

EFFICACY OF PANCHAKARMA IN PRE IVF MANAGEMENT TO INCREASE ITS
SUCCESS RATE- A CASE REPORT

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ABSTRACT

Infertility is a major cause of concern in the present generation among the reproductive age group due to undesirable lifestyle changes, stressful world, lack of biological food, increased use of electronic gadgets, etc. This is the case report of a couple who had not been able to conceive. The Husband was diagnosed with DM and on regular medication. The wife was having anovulatory cycles with very low AMH values and they underwent conventional treatment including hormonal therapy but treatment went unsuccessful. The objective of the present treatment included *ayurvedic* management ensuring good ova formation, good endometrium formation, increasing receptivity of endometrium and thereby helping to develop healthy pregnancy with the help of first IVF and successful childbirth. Treatment plan included both *Shaman* (Purification) and *Shodhan* (Mitigation) therapies and some *pathyapathyas*. During treatment, she Lost her weight and good ova formation at proper time with proper endometrium. The outcome of the ayurvedic intervention was the patient was successfully conceived by first IVF cycle of treatment, embryo transfer was done on 24/02/2022 she delivered healthy male child of weight 2.8 kg on 3rd November 2022 by LSCS at DMH, Pune.

KEYWORDS: *Vandhyatva*, Infertility, *Yogbasti*, *Uttarbasti*, *Nasya*, Diet, IVF, RIF.

INTRODUCTION

In the present scenario of the rapid advancement of technology, infertility is still a problem that has continued since ages. Ayurvedic concept of *Vandhyatva* (Infertility)- According to *ayurvedic* classics, *vandhyatva* is a failure to achieve a healthy live birth rather than pregnancy as *gabhastrava* (repeated abortions) and *Mrutvatsa* (having repeated still births) is also included in types of infertility. Types of infertility from classical text are *Vandhya*- absolute sterility and is incurable, *Apraja* – women can become pregnant and is curable and *Sapraja* – women who become inflicted with infertility during her child bearing years after already conceiving one or more times. Important factors of constituents of *garbha* (fetus) are *Rutu* (fertile period), *Kshetra* (Reproductive organs), *Ambu*(nutritive fluids)and *Beej* (ovum). Along with these, healthy psychological status, normal functioning of *Vata* (one of the major governing body according to *ayurveda*), *Shadbhavas* (Six factors- Matruj, pitruj, Atmaj, satavaj, satmyaj, rasaj). Any abnormality in all these factors, may cause infertility.

In ayurvedic text, six types of *vandhyatva* are classified – *Kakvandhya* (secondary infertility), *Anapatyata* (primary infertility), *Garbhastravi* (Repeated abortions), *Mrutvatsa* (repeated still births), *Balakshaya* (loss of

strength) and *Garbhakoshbhanga* (injury to uterus). Prognosis of infertility depends upon the cause, in *beejadasha* (i.e. developmental), abnormalities of reproductive organs is incurable. *Anapatyata*, *Kakvandhya*, *Garbhastravi*, weakness in body parts are treatable for which body therapies, herbs, appropriate diet, lifestyle, *yoga* are important. *Ruksha* and *lekhana* properties from *dashamuladi qwath* helps in reducing *medo dhatu* and regulating *jatharagni*. *Phalaghrut* given through *uttarbasti* activates normal function of *Vata*, stimulates ovarian hormone and proper endometrial bed formation. *Nasya* with *phalaghrut* works on nervous system and regulates hormones from hypothalamus.

In vitro fertilisation (IVF) is a process of fertilisation where an egg is combined with sperm in vitro ("in glass"). The process involves monitoring and stimulating a female's ovulatory process, removing an ovum or ova (egg or eggs) from their ovaries and letting sperm fertilise them in a culture medium in a laboratory. After the fertilised egg (zygote) undergoes embryo culture for 2–6 days, it is transferred by catheter into the uterus, with the intention of establishing a successful pregnancy.^[1]

CASE REPORT

A 33 yr old female with her husband of 36 yrs old came to OPD of Streeroga & Prasutitantra, Ashtang Ayurveda Rughalaya, Pune in Jul 2020, with having complaint of ovulation failure and she was anxious for conception. She was married since 5 yrs. She was using condoms as contraception for first 3.5 yrs after marriage as was not willing for conception due to her financial problems. Coital history at time of hospital visit 3 times a week and was satisfactory. She was having menarche at the age of 15 years with regular painless menses, mild clots & flow of 2pads per day upto 4 days. She wasn't having any medical, surgical or allergic illness.

