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IFS Conversations (Volume : 13)
Dear Friends,

Greeting to all of you from the entire executive team 2020-22 of Indian fertility society
First of all I would like to congratulate the entire team of IFS for working so hard during the difficult time of covid.

The sole purpose of getting these conversations is to showcase the various recent academic activities conducted by our extremely enthusiastic and committed members spread over 28 chapters across India and abroad. The topic of this conversation is PCOS

PCOS is a very prevalent reproductive disorder in women. It leads to hormonal imbalance in the reproductive age group which affects the woman’s ability to conceive, causes irregular periods and miscarriages, causes acne and facial hair growth due to relative increase of male hormone and is associated with obesity and insulin resistance in a large percentage of women.

The management of PCOS does not end with the treatment of acne or hirsutism or irregular periods or infertility, it goes much beyond that. We need to prevent metabolic syndrome, and it’s associated cardiac problems, cancer of the uterus, severe obesity etc. which commonly occur in PCOS women at an older age. It is extremely important to make a timely and correct diagnosis of PCOS when girls or women come to us with their symptoms, and convince them to have a regular follow up; by self-determination and self-discipline in their own life style, women themselves, can overcome this difficult situation, and live healthy lives.

While we have come a long way from PCOS being a poorly understood condition. in 1990 to present day, there is still much to learn and accomplish. The aim of this conversation is to give our readers an updated knowledge on PCOS.
I congratulate the editorial team for their excellent hard work and dedication to plan and prepare this news bulletin and wish all readers a very rewarding and pleasant reading.

Warms Regards and best wishes,

Dr. Sudha Prasad
President- IFS
MESSAGE FROM THE SECRETARY DESK

DR NEENA MALHOTRA
Secretary - IFS

Dear Friends,

It is indeed a privilege and pleasure to address you all on this issue of IFS Conversations. I hope you are all in good health and safe. Our editorial team brings you this IFS conversation dealing with various aspects of PCOS.

I would like to congratulate the dynamic team of IFS who have spent their valuable time in compiling this bulletin, the authors and contributors for their efforts in providing in depth information and keeping us all updated with recent advances in the field.

IFS has been doing excellent work by focussing on academic activities all over the country, helping young faculty to learn from experienced senior members. Indian Fertility Society (IFS) has progressed over the few years with nearly 3400 members and 28 chapters. It is an internationally affiliated organization engaged in training and educating clinicians and embryologists by organizing CME, workshops and seminars.

In this conversation we have dealt with ‘PCOS’. With the increasing incidence of PCOS and metabolic syndrome, management of insulin resistance is a dilemma for all clinicians, this edition shall throw light on role of insulin sensitizers, dispel myths and clarify its indications in background of available scientific evidence.

Hope you all will find it very useful.

Warms Regards and best wishes,

Dr. Neena Malhotra
Secretary - IFS
Dear Members & Friends,

Please accept greetings from the editorial team. We present before you the second issue of IFS conversation this year.

As we are aware that our nation is facing unprecedented covid-19 pandemic situation and the outbreak has disrupted life of billions around the globe, we at IFS are determined to face the challenge by ensuring that relevant academic content reaches all our members online. We believe in going green and the IFS Conversation will be circulated digitally.

This issue of IFS conversation is dedicated at “Universal Freezing – are we ready yet?” The improvements in vitrification technology and the good outcomes obtained in assisted reproductive technologies have supported new indications for freezing and segmentation of treatment. Still there are some controversies regarding evidence that suggest that freeze-all is not “for all,” but should be individualized.

We are thankful to experts who have given their valuable contribution on this topic of fresh versus frozen embryo transfers. You will also find all the academic activities done under the aegis of IFS during the period between July – Sept 2020. Many of these are still available online for you to access. Many of our members presented their work this year at virtual ESHRE 2020. You will get a glimpse of these presentations.

We welcome our members to contribute scientific content in forthcoming issues of IFS conversation. We will be more than happy to publish all your academic achievements & awards at national or international level.

Happy reading!

