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POLY CYSTIC OVARIAN DISEASE MANAGEMENT IN UNANI SYSTEM OF MEDICINE

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ABSTRACT Polycystic ovarian disease (PCOD) is the most common endocrine abnormality of women of reproductive age, and is the commonest cause of infertility due to anovulation. PCOD affects 5-10% of reproductive age women rising till 15% in women with infertility. This disease has been described by eminent Unani Physicians in the classical literary books under the headings of amenorrhoea, obesity, phlegmatic disease and liver disorders.In this review we outline clinical features, presentation and pathogenesis of polycystic ovarian disease (PCOD), treatment objectives and therapeutic options in Unani perspective. We focus on and outline the role of the Unani system of medicine in diagnosis and treatment of this condition. We also review recent information of herbal drugs having effect on insulin resistance in PCOD. Finally, we outline the current and future mode of treatment for this common condition in women. Unani concept of PCOD is mainly based on the dominance of khilte balgham (phlegm). The predominant symptoms of PCOD like amenorrhoea, oligomenorrhoea and obesity have been attributed to arise of phlegm. So it is claimed that PCOD arises due to predominance of phlegm in the body which leads to cyst formation in the ovaries, obesity and amenorrhoea. This disease is complex, as it further gives rise to complications like infertility, cardiovascular ailments, type-2 diabetes mellitus, metabolic syndrome, carcinoma of breast and endometrium. Such a complicated disease has no satisfactory treatment till now and most often patient gets only symptomatic treatment with hormones and insulin sensitizer and becomes drug dependent in the long term. Unani physicians have recommended regular induction of menstruation as one of treatment modality applied for women who has developed masculine features suggestive of PCOD. They have given a line of management based on correction of temperament, menstrual regulation by use of emmenagogue drugs and local application of herbs to reduce the severity of hair growth, acne and hyper pigmentation due to PCOD.

KEY WORDS : PCOD, Menstrual irregularities, Unani medicine, Insulin sensitizers, herbal drugs.

INTRODUCTION:

Polycystic ovarian syndrome (PCOS), or hyperandrogenic anovulation (HA) [1] American gynecologists Irving F. Stein and Sr Michael L Leventhal, named it stein Leventhal syndrome [2] and is most mentioned endocrinopathies among women of childbearing age with a prevalence of 9.13% in Indian population [3]. It's been documented that it is not only metabolic disorder but has genetic origin either, otherwise in before time it was mostly claimed to be a metabolic pathological case as being reversible in nature [4-6]. The first time in 1935, American gynecologists Irving F. Stein, Sr. and Michael L. Leventhal, documented this endocrine feminine disorder, which gave it another name as Stein-Leventhal syndrome [7,8]. Also, this PCOS was documented in 1721 in Italy, concerning Cyst- changes in ovaries were mentioned in 1844(Norman, Robert, Gabor Kovac, 2013). PCOS symptoms appear in near about5% to 10% of women of childbearing age (around 12 to 45 old women) [9]. PCOS is the primary culprit for women subfertility [10-12] and claims to be disastrous endocrinopathy in the female population [13]. Commonly a USG scan of ovaries shows a multitude of cysts present, though not encountered in every case. PCOS is a cluster of symptoms with hyperandrogenism as one of the main symptoms. In such instances, it presents with symptoms like acne vulgaris or pimples, alopecia or hair fall, abnormal menstrual cycle (irregular or absent periods), polycystic ovaries (a string of small beads pattern cysts containing small collections of fluid in ovaries, actually representing ova arrested during their growth, infertility or failure to conceive, hirsutism or unwanted facial hair growth or body, etc [13,14].