On examination

The general condition of patient was good and having acne on face. Her diet habits are not as such good she was having junk food, fast food with more oily and non fibre diet. Her work type was sedentary which was impacting her weight as she was slight overweight. She was having a little more stress factor due to some problems, due to which there is imbalance in her quality of life. The rest of her physical exam was unremarkable. BP was 110/60 mm of Hg, pulse – 78/ min, height – 5'3", weight-57 kg.

Local examination

Bilateral breast -Soft, Symmetrical, NAD.
Per Speculum- Cervix- normal, Vagina -Normal.
Per Vaginal- Uterus AVAF, Normal in size, Fornices-clear non tender.

Blood investigation

Her blood reports done on 21/07/2020 were AMH-0.47ng/dl(very low), Sr.Prolactin -53.47ng/dl(raised).
26/7/2020- Hb- 15.2gm/dl, BSL (fasting) -94mg/dl, BSL (Post prandial) -97 mg /dl, Urine routine- N.
4/9/2020- Sr.FSH- 6.51mg/dl-N, sr.Prolactin -13.24ng/dl -N.

3/10/2020- Sr.Prolactin-28.18ng/dl
3/12/2020-FSH- 7.67 mg/dl-N, LH- 3.47mg/dl- N, U.TSH-1.49mcg-N, AMH-0.72ng/dl(Very low), Sr.Prolactin-26.29ng/dl(normal).HIV, HBSAg, VDRL-negative.

USG pelvis- Uterus normal sized, AV with endometrial thickness 5.6mm, normal cervix, Bilateral ovaries are normal size and appearance, no adnexal mass. Ovulation study was s/o ovulation failure and needs ovulation induction.(anovulatory cycles).

All hormonal reports are normal and Sr.Prolactin was raised previously but further it was within normal limit after intervention but AMH is at very low level.

Semen analysis and scrotal doppler study of male partner was normal with K/C/O Diabetes mellitus since last 5 years with reports done on 26/7/2020 are HbA1c – 7.2(raised), BSL - Fasting- 138mg/dl, Post prandial-157mg/dl and he was on regular medication.

Causes of IVF Failure

1. Age -The statistics show that as women get older, their chances of success declines. This is due to the quantity and quality of eggs decreasing with age. IVF works by taking medication which stimulates a response from your ovaries and the clinic selects the best eggs for fertilisation. Due to the number and quality of eggs declining this makes the process more challenging and increases the likelihood of failure.
2. Abnormal Embryo is one of the very primary triggers of IVF failure. An abnormal embryo may develop if either the egg or the sperm is abnormal, or if both gametes are abnormal.
3. Implant failure is another common cause. For implantation of an embryo, endometrium preparation and receptivity are more relevant. The endometrium should be at least 6 mm thick, ideally 8-10 mm thick.
4. Color Doppler can be used to find out more about endometrium preparation. More than half of pregnancies result in spontaneous miscarriage when the endometrial and sub-endometrial flow is absent on the day of embryo transfer (ET).
5. Poor Ovarian Response, in which little to no follicle growth is seen even after fertility injections, can cause an IVF cycle to be canceled.
6. Pre-treatment stress is the most overlooked but crucial factor-Mental stress can lead to an increased endogenous level of epinephrine. Excessive epinephrine level may interfere with the decidual differentiation of human endometrial stromal cells and thus affect embryo implantation
7. Genetic and chromosomal causes- It is now well established that a major cause of repeated implantation failure after IVF is a high frequency of chromosomal aneuploidy. An increased incidence of chromosomal abnormalities, such as translocations, mosaicism, inversions, and deletions, have been demonstrated in women with high-order RIF. Most of these abnormalities were chromosomal translocations (reciprocal and Robertsonian). They proposed that balanced parental translocations may be implicated in the pathogenesis of implantation failure in IVF, and that genetic evaluation should be considered as part of the investigation of these couples.
8. Zona Hardening-It plays a role in sperm binding, induction of the acrosome reaction, and promotes sperm-egg fusion. The zona is required during early cleavage stages to maintain the integrity of the inner cell mass (ICM), but it is usually shed during expansion of the blastocyst, allowing implantation to occur. Hence, excessive zona hardening prevent expansion of blastocyst leading to RIF.

