

Randomized Clinical Endpoint Study to Assess The Effect of Hingu Churna in Artavajanan W.S.R. To Endometrium Development: A Case Study

AUTHOR (PhD Scholar):- Dr. Pallavi Ashok Chandanshiv *

AFFILIATION:- Associate Professor in Prasuti tantra Stree Roga Department Shiva Trust's Yashwantrao Chavan Ayurved Medical College and Hospital Nipani Bhalgavon, Sambhajinagar, India

Guide: Dr. Mangesh Patil**

AFFILIATION:- Associate Professor In Prasuti Tantra Stree Roga department, Y.M.T. Ayurvedic Medical College, Kharghar, Navi Mumbai, India

Aim

To study the role of Hingu churna as Artavajanan in patients with Thin Endometrium.

Introduction

According to world health organization around 60 to 80 million couples suffer from infertility¹. This constitutes that 8 to 12 percent of couples suffer from infertility¹.

This is a very huge number. If prevalence of infertility in India is considered, according to national health portal, a government of India initiative, it is supposed to be between 3.9 percent to 16.8 percent². In Maharashtra figure is estimated to be 3.6 percent². In women problems of anovulation are supposed to constitute 30% to causes of infertility³. Infertility is a social stigma in our country, thereby hampering social health of women. In United States of America in 2008, there were 90000 assisted ovulations and in 2014 figure rose to 190193⁴. Endometrial development during the human menstrual cycle is closely associated with changes in ovarian function. Granulosa cells of developing ovarian follicles in the follicular phase of the cycle produce estradiol, which stimulates the development of the endometrial lining^{5,6,7}.

In the few days before ovulation, progesterone levels begin to rise.⁶ The source of the preovulatory rise in progesterone levels is not fully known, but is believed to be the theca, granulosa or interstitial cells^{6,8,9}. After ovulation, progesterone produced by the corpus luteum is believed to maintain the oestrogen-primed endometrium and stimulate endometrial glandular development to provide an environment conducive to implantation⁵⁻⁷.

Abnormal mechanisms between the ovary and uterus are associated with abnormal endometrial development, infertility and recurrent abortions.

According to Acharya Sushruta (Bhanumati Tika), Artava means Stree Beeja¹⁰.

रक्तलक्षणमाततत्वं गर्कं तत च । (सु. सू १५/९)11

.....आततवमाग्नेयम्.... ॥ (सु शा. ३/३)12

In all these references the word 'Artava' implies 'Streebeeja' i.e. ovum, as well as Artava means endometrium also.

सुक्ष्मकेशप्रतीकाशा बीजरक्तवहाः सिराः ।

गर्भाशयं तर्पयन्ति मासाद्विजाय कल्पते ॥ (विश्र वामित्र)

In Sutrasthana Aadhya 15, Acharya Sushruta stated Agneya gunatmak dravya are used in treatment of Artavashaya¹³. Acharya Charaka has stated that agneyagnatmak dravya attributes to Ushna, Tikshna and Laghu gunakarma' Hingu is Ushna, Tikshna and Laghu in Gunakarma¹⁴. Hingu niryas churna is the one of content which is used in preparation of Rajapravartini vati in equal quantity¹⁵. Rajapravartini vati is referred in Artavashaya, Rajorodha, Sakashta Raja strava¹⁵ etc. Hingu niryas churna is easily available and can be prepared easily in every household and can be taken over a long term without much medical attention and is very cost effective as well. This thesis with this study aims to ascertain effect of Hingu niryas churna on ovarian development of and thereby on ovulation as well as effect on endometrium.

Once the role of Hingu niryas churna is verified according to Acharya Sushruta and Bhavaprakash^{16,17,18}. We feel it can serve lot of women with respect to their physical, mental and social health and save family from economic burden

of treatment. Considering all above arguments in detail, we feel this study can provide a simple and useful solution to this grave problem and hence we propose this study.

Materials and methods

This is an observational study. For this detailed literature for Hingu from various ayurvedic manuscripts was studied. After that Hingu was procured from local pharmacy. Hingu was then purified, quantified and converted in churna and converted in dosages of 500 mg each, for to be provided to the patient. For this following ayurvedic manuscripts were studied^[19, 20].

1. Bhavaprakash Nighantu, Pratham Bhaga, Edited by Sri Brahmasankara Misra and Sri Rupalalaji vaisya, Chaukhambha Sanskrit Bhavan, Edition-2012.
2. Rasatarangini, Editor by Kashinathashastrina, 12th sankaran 1979, Punarmudran last2000.
3. Kashyapa Samhita, Revati Kalpadhya 6, Kalpasthana.
4. Charaka Samhita Chikitsasthan Adhyay 30, Sutrastana Adhyay 27.
5. Susruta Samhita Sutrastana Adhyay 38.
6. Sartha Vagbhata Sutrastana Adhyay 6.
7. Dravyaguna Vidnyan by Acharya Priyavat Sharma Part 2.