Dr. Shweta Mittal Gupta
Editor, IFS

Dr. Rashmi Sharma
Joint Editor, IFS

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MESSAGE FROM THE EDITOR’S DESK

DR. SHWETA MITTAL GUPTA
Editor - IFS

DR RASHMI SHARMA
Jt. Editor - IFS

Dear Members of IFS & all Readers,

Hope you all are keeping safe & healthy. In this bulletin dedicated to PCOS, one of the most commonly faced situation, yet difficult to treat, we bring you a variety of academic bonanza.

“The role of vitamin D deficiency in pathogenesis of PCOS” as well as modulator of insulin deficiency has been elucidly written & discussed by Dr. Prateebha Makhija.

Prof. Dr. Rekha Ratnani has described a “case report of endometrial carcinoma in a young PCOS women” and further elaborated on how to preserve fertility in such cases.

Dr. Paulami Dey in detail has described all the “Different phenotypic presentation of PCOS and the phenotypic approach”.

Lastly Dr. Neha Mathur wrote about “Oocyte quality in PCOS women undergoing IVF”, a yet another important aspect which needs to be understood and dealt with.

Hope all our readers will find all the articles interesting with many important practising tips. May this season bring in a lot of joy and happiness to all.

Editorial team.

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INDIAN FERTILITY SOCIETY

IFS RECOMMENDATIONS FOR COVID 19 VACCINATION BEFORE ART

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since PCOS is a state of follicular developmental arrest, abnormalities in vitamin D metabolism and action could be theorized to be linked to the pathogenesis of PCOS. Thus, in PCOS, vitamin D deficiency has emerged as a plausible mechanism to explain some of the metabolic and endocrine features of PCOS. Indeed, multiple studies, observational as well as randomized controlled trials, have explored the relevance of vitamin D in PCOS [16-28]. Accruing data suggest low levels of vitamin D in PCOS [17, 19, 21, 28], and vitamin D deficiency is shown to be linked to PCOS pathophysiology through its associations with obesity, insulin resistance, hyperandrogenism, dyslipidemia, inflammation, as well as features of depression and risk for DM and CVD, while impaired folliculogenesis, steroidogenesis, and reproductive compromise are well described in the animal models of vitamin D deficiency, a relevance of vitamin D for human reproductive biology, however, is less well understood. Herein we attempt to provide an overview of our current understanding on the plausible relevance of vitamin D in the pathophysiology of PCOS.

Vitamin D: Mechanism of Action (Fig. 1.1)

Humans are primarily dependent on endogenous cutaneous synthesis of vitamin D through exposure to solar ultraviolet B (UVB); dietary sources account for less than 20% of daily requirements of the vitamin. Exposure to solar UVB converts dehydrocholesterol in the skin to previtamin D, which is rapidly converted to vitamin D₃ (cholecalciferol). Dietary vitamin D gets incorporated in the chylomicrons and gets transported via the lymphatics to the circulation. Circulating vitamin D is transported to the liver where it undergoes the first step of activation wherein vitamin D-25-hydroxylase catalyzes the conversion to 25-hydroxy vitamin D (25(OH)D), the major circulating form that reflects the overall vitamin D status. Final activation of 25(OH)D occurs in the kidney as well as at target cell level, via 1-α-hydroxylase to 1,25-dihydroxyvitamin D (1,25(OH)₂D), the active vitamin D metabolite that promotes intestinal calcium absorption through its interaction with the cognate vitamin D receptor (VDR). Vitamin D acts as a transcription factor via signaling through the nuclear VDR-retinoic acid x-receptor (VDR-RXR) complex [7] and exerts actions across a host of tissues, including the skeleton, pancreas, parathyroid glands, and even ovary [29, 30]. Serum levels of calcium, phosphorus, parathyroid hormone (PTH), as well as fibroblast-derived growth factor-23 (FGF-23) are recognized modulators of 1α-hydroxylation of 25(OH)D [7].

