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## Ayurvedic Management of Poor Ovarian Reserve with special reference to Lowered AMH Levels- A Case Study

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### ABSTRACT:

A reduction in the ovarian reserve is one of the major factor involved in the female subfertility and infertility among the young couples. Poor ovarian reserve presents a treatment challenge to fertility experts especially in case of the ageing women desiring IVF. Serum Anti-mullerian hormone levels are one of the sensitive indicator of the ovarian reserve and lower levels indicate a poor outcome of IVF treatment and women with higher age and lower levels of serum AMH are referred to as poor responders. A composite treatment plan of Ayurveda entailed in *Kashyapa Samhita*, comprising of the bio-purification with the procedure *Virechana* followed by the rejuvenation and regenerative therapy with *Shatavari Shatpushpa Churna* and *Pushpa Dhanwa rasa* showed encouraging results in terms of elevating the levels of serum AMH levels. Ayurveda therefore can be used as an adjuvant and complementary to the conventional fertility treatments in order to enhance the chances of pregnancy and live birth in women with the poor ovarian reserve.

**Keywords:** Poor ovarian reserve, Low AMH levels, *Virechana*, *Shatavari –Shatpushpa Churna*.

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## INTRODUCTION:

The quantity and quality of the graffian follicles in primordial state in the ovaries indicate the Primordial follicular pool. A reduction in the ovarian reserve is one of the major factor involved in the female subfertility and infertility among the young couples.<sup>1</sup> Clinical observations confirmed that there is an accelerated decline in the ovarian reserve in the age group of 37-38 years of age, when the primordial follicular count reaches a critically below 25000.<sup>2</sup> Anti-mullerian hormone is one of the most sensitive marker of ovarian reserve and clinically more acceptable prerequisite for planning personalized ovarian stimulation.<sup>3</sup> As per Bologna criteria (2011) women with advanced maternal age ( $\geq 40$  years) and AMH (0.5-1.1 ng/ml) are classified as “expected poor responder” for ovarian stimulation in IVF cycles.<sup>4</sup> Ayurveda also

endorses the conceptual framework of the age related gradual degeneration of the *Artava*, which is analogous to the reproductive element of a female.<sup>5</sup> A composite Ayurvedic treatment comprising therapeutic procedures and regenerative drugs can be of great help in increasing the ovarian reserve by the bio-purification and rejuvenation of the reproductive tissues. This case study represents a preliminary evidence of the therapeutic utility of Ayurvedic treatment in the management of age related poor ovarian reserve. Ayurveda management can therefore be used as a complementary approach to enhance the success of assisted reproductive techniques for fertility enhancement by optimizing the internal hormonal and biochemical milieu of the female body.

**Case Presentation:**

A 40 year female visited the outpatient department with complaint of failure to conceive since 2 years on July 24, 2020.

**Chief Complaint:** Failure to conceive even with IVF since 3 years.

**History of Present Illness:** According to the patient the couple has been trying to conceive since 3 years but their IVF cycle failed 2.5 years back. The couple has been married for 14 years. Menstrual history as reported by patient was normal for cycle length, days of menstrual flow, volume of bleeding and other associated symptoms. There was no significant past medical history of Diabetes mellitus, Tuberculosis, Hypothyroidism, Genital infection, Sexually transmitted disease, Prolonged illness or Trauma. Husband's semen analysis reportedly normal. Patient wanted repeat IVF but she was diagnosed with poor ovarian reserve and an expected poor responder to the ovulation induction by her gynecologist for which she sought Ayurvedic remedial measures.

**Past Medical and Surgical History:** Unremarkable.

**Family History:** Unremarkable.

**Obstetric History:** 1 Para 3 Gravida, History of 2 abortions, 6 weeks abortion 6 years back and 8 Weeks abortion 2.5 years back Post IVF. last child birth 12 years back , full term normal delivery per vaginally

**Contraceptive history:** No contraceptive had been ever used.

**Coital History:** Regular unprotected coitus beginning from 7<sup>th</sup> day of the menstrual period, on alternate days till next menstrual period. No history of entral or thrustal dyspareunia/ post coital bleeding.