Management of patient

Deepana Pachana – 8 days with *Chitrakadi vati* 1 TDS
Snehan swedan - *Abhyanga* followed by *ushna jala snana*.

Shodhan chikitsa

Yogbasti was given from 15th day of menses for further 8 days. In *yogbasti*, *Asthapan basti* was given with *dashamuladi qwath* (*dashamul*, *erand*, *triphal*, *balantshepa*) 960 ml & *Anuvasan* with *Sahachar tail* 80 ml. She was undergone *Uttarbasti* with *Phalaghrut* from 5th day of menses for next 3 days under all aseptic precautions. 3 cycles of *yogbasti* & *uttarbasti* are done. She was told to put 2 drops of warm *phalaghrut* in each nostril early in morning after oilation and steam on face.

Shaman chikitsa

Also she was given, *Amalaki churna*- 1tsp OD, Tab Profala 2BD, Syp M2 tone- 10ml BD, *Garbhashthapak churna* 1/2 tsp BD, *Pushpadhanwa ras* -2BD, *Phalakalyanak ghruta* ¼ tsp BD, Cap Sujat-2BD, tab Cytage 1OD, Tab All9- 1OD, Tab cabergolin 0.5 mg once a wk for 4 wks. Duration of treatment Management for 3 months.

Pathya apathya

As per *ayurveda*, food affects the mind also by causing either an increase or decrease in 3 qualities of mind i.e. *Satva*, *Rajo*, *Tama guna*. It is believed in ancient Indian literature that if diet is properly followed, medicine is not required but if diet is not followed, even medicine is not useful. Dietary management involves strict compliance and adherence to *Ojus* building foods. This is very important to regulate ovulation & enhance fertilization.^[2]

RESULT

The present drug gave relief to the symptoms mainly reductions of body weight. A marked significant result was found in growth of follicles. After 3 cycles of treatment, 3 mature follicles were found in sonographic examination and retrieved. After completion of treatment, triple lined, good morphology texture endometrium of thickness 10mm was found with good endometrial flow. After completion of treatment, the body weight was reduced. Patient conceived in first IVF cycle & she delivered a 2.8 kg male child on 3 /11/2022.

DISCUSSION

Start eating foods with folic acid in them, such as leafy green vegetables, fresh fruits, dried beans, peas, nuts, enriched pieces of bread, cereals, other whole grain products. Make sure to eat healthy proteins as it helps to maintain blood sugar balance. It also supplies to the body hormones and supports a healthy reproductive system. Healthy proteins include chicken, lean red meats, lentils, chickpeas, nuts and seeds, etc.

Effect on follicular growth

This may be due to removal of *sanga* by *kapha vata shamak*, *strotoshodhan* properties of *bastidravyas*. *Apan vayu* function become normal after removal of *sanga* created by vitiated *kapha* & *ama*, which leads to normal *Raja pravrutti* & *beeja nirgamana*.

Effect on weight loss

Tikshna & *deepana* properties of *dashamuladi qwath* add an effect on reduction in body weight by regulating *jatharagni*. *Ruksha* & *Lekhana* properties help in reducing the *medo dhatu*. Such a way, it may help in regulating *jatharagni* & check the excessive accumulation of *medo dhatu* & thereby causing *lakshana upashmana* and shows cumulative effect in reduction of weight.

