Case Study

AYURVEDIC MANAGEMENT OF PRIMARY INFERTILITY DUE TO POLYCYSTIC OVARIAN SYNDROME ASSOCIATED WITH MULTIPLE UTERINE FIBROIDS: A CASE REPORT

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ABSTRACT

Infertility is a disease of the reproductive system defined by the failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse. As one of the leading causes of anovulatory infertility, it is believed that 5-10% of the reproductive-aged female population is living with polycystic ovary syndrome. Ayurveda considers the excellence of 4 factors- Ritu (ovulatory phase), Kshetra (Garbhasaya), Ambu (proper nourishment to embryo), and Bija (healthy sperm and ovum) for a successful pregnancy. Impairment to any of these factors leads to Vandhytva or pregnancy failure. This case study helps to plan a treatment protocol for the patient with PCOS having infertility. A 25 yr old female having regular cycles came to OPD of Streeroga of IPGT & RA, having the complaints of weight gain and failure to conceive since 2 year of active married life. On presentation she was a medium sized woman with android body habits and had mild hirsute and acanthosis nigricans over nape of neck. Gynaecological examination revealed a normal sized uterus with no other abnormalities. Sonography revealed bulky ovaries with multiple small follicles with no evidence of ovulation along with small fibroids on anterior wall (1.8cm×1.5cm) and posterior wall (2.7cm×2.8cm). Her husband’s semen analysis was normal. Based on clinical findings and investigation, anovulatory factor infertility due to PCOS was diagnosed along with fibroid. Virechana and Samana were decided due to both of these factors and Sthanyasodhana gana kashaya was selected as Samana drug. Treatment was done for 3 months, during treatment itself ovulation occurred and the patient conceived after 3 months. This case being a Krichrasadhya vyadhi, proper care was taken including correction of the lifestyle and food habits. This case will help to understand the importance of Sodhana in gynecological disorders and explore the probable mode of action of Sthanyasodhana gana kashaya which helped in menstrual regulation.

KEYWORDS: Sthanyasodhana kashaya, Uterine myoma, Virechana, PCOS, Infertility.

INTRODUCTION

Infertility has been a major medical and social preoccupation since the dawn of human existence and women have always been the symbol of fertility. In fact both men and women are equally responsible for infertility, although 10% of all cases will remain unexplained. Infertility is a disease of the reproductive system defined by the failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse. [1] The WHO estimates the overall prevalence of primary infertility in India to be between 3.9 and 16.8 %. [2] The main causes of female infertility are: the age of the patient, the high incidence of polycystic ovarian syndrome, which is related to anovulation and the presence of endometriosis. Other important causes such as pelvic infection, myomas especially sub mucous and cervical factors should be ruled out. As many as 20% of women with infertility problems (including fecundability and early pregnancy loss) have been diagnosed with PCOS.[3] The polycystic ovary syndrome (PCOS) is a syndrome of ovarian dysfunction along with the cardinal features of Hyperandrogenism and polycystic ovarian morphology.[4] The patient complains of increasing obesity (abdominal-50%), menstrual abnormalities (70%) in the form of Oligomenorrhoea, Amenorrhea or Dysfunctional uterine bleeding (DUB) and Infertility.[5] Though symptomatic treatments are available for controlling hyperinsulinaemia, ovulation induction, oral hormonal therapy & surgical intervention for correcting the PCOS but no definitive treatment is of success. In addition, it may produce some iatrogenic systemic disorders. Fibroids prevent rhythmic uterine contractions during intercourse and hinder the sperm transport and hence adversely affect fertility. Fibroids also cause congestion and
dilatation of the endometrial venous plexus, which causes defective implantation and leads to early abortion.