**REPORTS AVAILABLE:****USG REPORT:**

July 2020: Follicular study on Day 2 revealed Antral follicular count of 5-6 follicles in both the ovaries.

September 2020: Serum Anti-Mullerian Hormone Levels- 0.41ng/mL. Lower AMH levels in this case are indicative of Diminished Ovarian reserve.

**Treatment Plan:**

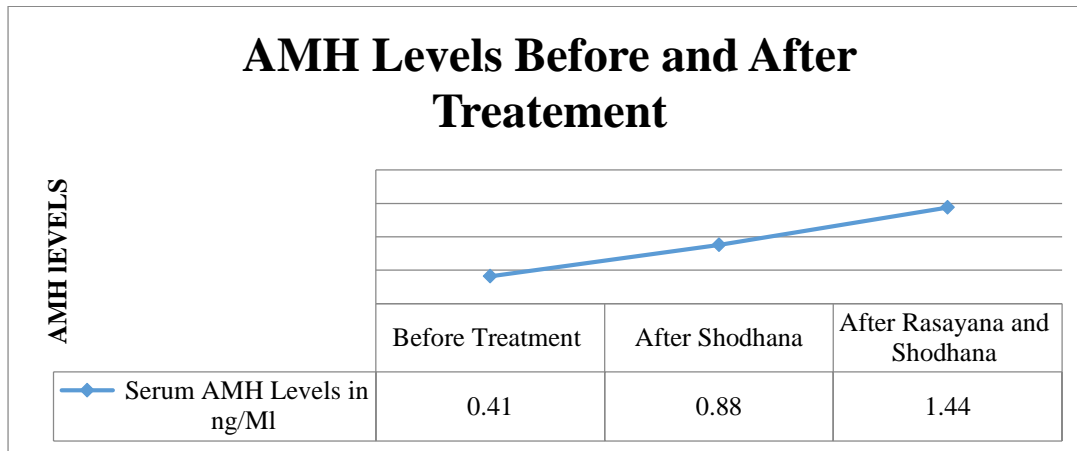
Keeping in view the *Kapha* predominance and lifestyle of the patient following regimen is planned for the patient after the cessation of menstruation:

**Step 1: Shodhana Karma** following  
*Deepana Pachana, Snehana, Swedana.*

**Step 2: Rasayana** Treatment

| Treatment Component  | Detail  |
|--|---|
| <i>Deepana Pachana</i> after cessation of menstruation     | <b>Day 1 to 3</b><br><i>Chitrakadi vati</i> 2 tabs twice a day with luke warm water.  |
| <i>Snehana Karma</i> (Internal Oleation)                   | <b>Day 4 to 9</b><br><i>Phala ghruta</i> starting with 20ml on Day 1 of <i>snehana</i> to 140 ml on Day 9   |
| <i>Swedana Karma</i> (Sudation)                            | <b>Day 10 to 12</b><br><i>Abhyanga</i> with <i>Bala Taila</i> followed by <i>Sarvang swedana</i> (Whole body sudation in sudation chamber) with <i>Dashmoola Kwatha</i>         |
| <i>Virechana Karma</i> (Induction of controlled Purgation) | <b>Day 14</b><br><i>Virechana</i> for bio-purification with <i>Eranda Taila</i> 40 ml and <i>Trifala Kashaya</i> (Decoction) 200 ml. Patient passed 18 bowel movements          |
| <i>Samsarjana Krama</i> (Post purgation dietary program)   | <b>Day 14 to 16</b><br>Sequential Diet Program followed for 3 days,   |
| <i>Rasayana Chikitsa</i> (Rejuvenation Therapy)            | <b>Day 16 to till onset of Next menstruation</b><br><i>Shatavari Churan</i> 3 gm, <i>Shatpushpa Churna</i> 3 gm with <i>Ghee</i> .<br><i>Pushpa Dhanva Rasa</i> 500 mg 1 tab OD |
| Life style Modification                                    | <i>Yoga</i> and <i>Pranayama</i> as advised on daily basis.   |

