

Ayurveda management in Premature Ovarian Insufficiency- A Case Study

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Abstract:

Premature ovarian insufficiency (POI) is defined as a cessation of ovarian function before the age of 40 years. It is associated with hypoenestrogenism and loss of residual follicles, both of which lead to menstrual abnormalities, pregnancy failures, and decreased health-related quality of life. The prevalence of POI is estimated at 1% in the general population. The risk of premature ovarian insufficiency (POI) before the age of 40 years is 1 %. The aetiopathology of premature ovarian insufficiency in the majority of cases is unknown and is termed as spontaneous or idiopathic POI. This is a case with signs and symptoms of POI which was developed after the administration of GnRH agonist drugs as a part of treatment of endometriosis. In this single case study, a female of 33 years having complaints of absence of periods since 6 months treated with Ayurveda treatment with pre and post evaluation. The symptoms of secondary amenorrhoea, hot flashes, vaginal dryness and mood swings were relieved after Ayurveda medications and procedures.

Key words: Premature Ovarian Insufficiency, Ayurveda, *Artavakshaya*, *Yoni purana*, *Yonipichu*

Received: 31.05.2021 Revised: 08.06.2021 Accepted: 14.06.2021 Published: 28.06.2021

Quick Response code



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Introduction:

Premature ovarian insufficiency (POI) is defined as a cessation of ovarian function before the age of 40 years. The prevalence of POI is estimated at 1% in the general population.^[1] The aetiopathology of premature ovarian insufficiency in the majority of cases is unknown and is termed as spontaneous or idiopathic POI.^[2] Premature ovarian insufficiency is the preferred term for the condition that was previously referred to as premature menopause or premature ovarian failure; other terms used for this condition include primary ovarian failure and hypergonadotropic hypogonadism, as well as the misnomer, gonadal dysgenesis.^[3-4] Genetic abnormalities, metabolic disorders, iatrogenic procedures and environmental factors can contribute the development of POI. Cystectomy of endometriotic cysts is the leading cause for ovarian insufficiency, although any surgical procedure on the ovary may induce ovarian insufficiency.^[5-6] Signs and symptoms of premature ovarian insufficiency are similar to those of menopause or estrogen deficiency. They include irregular/ absence of periods, hot flashes, vaginal dryness, dry eyes, irritability or difficulty in concentrating and decreased sexual desire.^[7] These symptoms can also develop after the administration of GnRH agonists, as they produce pseudomenopausal state.

Case report:

A female patient of 33years old attended the OPD of Prasuthi Tantra and Stree Roga, PNNM Ayurveda Medical College, Cheruthuruthy, with complaints of Amenorrhoea since 6 months associated with episodes of hot flashes and night sweats on and off, vaginal dryness, loss of libido, progressive weight gain and mood swings. Menstrual H/o: She attained menarche at the age of 11 years and had regular menstrual cycles thereafter. She developed menorrhagia

and severe congestive dysmenorrhoea after her second delivery. Since then she was diagnosed as a case of endometriosis associated with ovarian cyst at the age of 27 years.

Treatment and surgical H/o: She had undergone laparoscopic cystectomy twice and unilateral salpingectomy along with gross wedging of uterus due to severe adhesions over bladder and omentum. After the surgery, she was under GnRH agonist (leuprolide acetate 3.75mg) drugs for 3 months. Thereafter she developed the above symptoms.

There is no contributory family history. Examination showed well-developed secondary sexual characteristics with a BMI of 27. Systemic examination was unremarkable. Informed consent was taken prior to the pelvic examination and treatment.

Local Examination showed normal external genitalia. In P/V examination- Uterus: NS, AV CMT: Absent, Fornices: Tenderness+ over Lf. Fornix. In P/S Thick white discharge++, milky white in colour, Cervix: Bulky and eroded. Nabothian cysts+

Investigations:

USG abdomen pelvis: the findings are described in table 3. Among the criteria of POI, 2 factors (age<40years & amenorrhoea since 4 months) were satisfied in this case. As there is a recent history of GnRH agonist therapy that precipitates the disturbance in HPO axis, which in turn bring about fluctuations in the FSH level, hormonal assay was not done. The final diagnosis as Artavakshaya was made on the basis symptoms and investigations

Therapeutic intervention:

Informed consent has been taken for publication in research community without disclosing the identity of the patient.

A 2 phase treatment was planned in this particular case. The first phase treatment concentrated in correcting the remnant endometriotic tissue and also in relieving the

inflammation of the uterus and cervix. The second phase treatment was planned for the

induction of periods and also in regulating the normal functioning of HPO axis (Table-1).

