

Treating thin endometrium by Ayurvedic Medications: A Case Study

Case Report

Harsha Gambhire-Bhadugale^{1*}, Tekawade UV², Suhas Herlekar³, Manasi Kulkarni⁴

1. Ph. D. Scholar, 2. Professor and Head, Department of Rachana Sharir, College of Ayurved, Bharti Vidyapeeth Deemed (To Be) University, Pune, Maharashtra, India.
3. Professor & HOD, Department of Balrog, Tilak Ayurved Mahavidyalaya, Pune, Maharashtra, India.
4. Professor & HOD, Dept. of Swasthavritta & Yoga, Sai Ayurved College, Hospital & Research Centre, Vairag, Solapur, Maharashtra, India.

Abstract

Infertility is one of the most prevalent chronic health disorders involving young adults. Infertility is defined as failure to establish a clinical pregnancy after 12 months of regular and unprotected sexual intercourse. Endometrium is one of the important factors for successful pregnancy. Endometrial thickness is a marker for endometrial receptivity and a prognostic factor for pregnancy. A thin endometrium is generally defined as endometrial thickness less than 7 mm. Thin endometrium adversely affect reproductive performance. A thin endometrium is generally defined as endometrial thickness less than 7 mm. This is a case report of a female patient with thin endometrium with a complaint of inability to conceive for 2 years of regular unprotected intercourse. The menstrual blood is the shedded functional layer of endometrium of the uterus. In Ayurveda, the term *rajah* is used for menstrual blood. So, this case is considered as *Rajah-Kshay* and is treated accordingly. The treatment plan includes *Rasa & Rakta Pachak* (Blood Purifiers) medications and *Uttarbasti* (Vaginal administration of liquid medicine) of *Phalaghrita* to increase *Dharan kshamata* (implantation) of endometrium. During the treatment period this patient's endometrial thickness increased from 6.1 mm to 9 mm and menstrual flow increased. This led to her conception within 5 months of treatment and she delivered a healthy baby boy.

Key Words: Thin Endometrium, *Rajah-Kshay*, *Ras-Pachak*, *Rakta-Pachak*, *Uttarbasti*, *Phalaghrita*.

Introduction

Endometrium is one of the important factors in implantation and pregnancy. Endometrial thickness is a marker for endometrial receptivity and a prognostic factor for implantation. A thin endometrium is generally defined as endometrial thickness less than 7 mm. Nowadays a thin endometrium has become a common reason for implantation failure. [1, 2, 3, 4, 5, 6, 7]

The menstrual blood is the shedded functional layer of endometrium of the uterus. [8,9,10,11] In Ayurveda, the term *Rajah* is used for menstrual blood. [12,13, 14] So, thin endometrium can be considered as *Rajah-Kshay* which is treated by *Rasa-Pachak*, *Rakta-Pachak* and *Vata-Shaman chikitsa*.

Patient Information

A female Patient of 23 years, visited our facility with a complaint of inability to conceive for 2 years of regular unprotected intercourse. Patient came to us with thin endometrium which is already diagnosed by

another institute. The semen parameters of the husband were normal. Patient is housewife and married for 4 years. Patient had not taken any medicine for infertility. She had visited for the treatment of inability to conceive to other institute, where she got ultrasound and it was found that her follicular size was normal and they were ruptured but had thin endometrium. She was advised for Hormonal therapy, but she was not willing for these procedures and visited to our facility. Detail history of patient is given in table no.1

Table 1. Patient's History

Chief Complaints	Scanty menstrual flow since 2 years
Past History	No any major illness or operation Not taking any medicines for any complaint
Present Menstrual History	3days/30days cycle/painless/scanty flow LMP – 6/09/2015
Past Menstrual History	Menarche – at the age of 14 yrs. 3days/30days cycle/Normal flow/painless No Administration of Hormonal therapy/ Contraceptives
Obstetric History	Gravida 1 Para 0 Abortion 1 Patient had a history of natural conception 3 yrs. ago but get miscarried.
Family History	No family member had same gynaecological history No History of Diabetes, Hypertension

* Corresponding Author:

Harsha Gambhire-Bhadugale

Ph.D. Scholar, Department of Rachana Sharir,
College of Ayurved,
Bharti Vidyapeeth Deemed (To Be) University,
Pune, Maharashtra, India.
Email Id: harshabhadugale@gmail.com

Clinical Findings

Table 2. Clinical Examination

Clinical Examination	Findings
Height	152 cm
Weight	40 kg
BMI Index	17.3 (underweight)
Pulse	84/ min
BP	110/70 mm of hg
Per Abdominal exam	No tenderness, no pain
Per Speculum examination	Cervix was normal in size; no cervical erosion was seen. No white discharge was seen.
Per Vaginal examination	Cervix is placed downwards and backwards, Uterus is anteverted, mobile.