PCOD accounts for most cases of oligomenorrhoea and about a third of those of amenorrhoea. History, examination, and first line investigations usually establish the diagnosis [15] . A more recent joint consensus statement between the European Society for Human Reproduction and Embryology and the American Society for Reproductive Medicine (ESHRE/ASRM) has revised the criteria for diagnosis of PCOD to include two from three of the following criteria: i) oligomenorrhoea/anovulation; ii) clinical or biochemical evidence of hyperandrogenism; iii) polycystic ovaries, with the exclusion of other etiologies. The hallmark clinical features of PCOD are menstrual irregularities (amenorrhoea, oligomenorrhoea, or other signs of irregular uterine bleeding), signs of androgen excess, and obesity [16] . This disease is complex and it further gives rise to serious complications like infertility, cardiovascular ailments, type-2 diabetes mellitus and carcinoma of breast and endometrium . The onset of this disease is peri–menarcheal, as during this stage major endocrinological and emotional change takes place and this probably could explain the reason behind its onset at this stage [17]

Unani Perspective:

In unani system of medicine the description of PCOD has been described vividly by various unani physicians under the headings of ehtebase tams and uqr. It has been mentioned that sue mizaj barid (abnormal cold temperament) of the liver may lead to abnormal production of phlegm. Dominance of khilte balgham (phlegm) may lead to formation of cysts in the ovaries. The cause of infertility in females due to obesity and PCOD as described by modern medicine are very much similar to the causes and features of uqr in unani medicine. Unani physicians recorded combination of signs conjoined with menstrual irregularities i.e. amenorrhoea, oligomenorrhea and DUB, including hirsutism obesity, acne, hoarseness of voice and infertility, which are suggestive of PCOD . It is also described that women become amenorrhoeic if their mizaj is transformed towards masculinity and develops male pattern hair growth, hoarseness of voice etc.

Also the other predominant symptoms of PCOD like amenorrhoea,

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oligomenorrhoea and obesity have been attributed to rise of phlegm. Hence, it is claimed that PCOD arises due to predominance of phlegm in the body which leads to cyst formation in ovaries, obesity and amenorrhoea. The Unani Physicians consider that the early twenty years of life are the period of childhood which is predominated by phlegm; hence the phlegmatic disorders are more likely to occur at this stage. This probably may explain the role of phlegm as a contributing factor for the onset of this disease during this age group

Symptoms of PCOD:

1. Menstrual issues: PCOD mainly causes oligomenorrhea (lower than nine menstrual periods in one year) or even amenorrhea (no menstrual periods for 3 or more successive months). However other kinds of menstrual problems can also occur.

2. Infertility: This usually results directly from persistent anovulation.

3. Metabolic disorder: This shows up like a propensity towards fundamental weight problems along with other indicators connected with insulin resistance. Serum insulin, insulin resistance, and also homocysteine amounts are increased in females with PCOD. Asiansinfluenced by PCOD are not as likely to cultivate hirsutism as the ones from some other ethnic backgrounds. Ladies with PCOS are inclined to have fundamental weight problems, yet scientific studies are contradictory with regards to whether visceral as well as subcutaneous stomach fat is augmented, unaffected, or diminished in females with PCOD of reproductively. normal woman with similar weight index. In any event, androgens, like testosterone, androstanolone.

DIAGNOSIS:

by clinical presentation Rhazes recorded combination of signs conjoined with menstrual irregularities (oligomenorrhoea, amenorrhoea and DUB) including hirsutism, obesity, acne, hoarseness of voice and infertility, which are suggestive of polycystic ovarian disease and hyperandrogenism. Hippocrates (460-370 BC) first documented the affiliation of excess facial and body hair (hirsutism) in females with prolonged amenorrhoea, obesity and infertility; similar observations were reported by Galen (130-200 AD). Hirsutism is mentioned in classical Unani literature as a complication of prolonged amenorrhoea associated with other masculine features like hoarseness of voice, male body contour, acne etc. The pathophysiology of hirsutism was explained by Ibn Sina and Ismail Jurjani. Alteration of normal temperament of women was considered as central dogma for hirsutism. It was said that persistence of amenorrhoea for a long duration causes alterations in internal environment of women's body and status of equilibrium is disturbed, leading to formation of some unwanted material which is being excreted through skin pores in the form of busoore labnia (acne) and also participate in the growth of thick hair over the body . As the normal temperament of women are cold and moist and with prolonged amenorrhoea, it gets transformed towards that of men (hot and dry). This is mainly because of the ehteraq (detonation) of normal phlegm (cold and moist) to black bile (hot and dry). The effect of this souda (black bile) on skin leads to hirsutism and hyper pigmentation (acanthosis nigricans). It was observed by Ibn Sina, Ismail Jurjani and Al Razi that development of masculine features is more common in obese women with robust body and prominent blood vessels, as these women have almost similar temperament as that of men. PCOD may complicate further leading to infertility, insulin resistance, metabolic syndrome etc

