DOI: https://doi.org/10.36094/sc.v89.2024.Ultra_Trial_Uttarabasti_in_Pcos_W.S.R._to_Endometrial.Roy 166

ARTICLE

Sci. and Cult. 90 (5–6) : 166-169 (2024)

ULTRA TRIAL: *UTTARABASTI* IN PCOS W.S.R TO ENDOMETRIAL RECEPTIVITY

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Polycystic ovarian syndrome (PCOS) is a complex multisystem disorder. All clinical features resemble Pushpaghni Jataharini,Artavakshaya, Artavanasha, Vata kaphaja artavadusti etc.Among the four essential factors of conception, endometrial disorders included in kshetradushti (defective Endometrial Receptivity)are more prevalent. PCOS affects ovulatory function, oocyte quality, and endometrial receptivity. Even when ovulation is restored, there is altered cellular endometrium affecting the endometrial receptivity. Uttarabasti (intrauterine instillation of medicine) is used as an ultra-trial for managing women suffering from PCOS using the parameters of the USSR.

Introduction

Polycystic ovarian syndrome (PCOS) is a complex multisystem disorder or can be regarded as a metabolic syndrome which is having adverse effects on reproductive, metabolic, and psychological systems resulting in impairment in women's health and quality of life across the lifespan. Signs and symptoms of PCOS vary from, menstrual irregularities in the form of oligomenorrhea, amenorrhea, hypomenorrhea, obesity especially of abdominal type, presence of hirsutism, acne, acanthosis nigricans etc[1]. As per WHO the prevalence of PCOS is estimated as 8-13% of reproductive-aged women and up to 70% of affected women remain undiagnosed worldwide[2]. In Ayurvedic literature, PCOS is not specifically mentioned as a disease and it is hard to find an exact clinical correlation for the same. All clinical features of this condition may be recognised in several ailments described in our classics like *PushpaghniJataharini*, *Artavakshaya*, *Artavanasha*, *Vata kaphaja artavadusti* etc[5,6,11,12]. PCOS is manifested in women following a range of negative exposure to nutritional and environmental factors related to contemporary lifestyles. Among the four essential factors of conception, endometrial disorders included in *kshetradushti* (defective Endometrial Receptivity**)** are more prevalent**.** PCOS affects ovulatory function, oocyte quality, and endometrial receptivity[3]. Even when ovulation is restored, there is altered cellular endometrium affecting the endometrial receptivity at the time of implantation which is likely to be associated with subfertility and increased miscarriage rates[7-10]. *Uttarabasti* (intrauterine instillation of medicine) under all aseptic care is used as an ultra trial for managing women suffering from PCOS. The seven parameters of the USSR which will scientifically justify our Ayurvedic approach of *Uttarabasti* towards managing PCOS patients, using ultrasound and colour Doppler.

*Aim and Objectives***:** To access the pathophysiology of the endometrium and to evaluate the effect of *shatpushpa taila uttarabasti* on endometrial receptivity in patients with polycystic ovarian syndrome.

Material and Methods

Diagnosed married female patients of PCOS were selected.

Assessment Criteria: 7 parameters were measured and assessed for the Uterine scoring system of reproduction (USSR) (M. Applebaum 1995)[4] (Table 1.)

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Table 1: Uterine scoring system of reproduction (USSR) and pregnancy inferences

Sr. No.	USSR score	Inference
1.	20	Perfect score and conception in all
2.	17-19	77% Pregnancy
3.	14-16	60% Pregnancy
4.	<13	No Pregnancy

Radiological Assessment: Ultrasound examination (TVS) with colour Doppler (By USSR score) on Day 21-24 of the menstrual cycle. (Table 2.)