Investigations

Table 4. Investigations

Date	Type	Values
11/07/2015	Hb	12 gm/dL
	BSL (R)	97 mg/dl
	T3, total (triiodothyronine)	97 ng/dL
	T4, total (thyroxine)	7.1 µg/dL
	TSH (thyroid-stimulating hormone)	4 mU/L
	HIV I & II	Non-Reactive
	Australia Antigen (HBsAg)	Negative
	V.D.R.L.	Non-Reactive
	CBC	WNL
Urine (R)	WNL	

Table 5. Transvaginal Ultrasound Report - Follicular Study (Before Treatment)

Date	Uterus	Day of Cycle	Right Ovary	Left Ovary	Endometrium Thickness	Impression
16/07/2015	Retroposed, showed normal size, 58x34mm, Myometrium normal	12 th	A dominant follicle of 18 x15mm	-	5.8 mm	
18/07/2015		14 th	20x19 mm	-	6.0mm	
20/07/2015		16 th	23x21mm	-	6.0 mm	
22/07/2015		18 th	Showed corpus luteum		6.1mm	Recent ovulation

Diagnosis

From the patient’s chief complaint of scanty menstrual flow, this case was diagnosed as *Rajah-Kshay* and from modern aspect it was diagnosed as thin endometrium (Table 5 - Transvaginal Ultrasound Report - Follicular Study).

Treatment protocol

The treatment is planned as below –

- *Rasa Pachak & Rakta Pachak Churna* [13] for oral administration - The *rajah* is formed from *Rasa dhatu* (Blood plasma) and has similar characteristics as *Rakta dhatu* (Blood) [12]. Hence *Rasa & Rakta*

Pachak (Blood Purifiers) medications are used which will give good quality of *Rasa dhatu* (Blood plasma) and *Rakta dhatu* (Blood) and which leads to formation of good quality of *Rajah*.

- *Uttarbasti* (Vaginal administration of liquid medicine) of *Phalaghrita* [13] was planned as it has direct local action in reproductive system.
- *Bruhan* medications - The patient was underweight, hence *Shatavaridi churna* was planned for oral administration.

The treatment protocol is described in Table 7 & Table 8.

Table 7. Protocol of Oral Medications

Date	Medicine	Dose	Timing	Anupana (post prandial drink)	Duration
10/09/2015 to 04/02/2016	<i>Shatavari churna</i> 500 mg + <i>Ashwagandha churna</i> 500 mg + <i>Musali churna</i> 500 mg+ <i>Sugar</i> 500 mg + <i>Shunthi churna</i> 250 mg	2.5 gm	Morning	Milk	90 days
10/09/2015 to 08/11/2015	<i>Rasa Pachak Churna</i> (<i>Indrayava churna</i> 500 mg + <i>Patolpatra churna</i> 500 mg + <i>Kutki churna</i> 500 mg)	1 gm	After Lunch	Warm water	60 days
08/11/2015 to 04/02/2016	<i>Rakta Pachak Churna</i> (<i>Patolpatra churna</i> 200mg + <i>Sariva churna</i> 200mg + <i>Musta churna</i> 200 mg + <i>Patha churna</i> 200mg + <i>Kutki churna</i> 200 mg)	1 gm	After Lunch	Warm water	30 days
10/09/2015 to 04/02/2016	<i>Phalaghrita</i>	5 gm	Morning – Evening	Milk	90 days