Obesity, PCOS, and Vitamin D

There is increased prevalence of body mass excess in women with PCOS as compared to age-matched controls [1, 6, 31, 32]. A recent meta-analysis identified women with PCOS as having an increased prevalence of being overweight, obese, and centrally obese compared to non-PCO controls [32]. An inverse relationship between circulating 25(OH)D levels and parameters of body mass excess such as body mass index (BMI) and waist circumference (WC) is well described across populations including women with PCOS [17, 19-21, 23, 25, 33, 34]. Possible rationale for the lower circulating 25(OH)D levels in obesity may include increased sequestration tendency of obese individuals to seek sunlight [35].
**Vitamin D: A Modulator of Insulin Resistance in PCOS**

Insulin secretion is a calcium-dependent process [36, 37] and IR and compensatory hyperinsulinemia are well described in the setting of PCOS [5, 6]. The precise mechanism of action whereby vitamin D influences insulin signaling appears to involve genomic stimulation of the insulin receptor mRNA via VDR signaling [38, 39]. Vitamin D signaling appears to promote insulin synthesis and release, enhance insulin receptor expression, and also inhibits pro-inflammatory cytokines that are recognized to play a role in the pathogenesis of IR [40]. The latter mechanisms may explain the observed associations between vitamin D deficiency with impaired glucose and insulin metabolism [41-44] and the recognized high prevalence of hypovitaminosis D in populations with type 2 DM [45-47]. Similar trends and associations have been described in women with PCOS in whom limited data suggest similar relationships between IR and vitamin D deficiency in women with PCOS [20, 21, 24, 25].

**Vitamin D: Relationship with Hyperandrogenemia of PCOS**

Vitamin D status can be hypothesized to modulate circulating androgen levels through interactions with sex hormone-binding globulin (SHBG), and PTH. Recognized as a modulator of circulating levels of free androgens, the hepatic SHBG is the dominant carrier protein that binds circulating androgens including testosterone and androstenedione and, hence, minimizes percentage of free androgen available to act at the target tissue; a decline in SHBG levels, as seen in states of IR, is associated with increase in circulating free androgen levels and, hence, worsening features of hyperandrogenism. Serum levels of 25(OH)D are shown to correlate positively with SHBG levels [48]. Conversely, hyperinsulinemia, as in PCOS, promotes hyperandrogenism through inhibition of hepatic synthesis of SHBG [49]. Hirsute PCOS women were reported to have significantly lower 25(OH)D levels compared to the non-hirsute. Serum PTH levels are intimately related to vitamin D status, and are known to be higher in the obese individuals, secondary to vitamin D deficiency [50-54].

**Vitamin D: Implications for Ovarian Physiology and Relevance for PCOS**

Animal studies have established the role of calcium in oocyte activation and maturation [13-15]. An increase in intracellular free calcium is responsible for progression of oocyte meiosis [13-15]. Given the known association of PCOS with ovulatory dysfunction [55], studies were conducted to investigate the contribution of altered calcium homeostasis in PCOS pathophysiology [16, 19, 26]. Addition of vitamin D and calcium to along with metformin is more effective in correcting menstrual disorders and follicular growth than either metformin or calcium and vitamin D alone.

**Vitamin D: Potential Implications for Cardiovascular Health in PCOS**

Epidemiological data identify vitamin D deficiency as a risk factor for enhanced cardiovascular morbidity and mortality [56-58]. Vitamin D receptors are located in the vascular smooth muscle [59] and endothelium [60], and inflammation, dyslipidemia, hypertension, coronary artery disease, cardiac failure, and accelerated carotid atherosclerosis have been described in association with vitamin D insufficiency across populations [56-58]. Limited data are additionally available on the relationship between vitamin D status and CVD risk in the PCOS population [17, 19, 21]. Li et al. identified 25(OH)D levels to relate inversely with C-reactive protein (CRP), a known risk factor for CVD [17], whereas both Li et al. and Hahn et al. identified positive correlations between 25(OH)D and HDL levels [17, 21]. Wehr et al. demonstrated inverse correlations between vitamin D status and serum levels of triglycerides, total cholesterol, and systolic and diastolic blood pressure [19].