In Ayurvedic classics, majority of Gynaecological disorders have been described under the 8 Artava dushti and 20 Yoniyapads. PCOS cannot be included in any one of the Yoniypad due to its various symptomatology and complex interactions with various systems. Ayurveda explained mainly four etiological factors like unhealthy lifestyle (Mithyachara), menstrual disorders (Artava dushti), genetic defects (Beeja Dosha) and certain unknown factors (Daivata) are responsible for the development of female genital disorders and it seems that all these aetologies contribute to the development of PCOS as a whole. Mithyachara along with existing Artava dushti plays an important role in the pathogenesis of PCOS as well as fibroids. As the ultimate effect of Artava dushti being Abeejatva (anovulation), diagnosis and treatment of Artava dushti is of most important as it hinders the main function of female genital tract. Uterine fibroids are mostly considered as Garbhasaya arbuda having Vata kapha predominance and Asraya in Mamsa. According to Susruta, the excellence of 4 factors i.e, Ritu (ovulatory phase), Kshetra (Garbhasaya), Ambu (proper nourishment to embryo), and Bija (healthy sperm and ovum) are essential for conception and a successful pregnancy. In this case, anovulation denotes the absence of Ritukala and fibroids leads to distortion in Kshetra (Garbhasaya). Fibroids may also cause impairment in the blood supply and nourishment to embryo during the pregnancy, leads to early pregnancy loss.

Despite the growing incidence of this syndrome, limited research has been done that encompasses the entirety of PCOS Spectrum. The indefinite diagnostic criteria in addition to its immense complexity make PCOS a challenging area of research. PCOS can be considered as a Vatakapha predominant Tridoshoja vyadhi mainly affecting the reproductive system. Infertility due to multiple etiologies is always serious concern to patients as well as to physicians. There are different treatment modalities in Ayurveda which gives promising results in the management of infertility due to PCOS. This case is a humble attempt to introduce a different way of drug selection which was based on the basic principles of Ayurveda.

**Case Report**

**Presenting Complaints:** A 25 yr old female who was a house wife came to OPD of Streerooga department of IPGT& RA, Jamnagar on 10 August 2016, having the complaints of weight gain and failure to conceive since 2 years of active married life.

**History of present illness:** She narrated her history of presenting complaints as follows, after 3 years of menarche at the age of 16 yrs she had developed the complaint of irregular and increased menstrual bleeding during her periods and done all investigations and found to be normal. She took Ayurvedic treatment and complaints got relieved. After 7 yrs, she got married with a non-consanginous man of age 29 yrs. In 2016 March at the age of 25 yrs, she went to a gynecologist for the complaint of failure to conceive even after 2 years of active married life. During that time her cycles were regular and had no history of abortion, MTP or contraceptives. During the evaluation of infertility, sonography revealed a posterior wall subserosal fibroid (2.2×1.8) cm, and both ovaries were bulky with multiple small follicles. She took medicine for 2-3 month and discontinued after that. Then the patient came to OPD of IPGT & RA.

**Family History:** Father was hypertensive

**Personal History:** On analyzing her habits, it was found that the patient had the history of intake of high carbohydrate diet along with sedentary lifestyle. She had a normal appetite and bladder habit and occasional constipation with irregular sleep habits.

**Husband Factor:** Husband - Private Job. Semen analysis was normal.

**General Examination:** On presentation she was a medium sized woman, with android body habits. Her height was 154 cm, weight 65 kg, Body mass index of 27.4 kg/m² and blood pressure of 120/80 mm of Hg. The patient was mild hirsute (over lips, chin and abdomen) and acanthosis nigricans over nape of the neck.

**Gynecological examination:** An anteverted normal sized uterus with no other abnormalities.

**Investigations:** The blood values of the patient before treatment (B.T.) and after treatment (A.T.) are as under i.e. Table No 1.

**Table No 1: Laboratory investigations**

<table>
<thead>
<tr>
<th>hematology</th>
<th>B.T.</th>
<th>A.T.</th>
<th>Differential WBC Count (%)</th>
<th>B.T.</th>
<th>A.T.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total WBC (/ Cu.mm)</td>
<td>7200</td>
<td>9200</td>
<td>Neutrophils</td>
<td>55</td>
<td>56</td>
</tr>
<tr>
<td>Hb (g %)</td>
<td>11.07</td>
<td>11</td>
<td>Lymphocytes</td>
<td>39</td>
<td>37</td>
</tr>
<tr>
<td>E.S.R.(mm / First hr /</td>
<td>14</td>
<td>40</td>
<td>Eosinophils</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
USG Findings

**July 2016:** Sonography showed multiple uterine fibroid, one on posterior wall (2.7×2.8cm) and other on anterior wall (1.8×1.5cm). Follicular study by ultrasonography showed no ovulation with multiple small follicles. Sonography report of patient during treatment is as depicted in Table 2.