Table-1: Therapeutic intervention:

Phase 1	Phase 2
<ol style="list-style-type: none"> 1. <i>Thrayanthyadi kashayam</i>^[9] 15ml kasayam with 45ml leukwarm water twice daily before food 2. <i>Punarnavadvakashayam</i>^[10] 15ml kasayam+45ml leukwarm water at 11am & 3pm 3. <i>Guggulupanchapalachurnam</i>^[11] 1 teaspoon with honey twice daily after food 4. <i>Mahatiktakam ghritam</i>^[12] 1 teaspoon full with warm water in empty stomach in the morning 5. <i>Anutaila</i>^[13] as <i>pratimarsa nasyam</i> 3 drops each in two nostrils 6. <i>Balaguduchyadi keram</i>^[14] on head 7. <i>Triphala churnam</i>^[15] 1 teaspoon with warm water at bed time <p>Sthanika chikitsa:</p> <ol style="list-style-type: none"> 1. <i>yoni prakshalana</i> with <i>Triphala kashaya</i> 2. <i>Yoni purana</i> with <i>Durvadi ghritam</i> 	<ol style="list-style-type: none"> 1. <i>Kulathadi kashayam</i>^[16] 15ml kasayam with 45ml leukwarm water twice daily before food 2. <i>Kalyanakam kashayam</i>^[17] 15ml kasayam+45ml leukwarm water at 11am & 3pm 3. <i>Moorchita tila tailam</i>^[18] 1 teaspoon with hot water in empty stomach in the morning <p>Sthanika chikitsa:</p> <ol style="list-style-type: none"> 1. <i>Yoni kshalana</i> with <i>Dasamoolam kashayam</i> 2. <i>Yoni Purana</i> with <i>Satapushpa</i>^[19] <i>tailam</i>

Table-2: BT and AT Observations:

Before treatment	After treatment
Absence of periods	Regular periods
Hot flashes	No hot flashes
Sleep disturbances	Adequate sleep
Loss of libido	Sexually active
Dyspareunia and vaginal dryness	Relieved completely
Mentally depressed	Psychologically sound
Body weight: 75kg	Body weight: 75kg

Table- 3: Comparison of USG reports before and after treatment:

USG Report before treatment (11.7.2020)	USG after 1 month of treatment (28.8.2020)	USG in follow up scan (21/11/2020)
<ul style="list-style-type: none"> Mild hepatomegaly with grade 1 fatty infiltration. Small cystic lesion in the left adnexa with a few thin septations Tortuous cystic lesion with a few thin Septations in the left adnexa possibly hydrosalpinx. Evidence of surgery noted with distortion of the uterine contour. ET: 3mm 	<ul style="list-style-type: none"> Features of left sided hydrosalpinx with left endometriotic/haemorrhagic cyst ET: 7.5mm 	<ul style="list-style-type: none"> Grade 2 fatty liver ET: 4.5mm No evident Adnexal lesions No free fluid in abdomen and pelvis.

