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Effective *Ayurvedic* management of Infertility due to low AMH in Elderly Women - Case Study

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ABSTRACT

Pregnancy or the motherhood beyond the edge of reproductive age is referred as Pregnancy in "Elder gravida". In the developing and developed countries age of marriage and there by child bearing are relatively late in life. Chances of pregnancy for healthy couples in their 20s and early 30s are around 1 in 4 women, 40s around 1 in 10women. Generally reproductive potential decreases as women get older, one of the common reasons is due to low AMH. Age is the single biggest factor affecting a women's chance to conceive and to have a healthy baby and fertility can be expected to end 5 to 10 years before menopause. Risk of pregnancy complications increases with age. The risk of miscarriage and chromosomal abnormalities in the fetus increases from the age of 35years. Complications such as GDM, Placenta previa, Caesarian section and still birth are common among older women than younger women. According to *Ayurveda*, Infertility primarily refers to the biological inability of women to contribute to conception and also who is unable to carry pregnancy to full term. *Ayurvedic* management gives a new hope in women by strengthening body's own self-healing and balancing mechanism without any intervention by outside or foreign substance to replace or correct the hormones in the body. **Case Study:** A female patient aged 38 years diagnosed as Primary Infertility due to low AMH treated with *Virechana* followed by *Matrabasti* and *Shaman Chikitsa*, after 3 months of treatment her AMH level increased and also patient got Conceived.

Key words: Infertility, AMH, *Virechana*, *Matrabasti*.

INTRODUCTION

AMH is best known as a serum marker for ovarian function especially ovarian reserve. In the ovary AMH is secreted from the granulosa cells of pre antral and small antral follicles. Since AMH is expressed by growing follicles prior to FSH- dependent selection and has shown to be detectable in circulation. Serum AMH

has taken momentum as a marker for ovarian function, in particular the assessment of the ovarian reserve, ovarian reserve is constituted by the quality and quantity of the primordial follicle, which both decline with increasing age. In younger women AMH level does not correlate, while in the women of late reproductive age, a significant correlation was observed with primordial follicle density. From 25years onwards AMH level starts to decline.

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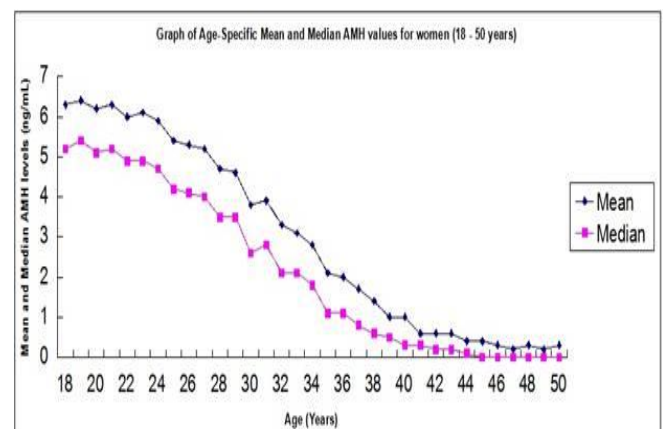
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Influencing Factors of Serum AMH:

Hormonal Contraceptive: Serum AMH level in normal ovulatory women decreased when Hormonal contraceptive was used for at least a year and the effect is reversible after discontinuation of tablets. The serum AMH levels 30%-40% lower in women using the oral contraceptive or the progesterone only pill, while in women using an intrauterine device, only a decrease of 17% was observed.

BMI: BMI negatively influence the AMH level.

Vitamin D: Vit D level exhibit seasonal variation with higher level in summer compared with winter. AMH level in women's of reproductive age also exhibit this seasonal variation, with the level of 18% lower in winter than in summer.

Unhealthy Lifestyle: In last two decades the lifestyle of people has had a tremendous change from eating junk foods, exposure to pollutants, chemicals, cosmetics, pesticides and working in night shifts is increased. These factors lead to hormonal imbalance and decreases the quality of egg.

Autoimmune Disease: Approximately 20% of patients with low AMH have previously diagnosed with Thyroid autoimmunity (most commonly Hashimoto's thyroiditis) is the most prevalently 25-60% associated endocrine autoimmune abnormality reported in patient with low AMH.