### Table 2: Ovulation study

<table>
<thead>
<tr>
<th>Date</th>
<th>Day of LMP</th>
<th>Right ovary</th>
<th>Left ovary</th>
<th>Endometrium</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/8/16</td>
<td>5th day</td>
<td>10cc</td>
<td>11.2 cc 8×10 mm follicle</td>
<td>4.2mm PCOD++</td>
</tr>
<tr>
<td>20/8/16</td>
<td>15th day</td>
<td>-</td>
<td>20×20 mm follicle - 4.8mm</td>
<td></td>
</tr>
<tr>
<td>22/8/16</td>
<td>17th day</td>
<td>-</td>
<td>CLH 4.8mm ovulation++</td>
<td></td>
</tr>
<tr>
<td>11/9/16</td>
<td>4th day</td>
<td>-</td>
<td>3 mm</td>
<td></td>
</tr>
<tr>
<td>7/11/16</td>
<td>5th day</td>
<td>8.1cc</td>
<td>9cc 5mm</td>
<td></td>
</tr>
<tr>
<td>12/11/16</td>
<td>10th day</td>
<td>16×14mm</td>
<td>-</td>
<td>4.4mm</td>
</tr>
<tr>
<td>14/11/16</td>
<td>12th day</td>
<td>18×16mm</td>
<td>-</td>
<td>4.4mm</td>
</tr>
<tr>
<td>17/11/16</td>
<td>15th day</td>
<td>Ruptured follicle</td>
<td>-</td>
<td>Ovulation++</td>
</tr>
</tbody>
</table>

Based on the clinical findings and investigations, the anovulatory factor infertility due to polycystic ovarian syndrome was diagnosed. Here uterine fibroids were also a risk for conception and pregnancy. The treatment was mainly aimed to restore the fertility potential of the patient by regulating the menstrual cycle and ovulatory cycle, and preventing the further growth of fibroids.

The treatment protocol included both Sodhana and Samana. The procedure of Sodhana chikitsa is depicted in Table No.3

1. **Sodhana Chikitsa**

### Table No.3: Sodhana Chikitsa

<table>
<thead>
<tr>
<th>No.</th>
<th>Procedure</th>
<th>Drug &amp; Dose</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Deepana, Pachana</td>
<td>Trikatu Churna 3 gm BD with lukewarm water</td>
<td>3 Days (from 5th day of menses)</td>
</tr>
<tr>
<td>2</td>
<td>Snehapanas</td>
<td>Shudha Goghrita (Started with 20 ml and gradually increased upto 120 ml on 7th day)</td>
<td>7 Days</td>
</tr>
<tr>
<td>3</td>
<td>Sarvanga Abhyanga &amp; Sweda</td>
<td>Bala Taila – 2 times a day</td>
<td>2 Days</td>
</tr>
<tr>
<td>4</td>
<td>Abhyanga, Swedana, Virechana Karma</td>
<td>Trivritaleha – 100 gm (empty stomach)</td>
<td>1 Day</td>
</tr>
<tr>
<td>5</td>
<td>Sansarjana Karma</td>
<td>Dietary regimen</td>
<td>7 Days</td>
</tr>
</tbody>
</table>

* Dose of Sneha decided as per the appetite of patient and time taken for the digestion of Sneha.

* The patient showed Samyak snigdha lakshanas like loose stools, aversion to ghee, tiredness and an oily skin on 7th day

* After the intake of Trivrut lehyam, 10-12 Vegas were noted with no other complications.
2. Samana Chikitsa: Sthanyasodhana gana kashaya

At 48ml BD, ½ hr before food was given for next 3 months. The patient was advised to do proper exercise (walking ½ hr regularly in the morning) and maintain low calorie healthy diet.

Follow up and Outcomes: After the Virechana the weight of patient was reduced to 62kg. During the treatment, sonography was done to evaluate the follicular status and ovulation and on 22nd August 2016 ovulation study became positive. The patient was advised regular coitus with husband during the ovulation period. In November sonography is done to evaluate the ovarian size and it is found that volume also reduced significantly. Again the patient came on 9th January 2017 with the complaint of missed periods. Her last menstrual period was on 2/12/16.

The patient was advised to do urine pregnancy test and was found to be positive. The pregnancy went on with mild complications like back ache, constipation etc and an elective caesarian section was planned due to complicated pregnancy. On 1st September she delivered a female baby having weight 3.1kg through elective caesarian section.