Hingu churna was prepared according to standard ayurvedic texts. For this Rasatarangini bySadanand Sharma, was used^[21].

**हिंगुशोधनमरामठं समशुद्धाज्यसयुतं दर्विकागतम् ।
विकपमग्नितापेन शुद्धिमायात्यनुत्तमाम् ॥ (रसतरंगिणी
२४/५७८) [21]**

Particles of raw hingu with equal quantity of gohrita were mixed in an iron spoon. This was then heated on medium intensity flame till the particles of Hingu popped up on gohrita surface and remained afloat there. At this point hingu was separated from gohrita and dried.

**अत्यंतकशुष्कं यदद्रव्यं सुपिष्टं वस्त्र गालितम् ।
तत्स्याच्चूर्णं रजः क्षोद तन्मात्रा कोलसम्मिता ॥ -
शा.सं.म.खं.६/१[22]**

Dose of hingu churna was 500 mg twice a day prepared according to Sharangdhar Samhita, madhyam khanda, adhyay sixtht, shlok number 1.

लिहेच्चूर्णं द्रवैः सर्वैघृत आद्वैर्दिगुणोन्मितैः ।

पिबेच्चतुर्गुणैरेव चूर्णं मालोडितं द्रवैः ॥ -

शा.सं.म.खं.६/२[23]

Hingu churna was given with anupan shoudhra, according to the verse mentioned above. 500mg of Hingu churna was mixed with equal quantity of Gogrita and consumed twice a day after meals, from 3rd day to next the menstrual cycle. The treatment was carried out for three cycles.

Patient was followed on alternate day. Patients endometrial thickness was calculated, end point was endometrial thickness and endometrial pattern was improved. Also, duration of the menstrual cycle and bleeding days along with amount of bleeding per cycle was calculated.

Patient included in study was 27-year-old female, with history of irregular menstrual cycle, scanty flow and infertility science 1 year. No other factors having infertility or endometrial dysfunction were noted.

Results

Endometrial Gradation

Done according to Vaginal or abdominal Ultrasound examinations.

Two criteria are used for endometrial analysis.

1. Endometrial thickness

2. Endometrial pattern

1. Endometrial thickness

After consuming Hingu churna improvement was seen in all the parameters of endometrium.

G GRADE	ENDOMETRIAL THICKNESS
Gr Grade 0	<5mm
GrGrade 1	≥5 to 7 mm
GrGrade 2	≥7 to 9 mm
GrGrade 3	> 9 mm

2.Endometrial pattern²⁴

GRADE	ENDOMETRIAL PATTERN
Grade 0	Homogenous hyper echoic endometrium.
Grade 1	A An intermediate isoechogenic pattern with same reflectivity as surrounding myometrium and a poorly defined central echogenic line.
Grade2	Triple line pattern consisting of a central hyper echoic line surrounded by two hypo echoic layers.

After consuming Hingu churna improvement was seen in all the parameters of endometrium

Amount of bleeding:

Menstrual Cycle	No. Of Pads	Amount of bleeding After Treatment
1St	1-2 Pads	Moderate, painless
2nd	2-3 Pads	Moderate, painless
3rd	3-4 Pads	Moderate, painless

Endometrial Pattern and Endometrial Thickness:

Menstrual Cycle	Endometrial Pattern	Endometrial Thickness
1St	Grade I	Grade I
2nd	Grade I	Grade I
3rd	Grade II	Grade II

Discussion

After consuming Hingu churn 500mg every day in morning with equal amount of gogrita, improvement in all the parameters of endometrium was seen. First parameter that was studied was number of days of bleeding. Patient had variable days of bleeding before consuming churna.

Bleeding lasted anywhere from 1 days to 2 days. After consuming the Hingu churna, cycle duration was increased to four to five days. Next parameter that was studied was amount of bleeding and pain associated with the bleeding. After consuming Hingu churna regularly the bleeding became relatively painless, and bleeding became regular and moderate. Hingu Churna also improves digestion of i.e. acts as deepan pachan which improves rasa dhatu which is ultimately improves Artava

Conclusion

Hingu churn when consumed regularly in doses of 500mg per twice a day improves all parameters of Endometrium growth in all the cycles. It thus is useful in infertility. Due to deepan pachan gunakarma of hingu improves digestion which acts on rasa dhatu which is ultimately improves Artava.

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