CASE REPORT

The reported case is 38 years old married, non smoker, non alcoholic came to OPD of Prasuti Tantra Stree Roga, SSCASR with complaints of anxious to conceive since 3 years with low AMH and USG showed endometrial thickness of 7mm. And male factor with normal seminal parameters, they were having adequate vaginal intercourse (3-4 /week). After 2 year she received two IUI treatments and one IVF which were unsuccessful. Her family history was negative for any premature ovarian Insufficiency.

Personal History

Her personal history reveled regular bowel habit and sound sleep. Her appetite was reduced and the Tongue

was mildly coated. Her blood pressure: 110/70 mmhg, pulse rate: 86 bpm and BMI: 22kg/m². She is *Pitta Kaphaprakruti* with *Madyamasatwa* and *Madyamakosta*. In view of symptoms of irregular menstruation with reduced quantity of bleeding and low AMH diagnosed as *Dhatu Kshayajanyavandyatwa*.

Menstrual history:

Menarche: At 14 years of age

LMP: 19/7/2021

Menstrual cycle: 2-3days/28-40 days.

Day1: 2pads with 40% soakage

Day2: 2pads with 80% soakage

Day3: Spotting

Pain: Present on 1st day

Clots: 1-2cms

Color: Brownish red

Obstetric History: GOPOA0LO

Ashtasthanapareeksha

| | |
|---------|--------------------------|
| Nadi | Pitta-Kapha |
| Mutra | Prakruta |
| Mala | Prakruta |
| Jihva | Ishatlipta |
| Shabdha | Utpatti&Grahana-Prakruta |
| Sparsha | Anushnasheeta |
| Druk | Prakruta |
| Akruti | Madhyama |

Dashavidhapareeksha

| | |
|----------|-------------|
| Prakriti | Pitta-Kapha |
| Vikruti | Pitta |
| Sara | Rakta sara |
| Satwa | Madhyama |

| | |
|----------------|---|
| Samhanana | Madhyama |
| Pramana | Madhyama |
| Satmya | Mishrarasa Satmya (Katu, Amla Pradhana) |
| Satwa | Madhyama |
| Ahara Shakti | Madhyama |
| Vyayama Shakti | Avara |
| Vaya | Madhyama (Adhiruda) |

Diagnostic assessment

Blood routine investigation was done and found to be normal

TSH - 2.7 ng/ml and serum prolactin was 15ng /ml

USG - showed normal anteverted uterus with Endometrial thickness of 7mm and both ovaries appear to be normal

AFC - Rt side (2 follicles) and left side 3 follicles on 2nd day on menstrual cycle.

AMH - 0.9 ng/ml

Treatment

| Name of Treatment | Medicine | Days |
|---------------------|--------------------------------------|--------|
| Classical Virechana | Purvakarma | |
| | 1. Deepana Pachana | 3 days |
| | | 3 days |
| | 2. Snehapana | 3 days |
| | 3. Sarvagha Abhyanga & Bhashpa Sweda | 2 days |
| Pradhana Karma | Trivrut Lehya 60gms & | |

| | | | |
|--------------|--------------------------|-----------------------------------|--------|
| | | Triphala Kashaya 100ml (16 vegas) | |
| | Paschat Karma | Samsarjana Krama | 5 days |
| Matra Basti | Sahacharadi Taila - 60ml | | 7days |
| Uttara Basti | Phalasarpi | | 3days |

Follow-up:

1st follow-up

- 1) Phalasarpi 1tsp-0 -0 with warm water
- 2) Saptasaramkashayam
- 3) 4tsp-0-4tsp with 20ml of water, before food
- 4) Hingvastaka tab 1-0-1, Before food
- 5) Aloes compound 2-0-2, After food
- 6) Pathya Ahara-Vihara with meditation.

For 2 months

2nd Follow-up

- 1) Tab. Pushpadhanva Rasa 1-0-1, After food
- 2) Saptasra Kashyam 4tsp o- 4tsp with 20ml of water, before food
- 3) Phalaghrita Nasya 2drops, Once a day (Morning)
- 4) Amalaki Rasayana 1tsp-0-1tsp with Warm water

3rd Follow-up and Outcome

After three months of follow-up done in the OPD with reassessment AMH value showed significant improvement

Discussion

Over the past few decades in modern medical field, Hormonal therapy, IUI, IVF, embryo transfer, gametes intra fallopian transfer are developed but with high expensive & minimal success rate.