Table 2: Ultrasound examination (TVS) with colour Doppler (By USSR score) on Day 21-24 of the menstrual cycle

Sr. No.	Parameter	Group a *Uttarabasti* (U.B.)
1.	Endometrial Thickness	B.T.
2.	Endometrial Layering	Before U.B. procedure between
3.	Myometrial contractions	day 21-24 of menstrual cycle USG will be done
4.	Myometrial ech	A.T.
5.	Uterine artery Doppler flow (PI)	After 3 consecutive cycles of the U.B. procedure, UGS will be repeated on Day 21-24 of mense
6.	Endometrial Blood flow in Zone 3	
7.	Myometrial Blood flow (Grey Scale)	

Case Presentation

Patient Information. A 28 year female, well built, with a height of 160cm, 60 kg weight and married for 3 years her last menstrual period was on 24.02.2021 and she was a native of Uttar Pradesh.

Chief Complaints. The patient presented with primary infertility for 3 years. She has never conceived and wants issue.

History of Present Illness. The patient was presently having irregular periods and wants to conceive.

History of Past Illness. She was diagnosed with a case of PCOS in 2018 and was having a delayed cycle of 4-6 months and rapid weight gain. She then consulted a Gynaecologist and took hormonal treatment.

Clinical Findings. The patient's detailed history was noted and on examination, she was well-oriented with time, place and person with stable vitals her blood pressure measured in IPD was 130/84 mmHg (in a sitting position) on the day of her first visit. On general examination, she was normal. Her cardiovascular and respiratory system examinations were within normal limits. Per abdominal and per vaginal examinations were normal.

Differential Diagnosis. All her diagnostic reports and physical sign symptoms suggest the condition is irregular menstruation with PCOS.

Diagnostic Assessments. Ultrasound examination (TVS) with colour Doppler (By USSR score) on Day 21-24 of the menstrual cycle was evaluated for the patient which shows successive enhancement of the score and further chances of pregnancy.

Diagnosis. Based on the history and detailed clinical and diagnostics it is primary infertility due to PCOS.

Therapeutic Intervention. for this patient as she was having a delayed cycle she was planned for hormonal with drawal and *Uttarabasti* was planned for three consecutive cycles after preparing the patient with *deepan*, *pachan* and *kosthasodhana* (Figure 1-3)

Outcome and Follow-up. The patient got pregnant after the second cycle of uttarabasti.