**Vitamin D: Potential Implications for Psychological Well-Being in Women with PCOS**

Vitamin D deficiency has been linked to depression in the non-PCOS populations. Women with PCOS carry a substantial psychological burden; although the exact underpinnings remain unclear, altered physical appearance (obesity, acne, alopecia, hirsutism), menstrual irregularity, and difficulties in conceiving are recognized as potential contributors to the prevalent issues of depression, anxiety disorders, body image dissatisfaction, and sexual dysfunction encountered in women with PCOS [61-64].

**Vitamin D: Potential Implications for Reproductive Success in Women with PCOS**

Vitamin D as essential for procreative “success; with recognized effects on folliculogenesis, spermatogenesis, steroidogenesis, and implantation [65-67]. Vitamin D is recognized to enhance action of the enzyme aromatase, which is responsible for conversion of androgens to estrogens in the ovarian granulosa cells [68], and interruption of estrogen signaling is suggested as a mechanism for reproductive disturbances in the setting of vitamin D deficiency [68, 69]. In a study of infertile women undergoing in vitro fertilization, our group had observed significantly higher 25(OH)D levels in the ovarian follicular fluid of women who achieved clinical pregnancy following fresh embryo transfer [70], and this finding was subsequently corroborated by others [71-73].

**Fig. 1.2** The role of vitamin D deficiency in the pathology of PCOS. Adapted from Thomson RL, Spedding S, Buckley JD. Vitamin D in the aetiology and management of polycystic ovary syndrome. Clin Endocrinol 2012;77:343–350, with permission from John Wiley and Sons. © 2012 Blackwell Publishing Ltd

**Summary**

A vast body of literature links low vitamin D status to obesity, insulin resistance, menstrual irregularity, depression, and increased CVD risk (Fig. 1.2), and a growing body of literature suggests a relevance of vitamin D insufficiency for the pathophysiology of PCOS. A need for appropriately powered double-blind randomized controlled trials is underscored by the currently existing data so as to definitively address if vitamin D insufficiency may be a modifiable mechanism in the pathophysiology of PCOS, and if normalization of vitamin D status could mitigate the endocrine, metabolic, and clinical stigmata of PCOS.
References


17. Li HW, Breereton RR, Anderson RA, Wallace AM, Ho CK. Vitamin D deficiency is common and associated with metabolic risk factors in patients with polycystic ovary syndrome. Metabolism 2011;60(10):1475–81.


findings. After 6 months, dose was decreased to 40 mg TDS and LNG –IUS was inserted. Patient had massive weight gain and mood swings as side effects. After 9 months therapy, biopsy showed mild atypia hence dose was tapered and after full 18 months, she showed no feature of atypia and was only on LNG-IUS. Her FSH was 0.23 L/H was 0.12, and E2 was 85.0 Decision was taken to hyperstimulate her with recombinant FSH in step up protocol. She made 24 follicles with 150 IU and leupride was used as trigger. OPU was smooth and 20 good quality oocytes were in hand. ICSI was done and 13 embryos of grade 1-2.5 with 6-8 cells were frozen and FET was planned. She was put on 8mg medroxyprogesterone acetate (600 mg/day) treatment with endometrial evaluation in every 3 months to assess the effects of medication but studies suggest that 200mg/day gives similar control. If the response is not satisfactory, hysterectomy is advocated. For a successful outcome following conservative approach, a strict clinical staging in the form of physical examination, Hysteroscopy and imaging with ultrasound, CT or MRI, and a cautious evaluation of histological grading by a pathologist are required. Women with endometrial cancer who want fertility preservation should be counselled regarding the possible risk of advanced disease if surgical therapy is delayed. Nevertheless these young patients should be given fair trial of conservative management and if recurrence occurs, the disease free window should be used for hyperstimulation of ovaries and ovum pick up. While preparing the endometrium for FET, keep suspicion index very high for recurrence and counsel the patient for the need of surrogacy for successful outcome. Multidisciplinary approach while treating such young patients help in formulating the treatment plan with successful outcome. DO NOT FORGET that conservative therapy is feasible only in carefully selected young women with endometrial cancer. Recurrence rates are high as quoted by long-term observational studies even after pathologically complete remissions. Therefore, close follow-up is recommended.