Insulin Sensitizers:

The research is so far confined. rosiglitazone and pioglitazone have less short-term risk, teratogenicity is not studied so far (pregnancy category C of the US FDA guidelines). Withdrawal of drugs is mandatory as the patient's baby is due in months. There is Impaired insulin signaling via protein kinase A (Akt) and Akt substrate (AS160) in part. At the genetic/ molecular level, there is a loss of insulin sensitivity in the skeletal muscle of PCOS women. Pioglitazone overcomes this problem by improving signaling through Akt andAS160, thus enhances insulin sensitivity [18].

Medication with metformin is linked with elevated menstrual periodicity, cycles are ovulatory, and a decline in circulating androgen measures. Cochrane review was modified by Tang et al regarding insulin-sensitizing drugs (metformin, rosiglitazone, pioglitazone, Dchiro -inositol) PCOS suffering patients, with symptoms of amenorrhea, oligomenorrhea and subfertility declared that metformin proves useful in child conceiving and causes ovulatory cycles. But, there was NO proof about the same drug in contributing towards the live birth rates when taken as a single drug or in amalgamation with clomiphene. hence, treatment with this drug manifests no solid prove in contributing reproductive function in patients with PCOS [19].

Management of PCOD in Unani medicine:
Unani treatment

This regimen is a far old plant-derived and drugs from animals and mineral sources are included either. It witnesses the cure of a multitude of diseases of humans. The reasons for subfertility in obese females and PCOS as mentioned in the allopathic system are alike in terms of etiology and features of our in Unani medicine, except the cellular and hormonal concept. The drugs for database tams, or and sue mizajbarid are mostly beneficial in treating this syndrome, but proof of its efficacy is awaited so far. Health care professionals in this system made a mention of a multitude of diseases, which include Qillat e Tams, Ihtibaz e Tams, Uqr. Hence understanding management of the Unani system of medicine towards Uqr due to abnormally high body mass and this syndrome doesn't show any similarity with Modern science. The Unani treatment is known as IlajbilZid, meaning the medicine which has the opposite Mizaj (Temperament) of the selected impacted akhlat and the affected individuals treated with it.

Ghir e tabayeemada (Abnormal humors) such as Ghir e tabayeeBalghamvoSawda, consumption of Unani Joshanda(Decoction)possessing function of Munzij e Brigham for Ghir e TabayeeBalgham and the Munzij e Sawada for Ghir e TabayeeSawda is given in the dose of half a cup morning and the evening for about fortnight. In case the Ghir e Tabayee Sawda is Ghaleez in Khiwam then munzij becomes the drug of choice. In this case, dawa must also have good activity of Mudir – e Haiz(Emmenogogue) and Muqawwi e A'za e Rayeesa (General tonic for vital organs) (ArRazi, 1961) Many scientific studies have proven the effect of following Unani drugs: Aelva(Aloe barbadensis) Sarphunka (Tephrosiapurpurea) Lajvanti (Mimosa pudica) On PCOS. Ashwagandha(WithaniasomniferaDunal.) and Kharekhask (Tribulus Terrestris Linn.) are drugs of choice in Unani medicine. Multitude of researches are done on these drugs and reported for Asgard to possess 40 anxiolytics, antioxidant, anti-carcinogenic, anti-aging, cardioprotective, hypothyroid, immunomodulatory, antibiotics like antifungal, antibacterial, hypocholesterolemic, hypocholesterolemic and CNS related activities. Kharekh ask possesses antiurolithiatic, aphrodisiac, CNS stimulatory, and cardiotonic activities Five common medicines aid in the treatment of PCOS.

Satawar (Asparagus racemosus):

Satawar helps promote the normal growth of ovarian follicles, modifies the monthly cycles, and provides nourishment to female reproductive health. Satawar aids in assessing the hyperinsulinemia as for its natural plant-based estrogen) [53].

Giloe (Tinospora Cordifolia):

It is a strong herb acting against inflammatory conditions. Chronic inflammation in tissues is believed to be a cornerstone of insulin imbalance and multiple cysts in the ovary. It affords nourishment of the body tissues and boosts metabolism spontaneously. It also aids in minimizing insulin resistance.