Discussion

"Endometrial receptivity" means the ability of the

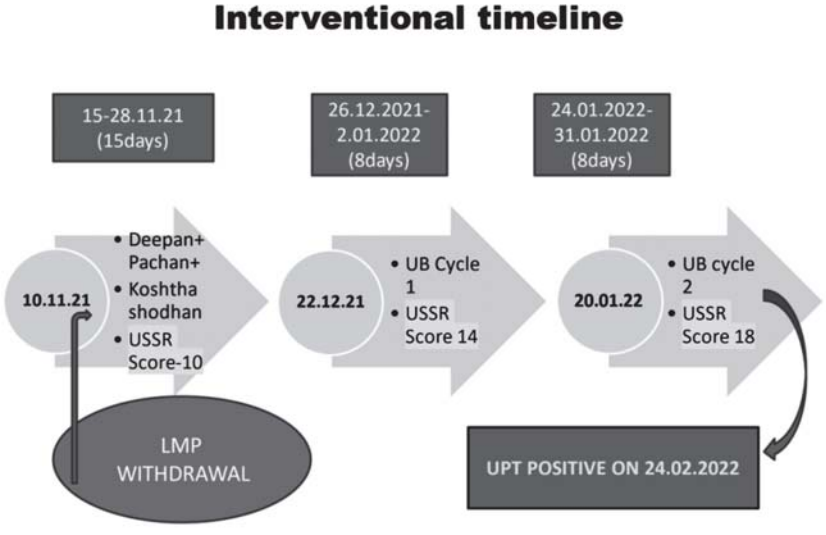


Fig. 1

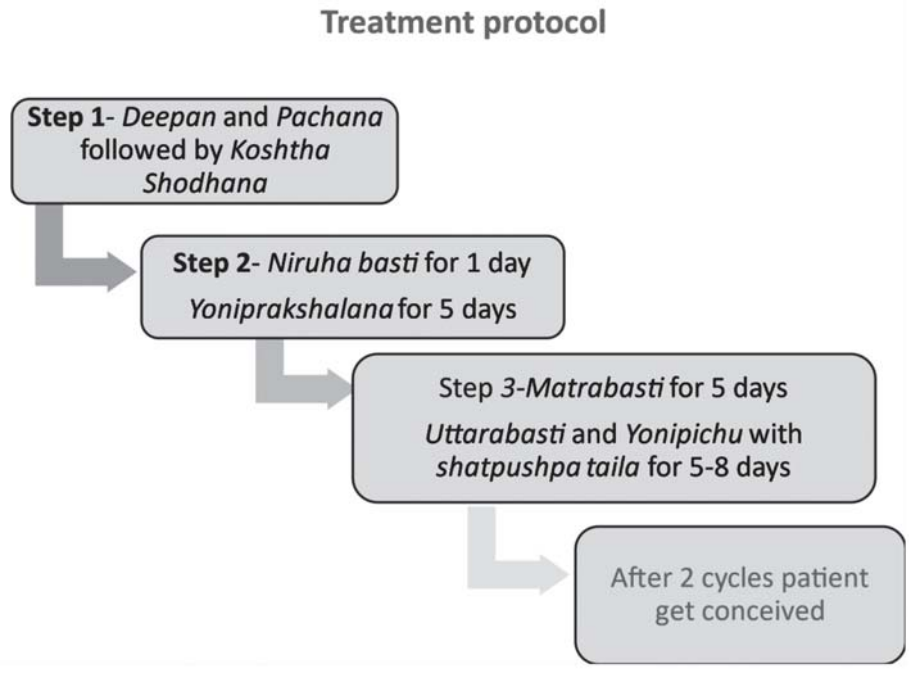
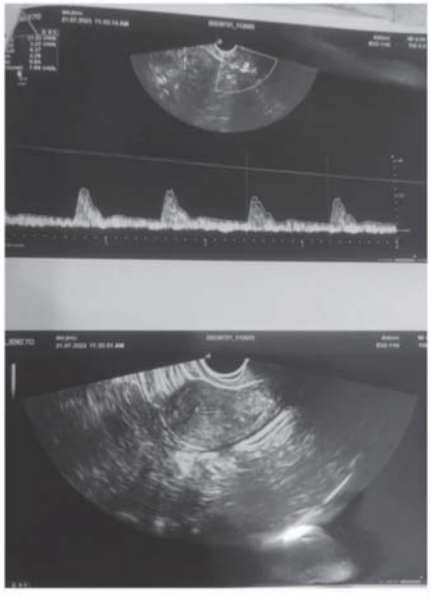


Fig. 2

endometrium to accept the implantation of the embryo. Endometrial receptivity is present only for a very short time in one menstrual cycle, typically occurring on the 21st to 24th day of the cycle in the mid-secretory phase. This is called "windows of implantation (WOI)". In PCOS patients even after the restoration of ovulation probably due to alteration in endometrial receptivity, conception is difficult. PCOS may be considered under *agni vikara* (disease condition due to vitiation of metabolism) with *bahu dosha avastha* (vitiated *dosha*). It is *kapha vataja* disorder which later on hampers the proper functioning of *pitta dosha*. Due to increased *kapha* and *agnimandya* (deficient metabolism), more number of follicles are produced but not able to get matured (due to altered *pitta* function of *pachana*), resulting in cyst formation obstructing the flow of *vata (*by obstructing the *gamana* function of *vata* in the proper direction), which in turn aggravates and results into anovulation and oligomenorrhea and impaired growth of the endometrium. *Shatpushpa taila uttarabasti* helps in purification and clears the *artavavaha srotas*, pacifies vitiated *apana vayu* and improves follicular maturity ultimately improving hormonal support by proper follicle growth. It also forms the prime treatment in *Garbhasaya roga* which was administered during the course. It acts as *vata-pitta shamaka*. It is said to have *vrishya, rasayana,* and aphrodisiac properties with an added indication in *Vandhyatva*. was the reason for selecting as *Uttarabasti* medicine.