Table 8. Protocol of Uttarbasti

Date	Basti	Drug	Dose	Duration
09/10/2015 to 11/10/2015	<i>Anuvasan Basti</i>	<i>Sahachar Oil</i>	100 ml	3 days
	<i>Niruha Basti</i>	450 ml <i>Dashamula Kadha</i> + 50 ml Sesame oil + 250 mg <i>Saindhav</i> (salt)+ 5 ml Honey	500 m	1 st day – <i>Anuvasan basti</i> 2 nd day – <i>Niruha basti</i> 3 rd day - <i>Anuvasan basti</i>
12/10/2015 to 14/10/2015	<i>Uttarbasti</i>	<i>Phalaghrita</i>	5ml	3days – First cycle
06/11/2015 to 08/11/2015	<i>Anuvasan Basti</i>	<i>Sahachar Oil</i>	100 ml	3 days
	<i>Niruha Basti</i>	450 ml <i>Dashamula Kadha</i> + 50 ml Sesame oil + 250 mg <i>Saindhav</i> (salt)+ 5 ml Honey	500 ml	1 st day – <i>Anuvasan basti</i> 2 nd day – <i>Niruha basti</i> 3 rd day - <i>Anuvasan basti</i>
09/11/2015 to 11/11/2015	<i>Uttarbasti</i>	<i>Phalaghrita</i>	5ml	3days – Second cycle
01/01/2015 to 03/01/2015	<i>Anuvasan Basti</i>	<i>Sahachar Oil</i>	100 ml	3 days
	<i>Niruha Basti</i>	450 ml <i>Dashamula Kadha</i> + 50 ml Sesame oil + 250 mg <i>Saindhav</i> (salt)+ 5 ml Honey	500 ml	1 st day – <i>Anuvasan basti</i> 2 nd day – <i>Niruha basti</i> 3 rd day - <i>Anuvasan basti</i>
04/01/2016 to 06/01/2016	<i>Uttarbasti</i>	<i>Phalaghrita</i>	5ml	3days -Third cycle

Timeline

Table 6. Timeline

10/09/2015	Patient visited our facility with a complaint of inability to conceive for 2 years of regular unprotected intercourse
10/09/2015 to 04/02/2016	Oral medicine
06/10/2015 to 08/10/2015	Menses
09/10/2015 to 11/10/2015	<i>Basti</i> (<i>Anuvasan</i> and <i>Niruha</i> Alternate)
12/10/2015 to 14/10/2015	<i>Uttarbasti</i> - <i>Phalaghrita</i> (First cycle)
17/10/2015 to 19/10/2015	Follicular study
03/11/2015 to 05/11/2015	Menses
06/11/2015 to 08/11/2015	<i>Basti</i> (<i>Anuvasan</i> and <i>Niruha</i> Alternate)
09/11/2015 to 11/11/2015	<i>Uttarbasti</i> - <i>Phalaghrita</i> (Second cycle)
15/11/2015 to 17/11/2015	Follicular study
29/12/2015 to 31/12/2015	Menses
01/01/2015 to 03/01/2015	<i>Basti</i> (<i>Anuvasan</i> and <i>Niruha</i> Alternate)
04/01/2016 to 06/01/2016	<i>Uttarbasti</i> - <i>Phalaghrita</i> (Third cycle)
09/01/2016 to 11/01/2016	Follicular study
04/02/2016	Patient conceived (Pregnancy confirmed by USG)

Results

After starting oral medicines and uttarbasti patients menstrual flow increases.

Table 9. observations of menstrual flow before and after treatment

Date	Menstrual flow
6/09/2015 to 08/09/2015 (Before treatment)	Scanty
06/10/2015 to 08/10/2015 (First menses after treatment)	Scanty
03/11/2015 to 05/11/2015 (Second menses after treatment)	Increased
29/12/2015 to 31/12/2015 (Third menses after treatment)	Increased

After starting oral medicines and uttarbasti patients endometrial thickness increased from 6.1mm to 9mm

Table 10. Transvaginal Ultrasound Report -Follicular Study (After Treatment)

Date	Day of Cycle	Right Ovary	Left Ovary	Endometrium Thickness	Impression
Before Treatment					
22/07/2015	18 th	Showed corpus luteum		6.1mm	Recent ovulation
After Treatment					
17/10/2015	12 th		20x18mm Dominant follicle seen	8.0 mm	
19/10/2015	14 th		Showed corpus luteum	8.1 mm	Recent ovulation
15/11/2015	12 th	21x19mm Dominant follicle seen		8.5 mm	
17/11/2015	14 th	Showed corpus luteum	-	8.5mm	Recent ovulation
09/01/2016	12 th		22x20 mm Dominant follicle seen	8.5 mm	
11/01/2016	14 th		Showed corpus luteum	9.0 mm	Recent ovulation

Table 11. USG Report after conception

Date	Impression
04/02/2016	Single live intrauterine pregnancy of 5 weeks and 3 days gestation.