The psychosocial stigma related to infertility has provoked the need for an ART in spite of the time-consuming, expensive, and stressful strategies. The value of AMH in detecting the ovarian reserve for an

IVF cycle has begun to be better understood in the recent years. It is so unfortunate that donor egg IVF would be the last option of them who have a low AMH value with poor ovarian reserve. Lack of awareness regarding the efficacy of an integrated approach to medical intervention in such cases to proceed with a donor egg IVF technique has grown up as a great challenge to the physicians as well as patients. Ayurvedic approach to *Dhatukshayajanya Vandhyata* in terms of low level of AMH is having good outcome. The present disease entity can be correlated to *Dhatu kshayajanya Vandhyata*. The case presents with a *Vata-Pitta Dosha Vikriti* progressing toward a *Dhatu Kshaya*, thereby affecting *Artava Upadhatu* which was evident from the *Artavakshaya Lakshana* of the patient. The treatment protocol was mainly for detoxification and it also does *Agni Deepana*, there by proper formation of *Rasa Dhatu* and its *Upadhatu* that is *Artava*, followed by *Matra Basti* and *Shamanoushada* aims for *Dhatu Poshana* along with *Upadhatu (Artava) Poshana*.

Ayurvedic approach and its mode of action

Virechana

Virechana is the second most therapy in the sequence of *Panchakarma*. It is most widely used because of its simplicity and elimination of *Dosha* in more quantity with less stress to the body.

Mechanism of Virechana: Peristaltic movements push the intestinal material to sigmoid colon and Rectum, The Defecation reflex occurs in response to stimulation of Sensory nerve impulse to sacral spinal cord and parasympathetic stimulation, opens the internal anal sphincter. *Shodana Karma* are Physician induced mild inflammation, mainly *Vamana* and *Virechana* drugs are quite irritant to the mucosa membrane leads to inflammation, because of inflammation, permeability of membrane changes and allow the toxins to come out. Chemical changes which are responsible for the permeability are Mast cells (Histamine), Serotonin, prostaglandins and Globulin permeability factor.

Nasya: The drug administered through the nose may act on the *Shiras*. Drug delivery from nasal route

through olfactory nerve to pituitary gland there by helps for secretion of gonadotropins.

Pathogenesis of gynecological disorders always involves *Vata Dosha*. Hence, *Basti Karma*, which is the best therapy for *Vata Shamana*, was administered after *Shodhana*. *Basti Dravya* enters enteric nervous system. These signals stimulate endogenous opioids present in Gastro Intestinal Tract mainly by endorphins, regulates hormone. *Uttara Basti* is indicated for all gynecological disorders, especially in *Puspanasa* and to get healthy progeny. Notable improvement in the symptoms of *Artavaksaya* was observed. The value of AMH after the treatment was considerably improved to 1.8ng/ml. In 3rd follow-up she came with missed periods, UPT result was positive and pregnancy confirmed with USG, single intra uterine gestational sac was seen.

CONCLUSION

Ayurveda supports the body by strengthening body's own self-healing mechanism. It doesn't rely on outside substance to fulfil the hormone level. Infertility itself doesn't stand alone. It is the result of some other disease so understanding the root cause of the disease helps to treat effectively. *Rutu*, *Kshetra*, *Ambu* and *Beeja* are the prime requisites for *Garbha*. *Beeja* is most essential among them. *Ayurvedic* treatment gives a new hope in elderly women with depleted ovarian reserve. In *Charaka Samhita*, there is a effective, holistic and wide range of treatment modality for infertility based on *Ayurvedic* principles. The treatment of Infertility comprises of administration of *Panchakarma* therapies for detoxification followed by *Shamnoushadhas* which does *Dhatuposhana*, stimulate ovaries for Folliculogenesis and producing healthy oocytes. *Phalasarpi* and *Pushpadhanwa Rasa* are the best herbal preparations for low AMH and Infertility. Apart from this following *Pathya* plays a vital role in the prevention and cure of disease Lolimbaraja's famous quote says "*Pathyam Sati Gadarthasya Kim Aushadam Nishevanam*". Dietary management involves strict compliance and adherence to foods that increase *Oja*. This is important to regulate the ovulation and enhances fertilization.

PATIENT PERSPECTIVE

The patient was satisfied with the treatment as she had considerable improvement in the AMH value that gives her hopes for undergoing other Artificial reproductive techniques.

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