**DISCUSSION**

An association between polycystic ovary syndrome (PCOS) and endometrial carcinoma was first suggested in 1949. However, obesity, hyperinsulinemia, and hyperandrogenism, which are also features of PCOS, are risk factors for endometrial carcinoma. Lack of clinical suspicion and reluctance to do an endometrial evaluation may delay this rare diagnosis of endometrial cancer in young women. One of the well-documented effects of estrogen on the endometrium is its growth-stimulating effect, which can produce a progression of changes from benign proliferation to atypical hyperplasia and adenocarcinoma. Anovulation due to unopposed estrogens contributes to this situation. In a normal menstruating women, progesterone induces regular sloughing of the endometrium, thereby removing endometrial tissue that might otherwise become hyperplastic. Furthermore, progesterone can reverse various degrees of hyperplasia and early stages of adenocarcinoma to normal endometrial histology by causing suppression of endometrial glandular growth, through stromal decidualization and leukocytic infiltration to glandular atrophy and stromal focal necrosis. Due to prolonged treatment, connective tissue fibers increase to some degree and may be accompanied by endometrial fibrosis and calcification. Clinical and histological data have demonstrated that all these changes, including fibrosis and calcification, return to normal in a short period after discontinuing the treatment. Adenocarcinoma of the endometrium is a morbid condition in women under 40 years of age with an incidence of 2%. The disease is often advanced when diagnosed, thereby depriving the woman of the option of fertility sparing conservative approach. In young women with menstrual abnormalities and polycystic ovarian disease and/or infertility, an endometrial evaluation should be performed. Carcinoma endometrium should be kept in mind while evaluating young women with polycystic ovary syndrome for abnormal uterine bleeding. Only strictly selected patients should, therefore, be indicated for long-term progestogen treatment and careful evaluation before and after treatment should be performed. The standard treatment for endometrial carcinoma is total abdominal hysterectomy with bilateral salpingo-oophorectomy. In young women with low histological grade and early stage of the disease, conservative hormonal therapy has been tried with close follow-up. There are reports of high-dose medroxyprogesterone acetate (600 mg/day) treatment with endometrial evaluation in every 3 months to assess the effects of medication but studies suggest that 200mg/day gives similar control. If the response is not satisfactory, hysterectomy is advocated. For a successful outcome following conservative approach, a strict clinical staging in the form of physical examination, Hysteroscopy and imaging with ultrasound, CT or MRI, and a cautious evaluation of histological grading by a pathologist are required. Women with endometrial cancer who want fertility preservation should be counselled regarding the possible risk of advanced disease if surgical therapy is delayed. Nevertheless these young patients should be given fair trial of conservative management and if recurrence occurs, the disease free window should be used for hyperstimulation of ovaries and ovum pick up. While preparing the endometrium for FET, keep suspicion index very high for recurrence and counsel the patient for the need of surrogacy for successful outcome. Multidisciplinary approach while treating such young patients help in formulating the treatment plan with successful outcome. DO NOT FORGET that conservative therapy is feasible only in carefully selected young women with endometrial cancer. Recurrence rates are high as quoted by long-term observational studies even after pathologically complete remissions. Therefore, close follow-up is recommended.

