka properties helped in relieving the kaphaavarana of apanavayu and further prakrutagati of apanavayu which helped in normal pravrtti of artava without any pain.

**Mode of action According to modern**
- Drugs like katutumbi, hingu, pippali and Snuhiksheera have antihyperglycemic properties and studies shows that use of anti-diabetic drugs helps in ovulation which results in corpus luteum formation and maintains the normal HPO balance and hence help in regularising the menstrual cycle.
- Most of the drugs have antioxidant property which helps in maintaining the proper oestrogen production, ovulation and help in maintaining the luteal phase. Antioxidants also increase the anabolic activity in body hence increase the thickness of endometrium results in increasing the amount of blood loss.
- Most of the drugs possess antispasmodic, carminative and anti-inflammatory property which helps in relieving the pain during menstruation.
- Most of the drugs have minerals, vitamins, carbohydrates, proteins which helped in improving the general health of the patients along with helping in the good metabolism and therefore maintain the normal hormonal balance in the body which are responsible for normal menstruation.

Thus Dantyadi Gutika fulfils all the criteria which are needed for the management of Artavakshaya.

**Krishna Tila Kashaya**

**Mode of action of Krishna Tila Kashaya**-
- Krishna tila pacifies aggravated vatadosha due to it’s madhurarasa, ushnaveerya, guru snigdhagunas and madhura vipaka
- It is having *artavajanana* property due to which it will act directly upon *artavakshaya*.
- *Srothoavrorodha* removed by action of *ushnaveerya* and *vatadoshaghna* properties of the drugs and aid in proper *arthavapravaruthi*.
- Due to *Madhura rasa* and *madhura vipaka* it increases *Rasadhathu*. As *Arthava* is an *updhatu* of *Rasa* it will also get increase. And because of same property of *madhura rasa* and *madhura vipaka* act as a *Bramhana*.
- *Guda* is also having *Madhura rasa*, *Snigdha-guna*, *Ushnaveerya* and *Madhura vipaka* as *Tila*.

So when given as an Adjuvant it will increase the action of *tila*. Moreover it is having *Agni Deepana* Action which will help in increasing the *Brahmana* Property of *Tila*. Individual action of *Guda* had been explained under *Dantyadi Gutika*.
- *Krishna Tila* have phytoestrogen, high antioxidant and anti-inflammatory property which may explain it’s pharmacodynamics according to modern on acting in oligomenorrhoea and hypomenorrhoea.

**Chart 2: Mode of action of *Krishna Tila Kashaya* and *Samprapti Vighatana***

- **CONCLUSION**
  a) The main principle of management of *Artavakshayais Agnivardhaka, Vata kapha shamaka* and *Vatanulomaka Chikitsa*. In classics, both *Shodhana* and *Shaman Chikitsa* are described. *Shaman Chikitsa* is done by using the *AgneyaDravya* which improve the *Artavautpatti* by “*SamanenaSamanasyaVruddhi*”.
  b) *Arthavjanya* drugs and drugs having Phytoestrogen, rich in antioxidant can give better results it treating *Arthavakshaya*.
  c) On the interval between two menstrual cycles both the drug were statistically highly significant, where *Group A* drug effectiveness found to be 3% more than *Group B* drug.
  d) On duration of menstruation both the drug were statistically highly significant, where *Group A* drug effectiveness found to be 2 % more than *Group B* drug.
  e) On amount of blood flow both the drugs were statistically highly significant, where *Group A* drug effectiveness found to be 7 % more than the *Group B* drug.
f) On pain during menstruation both drug were statistically highly significant, where Group B drug effectiveness found to be 12% more than the Group A.
g) Hence both the drugs were statistically significant in Artavakshaya and statistically both the drugs were equally effective in all the criteria.
h) Thus null hypothesis $H_0$ is rejected and alternate hypothesis $H_1$ is accepted i.e. there is significant effect of both Dantyadi Gutika and Krishna Tila Kashaya in Artavakshaya.

REFERENCES

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