



CASE REPORT

## Effect of *Japakusuma mukula* (flower buds of *Hibiscus rosa-sinensis* Linn.) with *Ksheera* in *Asrigdhara* – A case report.

Smrithi S<sup>1</sup>, Shincymol V. V<sup>2</sup>, P.Y. Ansary<sup>3</sup>, Sara Moncy Oommen<sup>4</sup>

<sup>1,2,3</sup> PG Scholar, Professor, Associate Professor, Department of Dravyagunavijnanam Government Ayurveda College, Tripunithura, Ernakulam, Kerala

<sup>4</sup> Professor and HOD, Department of Dravyagunavijnanam Government Ayurveda College, Kannur, Kerala.

\*Email: [saramoncy@ayurvedacollege.ac.in](mailto:saramoncy@ayurvedacollege.ac.in)

### ARTICLE HISTORY

Received: 28 June 2023  
Accepted: 07 September 2023  
Available online  
Version 1.0 : 30 September 2023

### Keywords

*Asrigdhara*, *Japakusumamukula*, *Ksheera*, AUB, *Bhavitha choorna*

### Additional information

**Peer review:** Publisher thanks Sectional Editor and the other anonymous reviewers for their contribution to the peer review of this work.

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### CITE THIS ARTICLE



Smrithi S, Shincymol V. V, Ansary P Y, Oommen S M. Effect of *Japakusuma mukula* (flower buds of *Hibiscus rosa-sinensis* Linn.) with *Ksheera* in *Asrigdhara* – A case report.. Kerala Journal of Ayurveda. 2023; 2(3): 15-20. <https://doi.org/10.55718/kja.172>

### Abstract

*Asrigdhara* (abnormal uterine bleeding), which manifests as profuse vaginal bleeding, has existed for centuries and has been known to humans from the time of the *Vedas* and *Puranas*. *Asrigdhara* can be defined as excessive or extended bleeding during menstruation or even minimal bleeding during the interim between cycles. While considering the symptoms of *Asrigdhara*, it can be compared with abnormal uterine bleeding which broadly refers to menstrual irregularities outside of pregnancy that affect frequency, regularity, length and flow volume. In the famous Ayurvedic book *Chikitsamanjari* and the classical textbook *Gada Nigraha* in the context of *Asrigdhara*, it is said that about 10-12 *Japakusuma mukula* (flower buds of *Hibiscus rosa-sinensis* Linn.) along with *ksheera* (milk) is very effective in treating the specific condition of excessive uterine bleeding. A clinical case of *Asrigdhara* was selected as per the inclusion and exclusion criteria and was given medication orally in the form of 1.5 grams of *bhavitha choorna* (trituated powder) of *Japakusuma mukula* mixed with 4 times *ksheera*, one hour before food for 5 days from the first day of menstruation for three consecutive menstrual cycles. Assessment of the reduction in the symptoms was made as per the PBAC scale and the associated symptoms such as an increase in the duration of bleeding, irregularities in the menstrual cycle, pain and fatigue were assessed as per the four-point vertebral scale. The follow-up was also done for 3 months to analyse whether the static effect of the drug continued. The case study revealed a significant reduction in bleeding and passing of clots during menstruation, while its effect gradually declined during the follow-up period.

### Introduction

Women's health is a major factor in determining a country's health because only healthy women can give birth to healthy generations. During our daily medical practice, we often come across different gynaecological complaints among which, *Asrigdhara* is much more common. It is a disease which is mentioned from the time of *Veda* and *Purana* and manifests as a combination

of excessive bleeding per vaginum, backache, pain in the lower abdomen and weakness. Acharya Charaka considers it as one of the *rakta pradoshaja vikara*<sup>1</sup> and also under *pittaavrita apana vayu*<sup>2</sup> whereas Acharya Sushruta mentioned it under *pitta samyukta apana*<sup>3</sup> and in *rakta doshaja vyadhi*.<sup>4</sup>

While considering the symptoms of *Asrigdhara*, it is comparable to abnormal uterine bleeding, a general term for anomalies in the menstrual cycle affecting frequency, regularity, duration, and volume of flow outside of pregnancy.<sup>5</sup> A higher occurrence is thought to occur during menarche and perimenopause, with the prevalence of abnormal uterine bleeding among women of reproductive age ranging from 3% to 30% globally. Many studies take into account heavy menstrual bleeding (HMB), however, when irregular and intermenstrual bleeding is taken into account, the prevalence increases to 35% or more.<sup>6</sup> AUB episodes affect between 10 to 25% of women at some point throughout their reproductive years. It is most frequently encountered by those between the ages of 35 and 45yrs, and young girls experience it shortly after reaching menarche because of the immaturity of the hypothalamic-pituitary-ovarian axis, which results in anovulatory cycles.<sup>7</sup>