**RESULTS:**



**DISCUSSION & CONCLUSION**

In the present day context, unhealthy lifestyle, nutrition, obesity, sedentary lifestyle, psychological stress, use of prescription drugs, environmental and occupational exposure to the endocrine disruptors may affect the female fertility.<sup>6</sup> Ageing is associated with adverse outcomes of IVF and reduction in pregnancy and live birth rate due to declining oocyte yield.<sup>7</sup> Indiscrete life style and environmental factors coupled with aging may compound the pace of premature diminution of ovarian reserve. With the increasing access of to assisted fertility treatments, diagnosis of the poor ovarian reserve becomes more common especially

in the women of increasing. *Acharya Kashyapa* in his treatise *Kashyapa Samhita* endorse the idea of *Virechana* i.e. controlled purgation to enhance the quality of *beeja* (female gamete).<sup>8</sup> *Shatavari* (*Asparagus racemosus*) and *Shatpushpa* (*Anethum sowa*) are the two herbs which are highly appreciated in *Kashyapa Samhita* for their potential to enhance the fertility and fecundity of a female.<sup>9</sup> Some studies also reported the efficacy of *Phalaghrita* in elevating the diminishing levels of AMH.<sup>10</sup> *Pushpa Dhanwa rasa* is a herbo-mineral preparation with clinical evidence of enhancing the chances of ovulation.<sup>11</sup> Considering the multi-factorial nature of the disorders, a composite treatment with Ayurveda therapeutics with a potential of

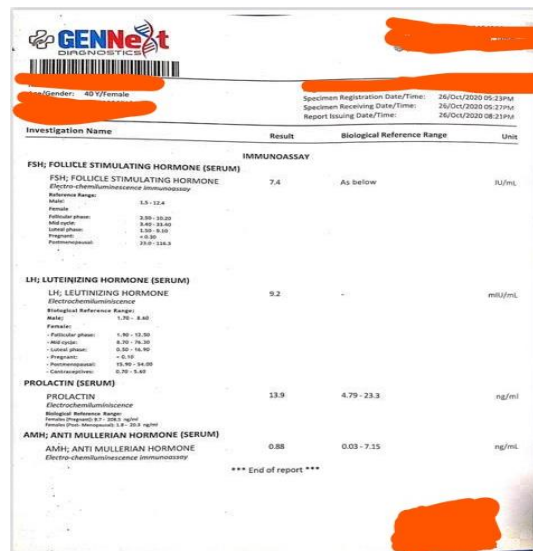
enhancing the oocyte (*Beeja*) quality and quantity is used which is reflected from the progressive increase in the AMH levels within two months of the treatment. This indicates that *Ayurvedic* management may be used as a complementary and adjuvant treatment prior to IVF procedure to enhance

the ovarian reserve and chances of pregnancy and live birth.

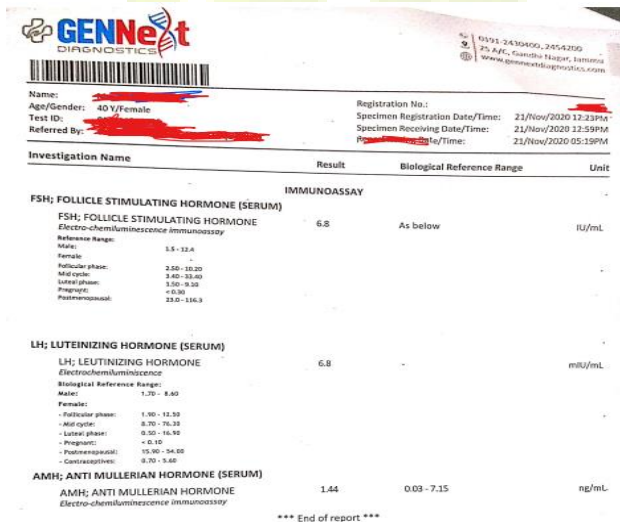
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AMH 1: BEFORE TREATMENT



AMH 2: AFTER VIRECHANA



AMH 3: After Shodhana and Rasayana Treatment

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