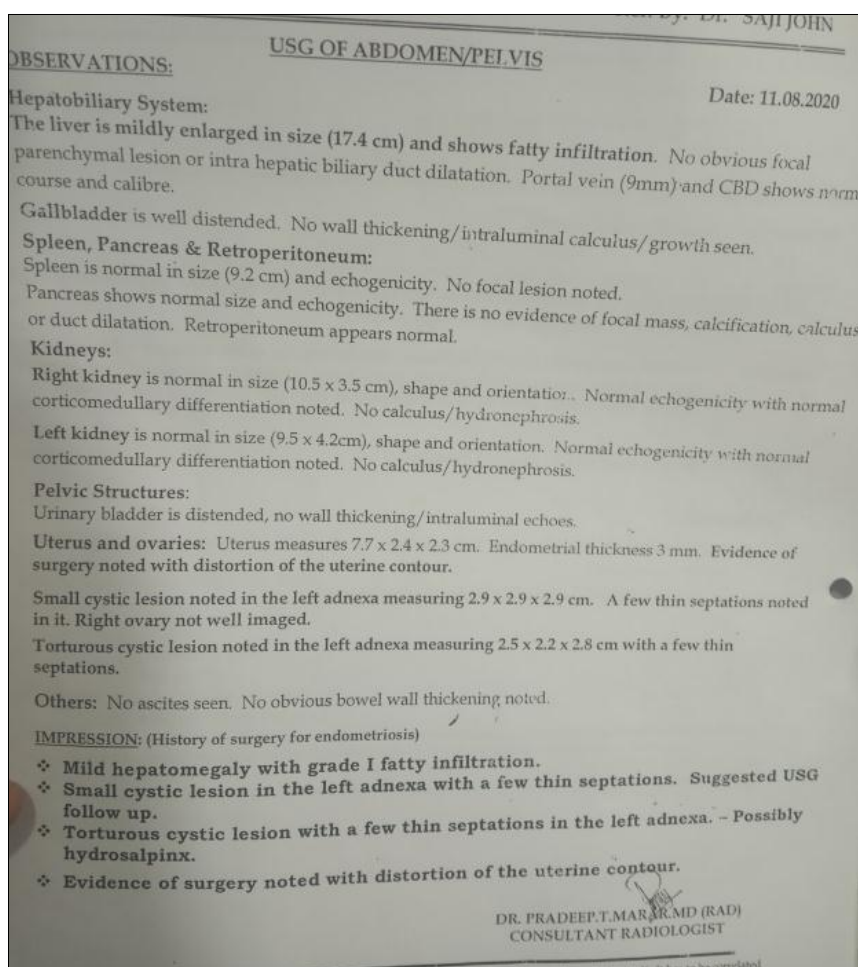


Fig-1: USG Before treatment

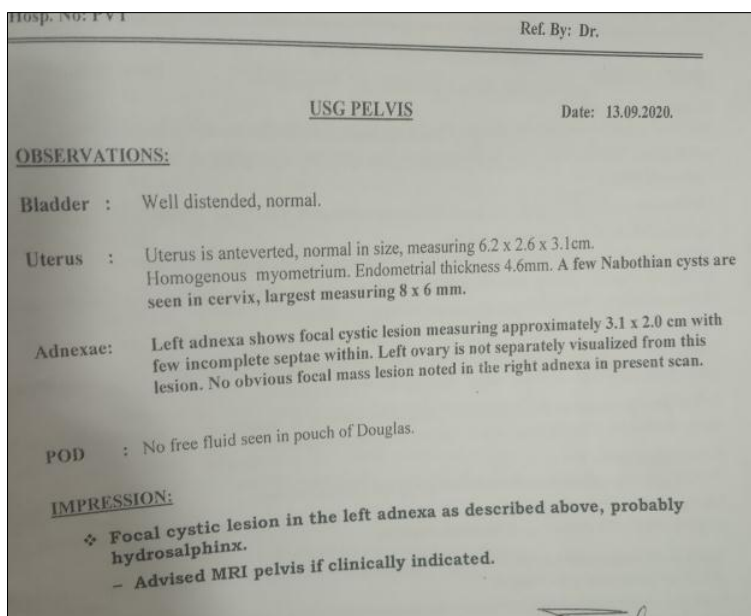


Fig-2: USG After treatment

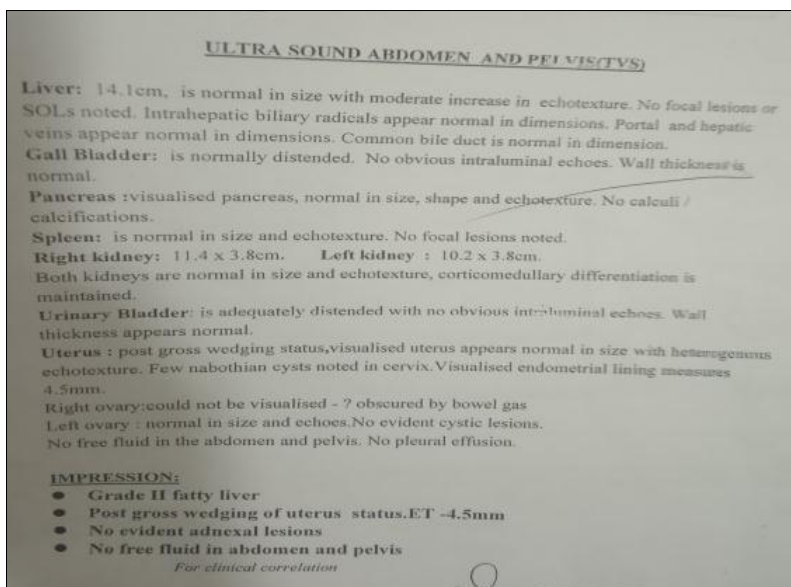


Fig-3: USG Follow up scan

Observations and results:

On the first day of evaluation, there was white discharge, bulky cervix and presence of nabothian cysts. After 7th day of 1st phase kshalana and purana, white discharge reduced the inflammation around cervix reduced and tenderness over Left. Fornix reduced. After 2nd phase of treatment, the cervix became normal in size, white discharge relieved. The patient got considerable symptomatic relief hence

further investigations were not done. The mental status of the patient was assessed using HAM- A scale in which the score was 17 which showed mild anxiety levels.