The uterine and ovarian arteries evolve into arcuate arteries, which then release radial branches that supply blood to the two layers of the endometrium. The functional layer of the endometrium degrades enzymatically as progesterone levels fall at the end of the menstrual cycle. Functioning platelets, thrombin, and vasoconstriction of the arteries to the endometrium work together to regulate blood loss. Any anomaly in the uterine anatomy, such as leiomyoma, polyps, adenomyosis, cancer, or hyperplasia, an anomaly in the clotting system, or a disturbance of the hypothalamic-pituitary-ovarian axis, can alter menstruation and result in irregular uterine bleeding.<sup>6</sup>

The medicinal plant *Japa* which is botanically identified as *Hibiscus rosa-sinensis* Linn. belonging to the Malvaceae family is a wonderful herbal remedy used for the treatment of *Asrigdhara*. Here we are taking particularly the *Japakusuma mukula* as per the classical reference in *Chikitsamanjari* and *Gadanigraha*.<sup>8,9</sup> The drug is indicated in *pradara* (abnormal uterine bleeding) as mentioned by *Nighantu Ratnakara*, *Saligram Nighantu* and *Nighantu Adarsa*.<sup>10-12</sup> The flowers and buds of this medicinal plant which is widely used in folklore practices to manage excessive bleeding conditions when used along with butter and other herbal ingredients.<sup>13</sup>

## Materials and methods

### Preparation of medicine

Fresh samples of *Japa kusuma mukula* were collected from the farm and removed external impurities if any. Then the whole bud along with the sepals was dried in the shade until it was ready to get powdered finely. The powdered drug was further subjected to the process of *Bhavana* (trituration) by fully soaking the fine dried powder of *Japakusuma mukula* in equal quantity of its *swarasa* (juice), dried in shade and kept it undisturbed the whole night covering with a clean cloth.<sup>14</sup> The process of *bhavana* was repeated the next day and continued for 7 times. After completion of 7 *bhavana* and attaining proper dryness, drug was again pulverised into fine powder and sieved through a mesh size-120 to get fine powder. Then small packs containing 1.5grams each of this *bhavitha choorna* (trituated powder) is made, which are stored in air-tight containers for further administration to patients along with *ksheera*.

## Methodology of the study

### Patient details

A 23-year-old nulliparous lady experiencing abnormal menstrual flow attended the outpatient Department of Dravyaguna Vijnana, Government Ayurveda College, Tripunithura, and complained about excessive bleeding along with the passing of 4-5 large clots which is having dark brownish colour, moderate pain over the abdomen and considerable fatigue which hampers her daily activities. She had irregular menstrual cycles fluctuating in length from 28 to 36 days with an average duration of 7 to 15 days. She was compelled to change her sanitary pads within 3-4 hrs of duration due to heavy soaking and need 5-8 pads per day. The odour of the menstrual blood was not specific and she was free from any gynaecological disorders. She also complained about anorexia and associated mood swings around the menstrual days which lasts for 6-7 days. There were no changes in the bowel pattern and the frequency of micturition. She did not have any significant previous medical or family history of bleeding disorder and is free from any systemic illness. The patient also doesn't have history of recent abortion, any trauma of hitting back, surgical intervention, post-coital bleeding and amenorrhoea preceding bleeding. In previous ultrasound scanning of the pelvis, she was revealed with absence of uterine fibroid, polyp or other pelvic pathology. The results of general, physical, and systemic examination revealed no abnormalities other than the appearance of pallor. On

inspection, no vulvitis, rectocele, cystocele or prolapse of the uterus was noticed. The per speculum examination revealed no discharge and abnormal growths. The cervix was normal in position with moderate consistency and anteriorly placed. On per vaginal examination, the position of the uterus was AV (anterior-verted) and is freely mobile with non-tender fornixes. Ovaries and fallopian tubes were not palpable. While performing *dasavidha pareeksha* we got a clear idea about the involvement of *vata* and *pitta dosha* and the vitiation of *rasa dathu*. *Astasthan pareeksha* had also normal findings. The patient was advised to do lab investigations like estimation of bleeding time, clotting time and haemoglobin percentage before, during and after the treatment period. The patient was diagnosed as per the PBAC scoring criteria of the previous menstrual cycle and informed consent was obtained before the enrolment in the study.