DISCUSSION

There is no direct correlation of polycystic ovarian syndrome in Ayurveda. On review of Ayurvedic literature, there are many conditions which may be point towards the symptomatology and complications of PCOS. By analyzing the causes of Yonivyapad, Mithyachara and Artavadushti having a crucial role in the pathogenesis of PCOS. Early diagnosis and treatment of Artava dushti is of most important as it further leads to Abeejatva (Anovulation) and thus infertility. In this case, multiple fibroids were also diagnosed having direct impact on reproductive capability. All the metabolic manifestations of the disease may be due to the Dhavagni mandya existed at the level of Rasa, Rakta, Mamsa, and Medo dhatu. Sodhana and Samana is an essential part of Ayurvedic management of PCOS. Since it is a metabolic disorder, Virechana was planned for normalising the functions of Pitha and Agni. Trivrut leha was selected for Virechana due to its Tridoshahara (especially Kaphahara) and Hridya properties. Thus Sodhana helped to eliminate the vitiated Doshas and removed the Srotodushti existed at the level of Rasa, Rakta, Mamsa, Medas and Artavavahasrotas. To maintain Agni and proper formation of Artava, Sthanyasodhana gana kashaya was selected. Stanya and Artava being the Upadhatus of Rasadhatu, Sthanyasodhana kashaya may have an action in the proper formation and excretion of Artava also. Artava having the synonym Pushpa denotes Stribeeja (ovum) also. Stanyasodhana gana also known as Pathadi gana contains Patha, Sunti, Devadaru, Musta, Murva, Guduchi, Vatsaka Phala, Kiratat ikta, Katurohini and Sariba. Most of the drugs having Tikta Katu rasa, Laghu, Rooksha guna, Ushna veerya and Katu vipaka and Deepana, Pachana, Kaphahara in action. All these properties helped in removing the Sanga, correction of the Agni, and normal functioning of Vata especially Apana and thus helped in proper formation and excretion of Artava (regularization of menstrual cycle and ovulatory cycle) and maintained its normal function, that is Garbhakriti. Here the drug action was augmented due to Sodhana. Finally the cycles became ovulatory and the patient ultimately conceived. In most of the cases multiple uterine subserosal fibroids didn’t affect the conception and maintenance of pregnancy and in this case the size of fibroids didn’t show an increasing tendency during pregnancy also, which was a favoring factor for the pregnancy.

<table>
<thead>
<tr>
<th>No</th>
<th>Drug name</th>
<th>Latin Name</th>
<th>Part</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sunti</td>
<td>Zingiber officinal Roscoe</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Marich</td>
<td>Piper nigrum Linn.</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Pippali</td>
<td>Piper longum Linn.</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No</th>
<th>Drug name</th>
<th>Latin Name</th>
<th>Part</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Trivrita (Kwath)</td>
<td>Operculina turpenthum Linn.</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>Sugar</td>
<td>Saccharum officinarum Linn.</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Trivrita Churna</td>
<td>Operculina turpenthum Linn</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Honey</td>
<td>Mal depuratum</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Twak</td>
<td>Cinnamomum zeylanicum Breyn.</td>
<td>1/24</td>
</tr>
<tr>
<td>6</td>
<td>Tamalapatra</td>
<td>Cinnamomum tamala Nees and Eberm.</td>
<td>1/24</td>
</tr>
<tr>
<td>7</td>
<td>Marich</td>
<td>Piper nigrum Linn.</td>
<td>1/24</td>
</tr>
</tbody>
</table>
Obesity, insulin resistance as well as the associated disease based on established criteria is important. For this reason, early diagnosis of the disease is important. There is currently no cure for this disease.

**CONCLUSION**

Infertility seems to be increasing now days due to the change in lifestyle and stressful life of partners. PCOS which causing 80% anovulation, is one of the main contributing factor for female infertility. Although PCOS is one of the most common endocrine disorders in women of reproductive age, there is currently no cure for polycystic ovary syndrome. For this reason, early diagnosis of the disease based on established criteria is important. Obesity, insulin resistance as well as the associated diseases can be controlled by an early diagnosis and proper management. Though this study involves a single case, it may helpful for practitioners to find new way of thinking of treatment options and tried to explore the probable mode of action of drug based on recent researches on PCOS. Along with medicines proper exercise and a healthy diet was advised, this is very much essential for lifestyle diseases like PCOS.

**Acknowledgment**

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