Discussion

From ultrasound findings, the patient has normal ovulatory cycle, but had thin endometrium. And from clinical finding she has scanty menstrual flow. The BMI Index indicates the patient is underweight.

The menstrual blood is the shedded functional layer of endometrium of the uterus. In Ayurveda menstrual blood is termed as *Rajah*. [12]. Hence thin endometrium can be treated as *Rajah-Kshay*.

Main Causes of the *Rajah-Kshay* are as follows -

- Increased *Ruksha guna* of vitiated *Vata dosha*.
- Increased *ushna* and *tikshna guna* of vitiated *Pitta dosha*.
- *Kapha dosha kshay* which reduces *Dharan kshamata* (implantation) of *rajah*.

Considering these factors treatment is planned as below-

Sthanik Chikitsa (Local treatment)

Uttarbasti acts directly on the sthana of pathogenesis i.e., *yoni*. So, it is indicated in *Yonivyapad* (diseases of female reproductive system) and infertility. [15]

The *Uttarbasti* should be given after cleansing her body by *Basti*. [13] So, the patient has given 3 alternate *Anuvasan* and *Niruha basti* before every

Uttarbasti as table no 7. *Uttarbasti* is given for consecutive 3 days for 3 cycles starting from the 7th day of menses.

Properties of *Phalaghrita* [13]

It has *Snigdha* (greasy), *Sheet* (cold in potency), *Guru* (heavy for digestion) properties. It is *Balya* (increases strength), *Bruhan* (nutritious), *Vata-Shamak* (neutralises vitiated *Vata Dosha*). It is a remedy for female infertility and *Yonidosha* (diseases of female reproductive system).

Selection of *Phalaghrita* for *uttarbasti*

In this case the *Rajah kshay* is due to vitiated *Vata dosha* and *Kapha Dosha Kshay*. *Snigdha guna* (greasy) of *Phalaghrita* neutralises *Ruksha guna* (dryness) of *Vata Dosha* and its *Sheet* (cold in potency), *Snigdha guna* (greasy) increases *Kapha Dosha*. The *Uttarbasti* is given during the *Rutukala* (from cessation of menses to ovulation) during which there is proliferation of the endometrium which is caused due to *Kapha dosha*. [15] For pregnancy, implantation needs *Snigdha guna* of *Kapha Dosha* for adherence of fertilised egg in the endometrium which is called as *Upasnehan* (apposition). [16, 17] After adherence it gets penetrated and implants.

Sarvadehik Chikitsa (Systemic Treatment)

Rasa Pachak & Rakta Pachak

The *Rajah* is formed from *Rasa Dhatu* and has similar characteristics as *Rakta* (blood) [12]. Hence *Rasa pachak* and *Rakta pachak* medications are used which will give good quality of *Rasa* and *Rakta* and which leads to formation of good quality of *Rajah*.

Rasa Pachak Churna [13]

It contains *Indrayava churna*, *Patolpatra churna* and *Kutki churna* in equal quantity. It increases *Jatharagni* (digestive fire) and *Rasa Dhatvagni*. It reduces *Rasa dhatugat kleda* and is *Rasa dhatu* purifier. It is used in *Rasadhatugat jwara*.

Properties of individual drug are as below

- *Indrayava* (seeds of *Holarrhena Antidysenterica*) – It is useful in *Rasa- Rakta gat Kapha-Pitta Vikar*. It is *Deepan* (increases appetite), blood purifier. It is useful in *Rasadhatugat jwara*. [18]
- *Patolpatra Churna* (*Trichosanthes Dioica*) – It is *Kapha - Pitta Shamak* (neutralises vitiated *Kapha – Pitta Dosha*). It is *Deepan* (increases appetite), *Pachan* (improves digestion), *Rochan* (improves taste), blood purifier. It is useful in *Rasadhatugat jwara and Raktadhatugat jwara*. [18]
- *Kutki Churna* (*Picrorhiza Kurroa*) - It is *Kapha - Pitta Shamak* (neutralises vitiated *Kapha – Pitta Dosha*). It is *Deepan* (increases appetite), *Pachan* (improves digestion), *Rochan* (improves taste), blood purifier. It is useful in *Rasadhatugat jwara and Raktadhatugat jwara*. [18]

Rakta Pachak Churna [13]

It contains *Patolpatra churna*, *Sariva churna*, *Musta churna*, *Patha churna* and *Kutki churna* in equal quantity. It increases *jatharagni* (digestive fire) and *Rakta Dhatvagni*. It reduces *Raktadhatugat kleda* and is *Rakta dhatu* purifier (blood purifier). It is used in *Raktadhatugat jwara*.