### Diagnostic assessments

It is a pre-post-design / before and after study. During the study period, the data is collected from the patient based on subjective criteria (pictorial blood assessment scale - PBAC, four-point vertebral scale for duration of bleeding, irregularities in menstrual cycle, pain and fatigue) and objective criteria (investigations like Hb, bleeding time, clotting time).<sup>15</sup> Assessment was done before treatment (symptoms experienced during the prior menstrual cycle) and for every 5 days from the onset of menstrual bleeding during 3 consecutive menstrual cycles of the treatment period and the next 3 consecutive cycles of follow-up time. The subject was advised to use a standard-sized pad (cotton pad of Stayfree) and scoring was done purely based on the patient's statement.

**Table No 1:** Scoring pattern for assessing the amount of blood loss per cycle

Amount of blood lost in each cycle	Score
Pad with minor stains	1
Pad with moderate stains	5
Pad which is completely soaked	20

**Table No 2:** Scoring pattern for assessing the size of the clot

Size of clot	Score
Small clots	1
Large clots	5

**Table No 3:** Scoring pattern for duration of bleeding

Duration of bleeding in a number of days	Score
3-5days	0
6-7days	1
8-9days	2
Above 10days	3

**Table No 4:** Scoring pattern for interval of menstruation

Interval of menstruation	Score
25-30 days	0
20-24 days	1
15-19 days	2
Less than 15 days	3

**Table No 5:** Scoring pattern for pain

Pain	Score
No Pain	0
Light Pain	1
Moderately painful	2
Extreme pain	3

**Table No 6:** Scoring for fatigue

Fatigue	Score
Better than normal	0
Nothing extra than normal	1
Greater than usual	2
Significantly worse than usual	3

**Table No 7:** Therapeutic intervention of drug to the patient

Dosing schedule	1.5grams per day 7 AM (one hour before food) given orally
Anupana (Vehicle)	Ksheera (milk)
Treatment period	Treatment is given for 5 days from the first day of bleeding or menstrual period for three consecutive menstrual cycles from the time of diagnosis
Follow-up period	Follow – up also done for the next three consecutive menstrual cycles without administering medicine
Dietary restrictions	Standard dietary restrictions for <i>Asrigdhara</i> (abnormal uterine bleeding) condition, especially indicated in <i>rakthapitta</i> (bleeding disorders).
Period of study	six months

**Table No 8:** Timeline

Date	Clinical features	Intervention
Before treatment	Complaining HMB, change of 5-8 pads/day, 4-5 large clots with pain and duration 7-12 days	Nil
4/ 10 /2022	3-4 pads/day, 1-2 small clots Pain slightly reduced	1.5gm/day, OD, for 5 days
22/11/2022	2-3pads/day clots- if present small 1 or 2 in number	1.5gm/day, OD, for 5 days
31/1/2023	2-3 pads/day moderately soaked, no clots	1.5gm/day, OD, for 5 days
28/2/2023	3-4 pads/day moderately soaked Small clots, slight pain	Nil
21/3/2023	4-5 pads/day, some fully soaked	Nil
11/4/2023	5- 6 pads/day, some fully soaked	Nil

### Observations

With the administration of the drug *bhavitha choorna* of *Japakusuma mukula* along with *ksheera*, there was a considerable reduction in the amount of bleeding and the number and size of the clots passed during menstruation. While considering the level of fatigue there was no much change found, but the intensity of pain dropped to some extent which further elevated. The duration of bleeding also substantially decreased. There was no difference in interval of menstruation. These changes remained stable during the treatment period of 3 months, but with the stoppage of medication, the level of symptoms tends to increase gradually and attained the previous stage of treatment not up to the full extent. The objective parameter like bleeding time was reduced, while clotting time revealed only a slight variation. The percentage of haemoglobin was less before the treatment period, and with the administration of medication, its amount is raised as there is adequate lessening of bleeding.

### Discussion

The medicinal plant *Japa* is widely used in the management of disorders associated with the reproductive system. The various parts, especially the flowers, flower buds, roots and leaves have divergent therapeutic applications when administered singly or along with other potential ingredients. The folklore practices widely used this potential plant in abnormal uterine bleeding. Flowers of *Japa* are astringent, hypoglycaemic, and is used in the treatment of menstrual disorders, alopecia and burning sensation. It is very effectively used in menorrhagia conditions.<sup>16</sup> The extract of flowers was mainly indicated in vaginal and uterine discharges.<sup>17</sup> In various authentic classical ayurvedic textbooks like *Gada nigraha*, *Sahasrayoga*, *Chikitsamanjeri*, *Vaidya Manorama* etc., there is clear evidence of indication of *Japakusuma* in curing the clinical condition of *Asrigdhara*.

