



## CASE REPORT

# Ayurvedic management of diminished ovarian reserve – A case report

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## Abstract

Ovulatory factors make up 25% of the known causes of female infertility. Diminished Ovarian Reserve (DOR) affects 10 percent of women seeking infertility treatment. This condition can be correlated to *dhathu kshaya vandhya* mentioned in Haritha Samhitha. *Shamana chikitsa* which normalises *vatha*, *pitha*, promoting *rasa dhathu*, *arthava upadhathu* and *sukra dhathu* is beneficial in treatment of DOR. In this case report Ayurvedic medicines aided in increasing AMH value. It can improve the chances of natural conception or can satisfy the prerequisite for Assisted Reproductive Technology (ART) without a donor egg. Ayurveda by its holistic approach of management proves to be very effective in DOR and can work wonders if explored in a scientific manner.

## Introduction

Ovulatory factors make up 25% of the known causes of female infertility<sup>1</sup>. DOR affects 10 percent of women seeking infertility treatment<sup>2</sup>. Ovarian reserve indicates the quality and quantity of the oocytes in the ovary. Advanced maternal age may be associated with decreased ovarian reserve<sup>3</sup>. IVF with donor eggs are often the best option for women with poor ovarian reserve if their remaining eggs are also of low quality.

Bologna Criteria<sup>4</sup> by ESHRE recommends presence of at least 2 of the following three factors to be diagnosed as DOR.

- The age of the lady is more than or equal to 40 years.
- With abnormal ovarian reserve test.
- Poor ovarian response in a previous stimulated cycle.

## Investigations

- Basal FSH level on day 2/3 day of cycle. Normal value is less than 10 mIU/ml.
- Inhibin B is a peptide growth factor produced by the granulosa cells. Normal value is 10-200pg/ml
- Anti-Mullerian Hormone level of less than 0.8 ng or 5.5 p mol/L indicates poor ovarian reserve.
- Ultrasonography Antral follicular count is an important marker of ovar-

ian reserve. Number between 5 and 15 indicates good response. An ovarian volume less than 3 ml indicates poor ovarian reserve<sup>3</sup>.

### Etiopathogenesis as per Ayurveda

*Dhatu kshaya vandhya* is due to depletion of *dhatu* or due to inadequate formation of *dhatu* especially *arthava upadhathu* which in turn reduces the chances of conception resulting in *vandhyatwa*. In Ayurveda it is well explained by our *Acharyas*; *Shudhe garbhasaye marge rakte sukre anile hrdi*<sup>5</sup> that properly functioning reproductive system, a receptive uterus, healthy sperms and ovum, proper functioning of *vayu* and normal psychology are essential for attainment of conception. *Vishama ashana, katu, ruksha ahara, ratri jagarana* leads to *vishamagni, vata dosha prakopa, pitha dushti and kapha kshaya*. This leads to improper *rasa dhathu* formation or *rasa kshaya* which affects *utharothara dhathu parinama* leading to *beeja roopa arthava dhathu kshaya* ultimately resulting in *vandhyathwam* and *balakshyam*. Oxidative stress, infections etc can also add up in reducing the reproductive wellness.

### Treatment protocol

Treatment protocol should be planned in order to maintain *agni* since *vishamagni* affects *uttarothara dhathu parinama* leading to state of *dhatu kshaya*. *Shamana cikitsa* which normalises *vata* and *pitta* promoting *rasa dhathu, artava upadhathu, sukra dhathu* is highly beneficial in the treatment of DOR. Here internal medications to improve *vyadhikshamatwa* also has a role since there is an immunocompromised state. General concepts of *nidana parivarjana* and *pathya ahara vihara sevana* should also be adopted.

### Case study

A 29-year-old female, Dental surgeon by profession complaints of inability to conceive even after 3 years of unprotected sexual life came to OPD of Prasuti tantra and Stree roga Government Ayurveda College, Thiruvananthapuram. Her menstrual history is as follows: menarche 12 years with regular interval of 26-30 days, moderate bleeding for 3 days with no dysmenorrhea. She had regular bowel habits and appetite. She was allergic to dust and cold. She got married at 26 years to an NCM of 29 years. After one and half years of cohabitation, she consulted an infertility specialist and was diagnosed with Diminished Ovarian Reserve. Her AMH was 0.69 ng/ml. Her AFC was 4 in right and 3 in left ovary (20/10/2021) in a stimulated cycle with Letrozole and HMG. She underwent IUI but was a failure. She was suggested for IVF with donor egg but was not willing to do so. She had history of dengue fever, viral arthritis and her ANA was mild positive.

### Line of treatment

Medicine	Dose	Duration
<i>Manjishtadi kashayam</i>	15ml <i>kashaya</i> with 60 ml lukewarm water BD before food	One and half month
<i>Kalyanaka gulam</i>	10gm at bed time	One and half month
<i>Dhatryadi ghritham</i>	10ml BD before food	One and half month
<i>Shathapushpa choornam</i>	5gm BD with <i>ghritha</i>	One and half month

She took the medicines continuously for one and half months. She was advised to recheck her AMH value after one and half months of internal medications. A significant rise in AMH level from 0.63 ng/ml to 1.25 ng/ml (14/4/2022) was observed. Her ANA profile after medication turned negative.

### Discussion

One thing certain about DOR is that it is irreversible and that these women are at risk of poor ovarian response to ovarian stimulation in Assisted Reproductive Technologies<sup>6</sup>. In this case report Ayurvedic medicines aided in increasing the AMH value. *Manjishtadi kashayam* has *raktha sodhana property*. *Kalyanaka gulam* is *vathanulomaka, pumsathvakaraka, agnideepaka* and *jwarahara*. *Dhatryadi ghritha* is ideal for *pithakritha vikara* and is indicated in *vandhya*. *Sathapushpa choornam* administered along with *ghritha* is having *madhura rasa, ushna veerya, snigdha guna* and *brimhana karma*. It is *rithupravarthini, yonisukravisodhini, putraprada* and *agni vardhaka*. It acts upon *dhatwagni*, promotes *beejarooopa arthava* formation and thus can improve the chances of natural conception or can satisfy the prerequisite for ART without a donor egg. This approach can be considered in patients with low AMH value and can pave way for research in integrative medicine. The result obtained can be subjected for further study in a large sample. Ayurveda by its holistic approach of management proves to be effective in DOR and can work wonders if explored in a scientific manner.

### Conclusion

- Diminished ovarian reserve is a condition which affects the quantity and quality of the oocytes in ovaries thereby compromising fertility.
- In Ayurveda it can be compared to *Dhatu kshaya vandhya*.

- Here internal medications for one and half months have brought significant increase in the AMH value.
- Raktha sodhana was brought by internal administration of *Manjishtadi kashayam*. *Vathanulomanam* was facilitated by *kalyanaka gulam*. *Dhathryadi ghritha* is ideal for *pithakritha vikara* and is indicated in *vandhya*. *Sathapushpa choornam* administered along with *ghritha* act as *rithupravarthini*, *yonisukravisodhini* and *putraprada* .It can act upon *dhathwagni* level.
- Combined effect of these drugs helped in *utharothara dhathu poshana* and thereby improved the quality of *beejarooopa arthava* which is reflected in her AMH value.
- Along with it ANA also became negative within the time period.
- Ayurveda proves to be effective in DOR and can work wonders if explored in a scientific manner.

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