Probable mode of action of yogabasti

Basti is the *karma* where medicine is prepared according to classical reference & administered through rectal canal, reaches upto *nabhi Pradesh* (umbilicus), *kati* (back), *parshwa*(flanks), *kukshi* (upto small intestine) churns the accumulated *doshas* spread all over the body & easily comes out along the churned *purisha* & *doshas*. *Basti* works on whole body after entering into *guda*. It exerts local as well as systemic effect also. One of the important function of *purisha* is '*anilalala dharan*' and *basti* helps in correction of *Agnidushti*, finally correcting *Raja pravrutti* & normalising *bijanirgamana*. Drugs administered through *basti* gives a universal action in whole body through ENS (Enteric Nervous System). The endogenous opioids in the ENS specifically endorphins are influenced which release GnRH which might help in regulating HPO axis thereby regulating ovulation.^[3]

Probable mode of action of uttarbasti

Ovaries contain receptors which receives the hormones secreted from hypothalamus & pituitary gland. *Uttarbasti* helps in stimulation of these receptors, so that maturation of follicles & ovulation occurs in cycle. It will give normal functioning of Cilia by its regulating & soothing effect and thus beneficial in increasing endometrial thickness, uterine artery flow. It causes local uterine contraction stimulating the endometrial & ovarian receptors. Endometrium acts as a bed for fertilized ovum where it's gets embedded for further development. Unresponsive endometrium may cause implantation failure or abortion in early stage. *Phalaghrut* has phytoestrogenic properties nourishing the endometrium & rejuvenating the local tissue of endometrial receptors and thus improving implantation rate promoting fertilization.^[4]

Probable mode of action of nasya

Medicine reaches to *Shringataka marma* & from there, it spreads to various *strotasas*. It is the best method to eliminate the vitiated *doshas* of *urdhwanga*. It enters the general blood circulation after absorption, pooling into sinuses of brain via inferior ophthalmic vein. This absorption takes place directly into Peripheral olfactory nerves are connected with the limbic system which is concerned with multifunctional capillaries including behavioural aspect of human being & control over endocrine secretions.^[5]

Probable mode of action of *Yogasanas & Pranayam, Meditation*

Yogasanas & Pranayam-It strengthens the conscious mind & improves the balancing of the para-sympathetic & sympathetic nervous system resulting in the harmony amongst the various endocrinal glands. On account of pressure manipulation, the blood circulation in the region where the sex organs & sex glands are situated improves, hence the reproductive system functions well.^[6]

Meditation -IVF success rate is high in people who regularly do meditation. Meditation is one of the tools widely used to release hormones that help during the fertility journey, pregnancy and birth. One of these hormones is cortisol, the hormone “guilty” for creating stress. By meditating, the level of cortisol can be reduced. It also decreases the damage to cells by releasing another hormone, DHEA, known to prolong the life of cells, including eggs.

CONCLUSION

Though IVF is very popular ART technique for many couples but it has its own benefits and hazards. Ayurveda takes conception as physical, mental and spiritual phenomenon. Life begins with pregnancy because it gives birth to another life. Management of fertility can be done by correcting the components involved in affecting fertility & modifying the lifestyle & diet of the patient by following *pathyas* & avoiding *apathyas*. For achievement of conception, proper functioning *vayu* (nervous system), normal psychology, healthy and properly functioning female reproductive system, well prepared uterus, healthy sperms and ovum are essential factors. *Ayurveda* treated infertility for several thousands of years without help of modern diagnostic tools. *Ayurveda* through its medicines, diet and lifestyle modifications and *panchkarma* raises a new hope for creating good progeny. It may enhance the success rate of artificial reproductive techniques. It regularise metabolism of the body, purify reproductive organs and maintain hormonal equilibrium, improve endometrial lining and receptivity, increase egg quality and relieve stress. No adverse effects or complications is produced with the use of this treatment. This treatment is safe, economic, non surgical and very effective. *Ayurvedic* treatment modalities helps in keeping the state of normalcy & equilibrium, which results into proper condition for fertilization.

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