This medicinal plant has a significant effect in pacifying *vata-paithika* conditions and is *grahi* (holding/constipating) in nature. The effect of *Japakusuma* in *raktha pradara* is due to its *tiktha madhura rasa* (bitter and sweet taste),<sup>18</sup> *laghu guna* (lightness)<sup>19</sup> and *seeta veerya* (cold

**Table No 9:** Subjective parameters

	Before Treatment	First Month	Second Month	Third Month	Fourth Month	Fifth Month	Sixth Month
Amount of bleeding	645	380	258	150	175	353	435
Size of clot	25	13	5	2	17	16	17
Duration of bleeding	3	2	1	1	1	2	2
Interval	2	2	2	2	2	2	2
Pain	2	2	1	1	2	2	2
Fatigue	1	1	1	1	1	1	1

**Table No 10:** Objective parameters

	Before Treatment	First Month	Second Month	Third Month	After Follow Up
Haemoglobin	10.5gm/dl	11gm/dl	12gm/dl	12.5gm/dl	12gm/dl
Bleeding time	3.23min	3.0min	2.89min	2.45min	2.98min
Clotting time	4.53min	4.34min	3.98min	3.99min	4.23min

potency).<sup>20</sup> The *tiktha rasa* has *sthambhana* (blocking) and *soshana* (diminishing) effects which considerably affect the reduction in the bleeding. *Ksheera* which is used as *anupana* (after drink) along with the drug is having *rakthapittahara* (reducing bleeding disorders)<sup>21</sup> properties and is indicated in *raktha vikaras*<sup>22</sup> and *yoniroga* (vaginal diseases).<sup>23</sup> Generally, *vata* gets aggravated when there is heavy bleeding along with equal impairment of *pitta*. So, adopting the *vata-pitta samana* strategy with the administration of *Japakusuma mukula* along with *ksheera* can produce a considerable reduction in the symptoms associated with abnormal uterine bleeding.

In the *Asrigdhara* condition there is impairment of *rasa dathu* (primary circulating nutrient fluid) by which *raktha dathu dushti* (impairment in blood) occurs, and finally results in vitiation of *arthava vaha* (female reproductive system) and *rakthavaha srothas* (channel carrying blood) paving way to abnormal uterine bleeding. So, the correction of *agni* (digestive factor) at the *dathu* (fundamental structural components) level can help to sustain the equilibrium of *doshas* (regulatory functional factors of the body) and can rectify the *srothodushti* (vitiation of channels) and reduce the pathological state. The *Japakusuma* has *tiktha rasa* and *laghu guna* (light in property), which is *agnideepana* (improves digestive factor) and the *ksheera* is also having an *agnideepana* effect.<sup>23</sup> *Ksheera* is a rich source of calcium and in various coagulation cascade phases as well as platelet activity, serum calcium is implicated. So, the patient with low calcium will have impaired haemostasis and may be linked to a mild coagulopathy that makes bleeding a greater possibility. So, the administration of drugs along with milk has remarkable significance in controlling the excessive bleeding conditions.<sup>24</sup>

In the preliminary phytochemical evaluation of the study drug, it is evident that it contains flavonoids. These flavonoids shield the capillaries, particularly the small blood vessels, from harm, possibly preventing the blood loss associated with menorrhagia. Prostaglandins E<sub>2</sub>, F<sub>2a</sub>, thromboxane A<sub>2</sub>, and prostacyclin have been demonstrated to be suppressed by flavonoids, expressed as hesperidin. They have also been shown to lessen capillary hyperfragility and enhance lymphatic outflow.<sup>25–27</sup> The Vit C present in *Hibiscus rosa-sinensis* Linn. can cause a diminution in the duration of the menstrual periods and an increase in haemoglobin.<sup>28</sup> Thus, the mode of action of *Japa kusuma mukula* along with milk in the condition of *Asrigdhara* (abnormal uterine bleeding) can be substantiated by the ayurvedic pharmacologic properties along with the presence of flavonoids, vitamin C and calcium and various phyto-constituents present in it.

## Conclusion

In this clinical case of *Asrigdhara* condition, the administration of *bhavitha choorna* of *Japakusuma mukula* along with *ksheera* had a remarkable effect in reducing the amount of bleeding, size and number of blood clots and duration. However, it doesn't show much effect in suppressing the pain and drop in the interval of menstruation. As the symptoms in the patient gradually progressed during follow-up without medication, further examination and investigations should be done to reveal the underlying pathology. Thus, *Japakusumamukula* along with *ksheera* could provide only instant relief to the excessive bleeding condition.

## Conflict of Interest

Nil

## Ethics

Ethical clearance was obtained from the Institutional Ethics Committee.

Ethical clearance number – 05/DG/IEC/2021.

Informed consent was obtained from the patient before the trial.

Registered in CTRI. Reg no: CTRI/2022/08/044981

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