Discussion:

GnRH agonists are synthetic derivatives of native decapeptide produced by hypothalamus. These agents cause a reversible suppression of the production of FSH and LH from anterior pituitary. In a normal adult female, GnRH is secreted in a pulsatile fashion every 60-90 min, resulting in normal levels of FSH and LH. Because of increased long life and increased potency of GnRH agonists, there is down regulation of GnRH receptors resulting in desensitization of GnRH gonadotrophs.^[20] This results in loss of stimulation of ovarian steroids thus results in hypoestrogenic state which causes amenorrhoea and perimenopausal symptoms. GnRH agonists are indispensable in the treatment of diseases like endometriosis, cancer etc. Usually there is a chance of recurrence of menstrual bleeding after the stoppage of these drugs. But in this particular case, patient did not attain periods even after 4-5 months of stoppage of GnRH agonist drugs. This may be due to the surgical intervention and anatomical distortion as a complication of endometriosis which is evident in the USG report too.

In the initial phase, *Thrayannthyadi kashayam* (mentioned in A.H vidradhi chikitsa) was given with an intention to regress the remnants of ectopic endometriot tissue. As the patient exhibited symptoms of *Vata* and *pitha Mahatiktakam ghritam* (Mentioned in *Sahasrayogam, Kushtadhikara*) was given as it is *Vata pitha samaka, Santapahara* and *Raktapitha pitha hara*. It is also indicated in *Pithaja unmada* and *Shandatwa* as per *Susrutacharya*. There were features of hydrosalpinx and haemorrhagic cyst in the USG scan. Hence *Punarnavadi kashaya* (mentioned in A H *Sutrasthana*) and *Guggulu panchapala churnam (sahasrayogam)* were added to the prescription. In *Ayurveda, nasya karma* is indicated in the diseases pertaining to *Jara*. *Anutailam Nasyam* (mentioned in A H, *Sutrasthana*) and *Bala guduchyadi kera taila*

siro abhyangam (in *Sahasrayogam*) restores the normal functioning of HPO axis. Moreover *Abhyangam* acts as *Jara nashana*. *Triphala churnam* acts as antioxidant which reduces the free radicals in the body thus slows down the aging process.

Sthanika chikitsa like *Yoni prakshalana* with *Triphala kashaya* acts as *Vrana sodhana* and *Ropana*. Hence it is beneficial in infected cervical erosion and helps in minimizing the white discharge P/V. After attaining *Vrana sudhi*, *Yoni purana* was administered with *Durva ghritam* as *Durva* is indicated in *Sudha vrana*. In the second phase, the formulations which are *Artava janaka* were selected. *Kulathadi kashaya* and *Moorchita tila taila* are best examples for *Artava janana*. *Kulathadi kashayam* is *Ashmarighna* and helps in clearing the cysts. *Kalyanakam kashayam* helps in regulating the normal functioning of HPO axis. *Yoni kshalanam* with *Dasamoolam kashayam* was selected for *Sthanika chikitsa* considering the *sothahara* property of *Dasamoola* which helps in reducing the inflammation around the cervix. *Yoni purana* was done using *Shatapushpa taila*. The drug *Shatapushpa* is given much importance in *Kashyapa samhita*. It is indicated in *Artavakshaya & Artava ativridhi, Sushkayoni, Vandhya* etc. In this particular case, *Shatapushpa tailam* has helped in relieving vaginal dryness and also in improving the endometrial thickness. The case of POI can be compared to as *Artavakshaya* in Ayurvedic perspectives. Hence *Artavajanaka* drugs can help in the *samprapthi vighattana* of this disease. As the patient had history of severe endometriosis and surgical and medical interventions related to it, the formulations which can regress the ectopic endometriot tissue were selected in the initial phase. In the second phase, the prescription concentrated on induction of periods. Other symptomatic treatments were given along with.

Conclusion:

Hence this case was successfully managed by Ayurveda treatments and procedures in two phases without aggravating the ectopic endometriotic tissues. Ayurveda formulations helped in not only reducing the symptoms of menopause but also helps in destructing and preventing the further chances of development of ectopic endometriotic tissue.

Scope of the study:

GnRH agonists drugs are the most potent and proved drugs in treating the severe endometriosis. But there are certain side effects which adversely affects the hormonal status of the woman. Though they are capable of destructing the ectopic endometriotic tissue, the chances of recurrence of endometriosis is more after stopping them. Hence these drugs produce menopause like symptoms along with further chances of developing endometriosis after stopping them.

Limitation of study:

The hormonal status of the patient was not assessed in this study. As this is single case report the protocol should be tried in more samples for scientific validation of this procedure.

Consent of patient:

The consent of patient has been taken for publication and procedure without disclosing the identity of patient.

Acknowledgement:

Author acknowledge to the principal of Ayurveda College and departmental faculties for providing all facilities.

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Conflict of interest: Author declares that there is no conflict of interest.

Guarantor: Corresponding author is guarantor of this article and its contents.

Source of support: None

How to cite this article:

Vidya KP, Divya U, Satheesan S. Ayurveda management in Premature Ovarian Insufficiency- A Case Study. Int. J. AYUSH CaRe. 2021; 5(2):49-56.