**POLYCYSTIC OVARIAN SYNDROME: THE PHENOTYPIC APPROACH**

**DISCUSSION**

An association between polycystic ovary syndrome (PCOS) and endometrial carcinoma was first suggested in 1949. However, obesity, hyperinsulinemia, and hyperandrogenism, which are also features of PCOS, are risk factors for endometrial carcinoma. Lack of clinical suspicion and reluctance to do an endometrial evaluation may delay this rare diagnosis of endometrial cancer in young women. One of the well-documented effects of estrogen on the endometrium is its growth-stimulating effect, which can produce a progression of changes from benign proliferation to atypical hyperplasia and adenocarcinoma. Anovulation due to unopposed estrogens contributes to this situation. In a normal menstruating women, progesterone induces regular sloughing of the endometrium, thereby removing endometrial tissue that might otherwise become hyperplastic. Furthermore, progesterone can reverse various degrees of hyperplasia and early stages of adenocarcinoma to normal endometrial histology by causing suppression of endometrial glandular growth, through stromal decidualization and leukocytic infiltration to glandular atrophy and stromal focal necrosis. Due to prolonged treatment, connective tissue fibers increase to some degree and may be accompanied by endometrial fibrosis and calcification. Clinical and histological data have demonstrated that all these changes, including fibrosis and calcification, return to normal in a short period after discontinuing the treatment. Adenocarcinoma of the endometrium is a morbid condition in women under 40 years of age with an incidence of 2%. The disease is often advanced when diagnosed, thereby depriving the woman of the option of fertility sparing conservative approach. In young women with menstrual abnormalities and polycystic ovarian disease and/or infertility, an endometrial evaluation should be performed. Carcinoma endometrium should be kept in mind while evaluating young women with polycystic ovary syndrome for abnormal uterine bleeding. Only strictly selected patients should, therefore, be indicated for long-term progestogen treatment and careful evaluation before and after treatment should be performed. The standard treatment for endometrial carcinoma is total abdominal hysterectomy with bilateral salpingo-oophorectomy. In young women with low histological grade and early stage of the disease, conservative hormonal therapy has been tried with close follow-up. There are reports of high-dose medroxyprogesterone acetate (600 mg/day) treatment with endometrial evaluation in every 3 months to assess the effects of medication but studies suggest that 200mg/day gives similar control. If the response is not satisfactory, hysterectomy is advocated. For a successful outcome following conservative approach, a strict clinical staging in the form of physical examination, Hysteroscopy and imaging with ultrasound, CT or MRI, and a cautious evaluation of histological grading by a pathologist are required. Women with endometrial cancer who want fertility preservation should be counselled regarding the possible risk of advanced disease if surgical therapy is delayed. Nevertheless these young patients should be given fair trial of conservative management and if recurrence occurs, the disease free window should be used for hyperstimulation of ovaries and ovum pick up. While preparing the endometrium for FET, keep suspicion index very high for recurrence and counsel the patient for the need of surrogacy for successful outcome. Multidisciplinary approach while treating such young patients help in formulating the treatment plan with successful outcome. DO NOT FORGET that conservative therapy is feasible only in carefully selected young women with endometrial cancer. Recurrence rates are high as quoted by long-term observational studies even after pathologically complete remissions. Therefore, close follow-up is recommended.

**INTRODUCTION**

Polycystic ovary syndrome (PCOS) was first described in 1935 by Stein and Leventhal in a case series of seven women with amenorrhea, hirsutism, obesity, and ovaries with a gross polycystic appearance. Polycystic ovary syndrome is a common (4% to 21%) disorder among reproductive age women. Depending on diagnostic criteria, PCOS’s prevalence was approximately 4%-6.6% in accordance with NIH 1990 criteria and approximately 4%-21% when Rotterdam 2003 criteria were applied. Polycystic ovarian syndrome (PCOS) is a highly prevalent disorder affecting multiple aspects of a woman’s overall health, with long-term effects that transcend well beyond the reproductive age. The term “polycystic ovarian syndrome” does not fully or accurately reflect the complexity of this disorder given its very broad spectrum of clinical manifestations and associated morbidities. Patients with PCOS demonstrate reproductive abnormalities, marked insulin resistance, increased risk for type 2 diabetes mellitus, coronary heart disease, atherogenic dyslipidemia, cerebrovascular morbidity, and anxiety and depression. If pregnant, these women have substantially increased odds for the development of gestational diabetes, pre-eclampsia, fetal macrosomia, small-for-gestational age infants, and perinatal mortality. Hospital admissions for women with PCOS are twice as high as for the general population. Over the last several decades, significant efforts have been made to classify PCOS; however, global consensus regarding a PCOS criterion remains controversial. Unfortunately, existing epidemiologic and/or basic research data have not been sufficient in providing the foundation needed to derive an evidence-based definition of the syndrome. Currently proposed criteria are predominantly based on expert opinion, thereby serving as a point of disagreement among researchers: some experts assert it is a disorder predominantly of androgen excess, whereas others believe that it has a broader spectrum of...
GLOBAL PREVALENCE OF PCOS