TVS parameter USSR score

Sr. No.	Parameter	B.T	A.T.
1.	Endometrial thickness	4.4 mm	9.5
2.	Endometrial layering	Distinct 5	Distinct 5
3.	Myometrial contraction	Present	Present
4.	Myometrial echogenecity	Homogenous	Homogenous
5.	Uterine artery PI	2.39	
6.	Endometrial blood flow zone3	Absent	Present
7.	Myometrial blood flow	Present	Present



Conclusion

Shatpushpa taila intrauterine *uttarabasti* is beneficial in improving endometrial receptivity. In the future other uterine receptivity markers can be used to establish that *Uttarabasti* acts as an enhancer of endometrial receptivity and increases chances of conception and pregnancy outcome, especially in cases of PCOS.

Source of funding:NIL

Conflict of interest: NIL

Acknowledgement:

To Banaras Hindu University and the patient who has given consent for publication. ❐

References

1. S. Patel. Polycystic Ovary Syndrome (PCOS), an Inflammatory, Systemic, Lifestyle Endocrinopathy. *J Steroid Biochem Mol Biol*. 182:27–36 (2018). Epub 2018/04/22. https://doi.org/10.1016/j.jsbmb.2018.04008 PMID: 29678491
2. N.X. Jiang, X.L. Li. The Disorders of Endometrial Receptivity in PCOS and Its Mechanisms. Reprod sci. May 27 (2021). doi: 10.1007/s43032-021-00629-9. Epub ahead of print. PMID: 34046867.
3. R. Silvana. Ferreira and B. Alicia. Motta, Uterine Function: From Normal to Polycystic Ovarian Syndrome Alterations Volume 25, Issue 15 (2018)
4. H. Pinkas, R. Mashiach, D. Rabinerson et.al, Doppler parameters of uterine and ovarian stromal blood flow in women with polycystic ovary syndrome and normally ovulating women undergoing controlled ovarian stimulation. Ultrasound Obstet Gynecol. Sep;12(3):197-200(1998).doi: 10.1046/j.14690705.1998.12030197.x.PMID: 9793192.
5. Ashtanga Samgraha of Vagbhatta with Hindi Commentary by Kaviraj Atrideva Gupta; Published by Krishnadas Academy, Varanasi. Uttara Tantra Chapter 39, Verse 53, Reprint Edition (2002).
6. Jadavaji Trikamji Vaidya, Editor Chakrapani Commentary on Charaka Samhita, Siddhi Sthana. Chapter 9, Verse 50, Varanasi: Chaukhambha Orientalia; (2015).
7. Bui et al. Does Endometrial Scratching Increase the Rate of Spontaneous Conception in Couples with Unexplained Infertility and a Good Prognosis (Hunault > 30%)? Study Protocol of the SCRaTCH-OFO trial: a Randomized Controlled Trial. BMC Pregnancy and Childbirth (2018) 18:511 https://doi.org/10.1186/s12884-018-2160-z
8. N. Malhotra, J. Malhotra, A. Singh, P. Gupta, N. Malhotra. Endometrial Receptivity and Scoring for Prediction of Implantation and Newer Markers. J South Asian Feder Obst Gynae; 9(2):143-154 (2017).
9. A.J. Wilcox, D.D. Baird, C.R. Wenberg. Time of Implantation of the Conceptus and Loss of Pregnancy. *N Engl J Med*. ; 340(23): 1796–9 (1999).
10. R.J. Paulson. Introduction: Endometrial Receptivity: Evaluation, Induction and Inhibition. Fertil Steril.; 111(4): 609–10, (2019)
11. Y.T. Acharya, Editor. Charakasamhitha of Charaka, Kalpasthana, Madana Kalpa: Chapter 1; Verses 13. New Delhi: Chaukhamba Orientalia. p. 653e4, (2012).
12. Vagbhatas, Ashtang Hridaya, K.R. Srikanta Murthy, Chaukhambha Krishnadas Academy, Varanasi.Reprinted 2009, Uttar Sthana-34/63-67. Page no- 326