Saunf (Foeniculum vulgare):
There are specific active constituents in fennel, that aids in lowering insulin resistance and in countering inflammation in such a syndrome. These phytoconstituents of fennel declines the cellular imbalance that was otherwise bringing about metabolic imbalance in this syndrome.

Triphala:
amalgamation of trio Amla (Emblica Officinalis), Halela (Terminalia chebula), and Balela (Terminalia bellerica) mixed in it. Possesses a high range of vitamin C- a very potent natural antioxidant countering inflammation by scavenging free radicals. Triphala acts as a cleansing and detoxifying agent

1. **Ilaj bil Tadbeer (Regimenal therapy):** Lifestyle modifications including regular exercise, brisk walk,
a. diet control and adequate sleep. If the patient is obese, weight reduction is advised; this can be
b. facilitated by hammame yabis (steam bath) and dalak (massage). To induce menstruation, hijama (wet cupping) is applied over· the calf muscles of both lower limbs to divert the flow of blood towards the uterus.

2. **Ilaj bil Ghiza (Dietotherapy):** Diet should be light, nutritious and easily digestible.
a. Use of fibrous food including green leafy vegetables and fresh· fruits. Avoid cold and dry food, late digestible food, heavy and spicy
b. food. Drink plenty of fluids.
c. Ilaj bid dawa (Pharmacotherapy):
d. Rhazes recommended regular induction of menstruation as one of treatment modality applied for women who has developed masculine features suggestive of PCOD. He has given a line of management based on correction of temperament and menstrual irregularity by use of emmenagogue drugs (single or compound) and local application of herbs to reduce severity of hair growth, acne and hyper pigmentation.

3- **Ilaj bil Yad (Surgical Treatment)** Fasd (venesection) of Rage Safin (saphenous vein) to divert the flow of blood towards the uterus to induce menstruation. Usoole Ilaj (Principles of Treatment) Idrar haiz with use of mudire haiz drugs
e. Tadeel mizaj with use of munzij wa mushil balgham
f. drugs Weight reduction
g. Specific drugs

Aelva (Aloe barbadensis): It corrects menstrual cycle periodicity and modifies normal menstruation and corrects ovarian hormonal disturbance.

Compound Drugs:
1-Majun Supari Pak
2-Syrup Cystocure
3-Habb e Kachnar
4-Habb e Mudir
5-Majun Dabidulward
6-Itrifal Shahtra

CONCLUSION AND FUTURE PERSPECTIVE:
Unani systems of medicine contribute to the prevention, mitigation, palliation, and treatment of PCOS effectively. Unani treatment show the good result with least or nil side effects in comparison to allopathic systems of medicine, as the latter leaves some side effects behind which is a matter of concern. With the implementation of any one of the above therapies, a woman will see an improvement in many if not in all of her symptoms. Although the treatment varies in all of the three systems of medicine, yet the Management is almost a like in each case showing wonderful results when acted upon. Any of the regimen, of the three therapies, can be opted for depending upon the choice of a patient. Allopathic treatment manifests quick responses, while the Unani systems of medicine show slow response in the treatment of PCOS. These treatment systems overall show fewer side effects and have low toxicity thus making them a good candidate for treatment of PCOS and they hold a great potential in future.

Abbreviations:
AMH: Anti-Mullerian Hormone; BPA: Bisphenol A; BMI: Basal Metabolic Index; CVD: Cardiovascular Disease; CC: Clomiphene Citrate; EDC's: Endocrine Disruptor Chemicals; FSH: Follicle-Stimulating Hormone; FAI: Free Androgen Index; FMR1: Fragile X Mental Retardation 1; HCG: Human Chorionic Gonadotropin; IGFBP-1: Insulin-Like Growth Factor-Binding Protein 1 (IBP-1); LH: Luteinizing Hormone; OC's: Oral Contraceptives; OHSS: Ovarian Hyperstimulation Syndrome; PCOS: Polycystic Ovarian Syndrome; PCOM: Polycystic Ovarian Morphology; SHBG: Sex Hormone-Binding Globulin; USG: Ultrasonography

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