Understanding the global prevalence and phenotype of PCOS is important, considering that geographic factors and ethnic/racial variations can shape the clinical presentation of the syndrome. The first studies to determine prevalence in a medically unselected (unbiased) population were initiated by Azziz and colleagues, who reported PCOS prevalences ranging from 4% to 6.6% using the NIH 1990 criteria among unselected reproductive-age women residing in the southeastern region of the United States. The prevalence of PCOS among different geographic regions ranges from 5% to 10% according to NIH 1990 criteria, from 10% to 15% according to the AE-PCOS 2006 criteria, and from 6% to 21% when the ESHRE/ASRM 2003 criteria were applied. Greater estimates of PCOS prevalence with the Rotterdam 2003 and AE-PCOS 2006 criteria are largely attributed to their more expansive definition and inclusion of additional phenotypes, compared with NIH 1990 diagnostic criteria. and the PCOS phenotypes were defined.

LIMITATIONS OF STUDIES ASSESSING PCOS PREVALENCE

1. UNDER REPORTING - assessment of the PCOS phenotype is a complex multistep process, which requires multiple clinical and laboratory assessments, pelvic ultrasound, and possibly several visits for some subjects.

2. INCOMPLETE DATA - HETEROGENEITY. Several limitations in the definition of the outcomes (PCOS and its compounds) lead to heterogeneity in prevalence estimates (e.g., the lack of population-defined normative ranges), androgen measures based on total T only, use of insensitive/inaccurate circulating androgen assays, involvement of multiple observers for the evaluation of hirsutism with unknown interobserver variation, effect of transvaginal ultrasound transducer frequency on the cut-off value for antral follicle count and the absence of standardization in the evaluation for the exclusion of mimicking disorders.

However, despite all discussed limitations, the prevalence of PCOS by the NIH 1990 criteria is relatively similar among different ethnic and geographic populations, possibly suggesting that, at least for the "classic" PCOS phenotype, the disorder seems to have originated before the separation of Homo sapiens into major groups.

PCOS PHENOTYPES

The presentation of PCOS can be subdivided into four phenotypes: phenotype A: HA + OD + PCOM, phenotype B: HA + OD; phenotype C: HA + PCOM, and phenotype D: OD + PCOM. "Classic" PCOS classified as having phenotypes B and C, whereas phenotype A and phenotype D are almost equally prevalent. Interestingly, these early data suggest that the least prevalent phenotypes are the most (phenotype A) least (phenotype D) metabolically severe phenotypes.

Comparison of the Different PCOS Phenotypes Based on Clinical, Metabolic, and Hormonal Profile, and Their Response to Clomiphene

Height, weight, BMI, waist circumference - Phenotype A has significantly higher weight and BMI (P < 0.05) in comparison to phenotypes C and D. Although phenotype B has higher weight and BMI than phenotypes C and D, but the results are not statistically significant (P > 0.05). However, there is no significant difference noted in the waist circumference, waist-hip ratio (P > 0.05).

Both clinical and biochemical hyperandrogenism (Ferriman-Gallwey score, total testosterone, and androstenedione levels) significantly more in phenotype A as compared with the phenotype C and D. Although phenotype B has higher Ferriman-Gallwey score, total testosterone, and androstenedione levels than phenotypes C and D but the results are not statistically significant (P > 0.05).

Menstrual irregularities (cycle length >60 days) significantly more common in phenotype A as compared with phenotype D (P = 0.000).

Ovarian reserve (mean AFC, mean ovarian volume, AMH) significantly higher in phenotype A (P < 0.05) as compared to the phenotypes B and D. Although phenotype A has a higher ovarian reserve than phenotypes C also, but the results are not statistically significant (P > 0.05).