Properties of individual drug are as below

- *Sariva churna* (*Hemidesmus Indicus*) – *Tridosha Shamak* (neutralizes vitiated *Vata-Pita-Kapha Dosha*), *Deepan* (increases appetite), *Pachan* (improves digestion), *Rochan* (improves taste), blood purifier. It is useful in *Raktadhatugat jwara*. [18]
- *Musta churna* (*Cyperus Rotundus*) - It is *Kapha - Pitta Shamak* (neutralises vitiated *Kapha – Pitta Dosha*), *Deepan* (increases appetite), *Pachan* (improves digestion), *Rochan* (improves taste), blood purifier. It is useful in *Raktadhatugat jwara*. [18]
- *Patha churna* (*Cissampelos Pareira*) - *Tridosha Shamak* (neutralizes vitiated *Vata-Pita-Kapha Dosha*), *Deepan* (increases appetite), *Pachan* (improves digestion), blood purifier.[18]

Shatavaridi Churna

The patient is underweight, hence *Bruhan* (nutritious) medications [13] are planned. For this a combination of *Shatavari churna*, *Ashwagandha churna*, *Musali churna*, Sugar powder and *Shunthi churna* with milk as *Anupana* (post prandial drink) is used.

- *Shatavari churna* (*Asparagus Racemosus*) - It is *Agnivardhak* (increases digestive fire), *Vata-Pitta Shamak* (balances vitiated *Vata and Pitta Dosha*), it is *Balya* (tonic), *Rasayan* (rejuvenating). [18] *Shatavari* is a tonic for women which distributed in health food products all over the world. [19]
- *Ashwagandha churna* (*Withania somnifera*) – It is *Kapha-Vata Shamak* (balances vitiated *Kapha and Vata Dosha*). It is *Agnivardhak* (increases digestive fire). It is *Balya* (tonic), *Rasayan* (rejuvenating). [18] *Ashwagandha* has various pharmacological activities like anti-cancer, immunomodulatory, cardioprotective, neuroprotective, anti-aging, anti-stress and anti-diabetic. [20, 21, 22,]
- *Musali churna* (*Asparagus Adscendens*) – It is *Tridosha Shamak* (balances vitiated *Vata-Pitta-Kapha Dosha*). It is *Agnivardhak* (increases digestive fire). It is *Balya* (tonic), *Rasayan* (rejuvenating). [18]
- Sugar powder – It is *Vata-Pitta Shamak* (balances vitiated *Vata and Pitta dosha*), *Rochan* (improves taste). [18]
- *Shunthi churna* (*Zingiber Officinale*) – It is *Kapha-Vata Shamak* (balances vitiated *Kapha and Vata dosha*), *Rochan* (improves taste), *Deepan* (increases appetite), *Pachan* (improves digestion), *Dhatvagni Vardhan* (increases digestive fire of all dhatus). [18] It is useful in treating various gastric ailments like constipation, dyspepsia, belching, bloating, gastritis, epigastric discomfort, gastric ulcerations, indigestion, nausea and vomiting. [23]

Phalaghruta [13]

It is *Snigdha* (greasy), *Sheet* (cold in potency), *Guru* (heavy for digestion) properties. It is *Balya* (increases strength), *Bruhan* (nutritious), *Ayushya* (enhances life span), *Paushtik* (nutritious), *Medhya* (improves intelligence), *Vata-Shamak* (neutralises vitiated *Vata Dosha*). It is a remedy for female infertility.

Conclusion

From Ayurvedic perspective, thin endometrium can be considered as *Rajah-Kshaya* which is treated by *Rasa-Pachak*, *Rakta-Pachak* and *Vata-Shaman chikitsa*. After this treatment the endometrial thickness of the patient is increased from 6.1mm to 9mm, and menstrual flow is increased. She gets conceived within 5 months from starting the treatment and she delivered healthy baby boy.

Informed Consent

Written consent was obtained from the patient for the purpose of publication of their clinical details.

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