Fasting insulin and HOMA-IR significantly more in phenotype A as compared to phenotypes B and D (P < 0.05). Phenotype B had higher insulin and HOMA-IR values than phenotypes C and D, but the results are not statistically significant (P < 0.05).

waist circumference, waist-hip ratio, blood pressure and blood sugar values (fasting, 1-hour postprandial, 2-hour postprandial). FSH, LH, LH-FSH ratio, 17-hydroxypregesterone (17-OHP) and vitamin D levels no significant difference amongst various PCOS phenotypes (P > 0.05).

Clomiphene resistance significantly higher in full-blown PCOS (phenotype A) as compared to phenotype D.

Referral Bias in Defining the PCOS Phenotype Multiple studies have shown that the difference in the distribution of PCOS phenotype between patients identified in clinical vs. unselected populations suggests that the clinical PCOS cohort may not be truly representative of the disorder in its natural, medically unbiased, state in the general population. The data in the referral cohort of PCOS patients had a higher prevalence of the more severe PCOS phenotypes, greater BMI, more severe hirsutism, and more pronounced hyperandrogenemia, compared with women with PCOS identified in the unselected population. Subjects with PCOS identified in the general population have less severe manifestation of the disorder, higher prevalence of milder

(Phenotypes A and B)

Women with ‘classic’ PCOS (phenotypes A and B) are associated with more pronounced menstrual dysfunction; increased insulin levels, higher rates of insulin resistance, and risk for metabolic syndrome, body mass index and prevalence of obesity; and more severe forms of atherogenic dyslipidemia, increased risk of hepatic steatosis as compared with women diagnosed with non-classic or non-hyperandrogenic PCOS phenotypes (phenotypes C and D).

The highest antimullerian hormone levels are also found in patients with classic PCOS. Menstrual cycle pattern is also more irregular in these women as compared with phenotype D but seems to normalize with ageing.

“Ovulatory PCOS” (Phenotype C)

Patients with ‘ovulatory PCOS’ generally demonstrate intermediate levels of serum androgens, insulin, atherogenic lipids, hirsutism scores, and prevalence of metabolic syndrome, as compared with patients with ‘classic’ and the non-hyperandrogenic PCOS phenotypes.

Higher socioeconomic status is related to a higher prevalence of the ovulatory phenotype. Differences in ovulation patterns between the social groups could in part be explained by differing insulin levels and fat tissue distribution.

“Nonhyperandrogenic PCOS” (Phenotype D)

In the majority of studies, patients with non-hyperandrogenic PCOS had the mildest degree of endocrinologic dysfunction and the lowest prevalence of metabolic syndrome as compared with healthy controls. These women had lower LH to FSH ratios, lower total and free T levels, and higher sex hormone-binding globulin levels, as compared with subjects with classic PCOS. Besides that, the number of women with regular cycles alternating with irregular cycles is highest in women with phenotype D.

Distribution of PCOS Phenotypes

Understanding the distribution of PCOS phenotypes is essential in defining the epidemiology of PCOS in a population. Overall, published data indicate that more than half of PCOS patients identified within the clinical setting demonstrate phenotype A, whereas the other three phenotypes (i.e., B, C, and D) have almost equal prevalence. Overall, it seems that the classic form of PCOS (i.e., phenotypes A and B) constitutes approximately two-thirds of the total of PCOS patients identified within the clinical setting. Few data exist regarding the distribution of phenotypes in women with PCOS identified in medically unbiased (i.e., unselected) populations, which would more accurately reflect the distribution of phenotypes in PCOS in the “natural” state. The few studies suggest that approximately two-thirds of PCOS patients identified among unselected populations could be
phenotypes, and are different socioeconomically and racially, reflecting the ability to access medical care. Therefore, the use of clinical cohorts for epidemiologic research could possibly produce falsely elevated odds ratios and pseudo-significant associations. These data raise important questions regarding the validity of epidemiologic research using clinical PCOS cohorts.

SUMMARY-
Despite meaningful limitations of published prevalence studies relevant to sampling and outcome definitions, PCOS prevalence by NIH 1990 criteria remains relatively constant.

Of the various PCOS criteria, NIH’s 2012 phenotypic extension of the Rotterdam definition has been shown to be the most convenient approach when conducting research and clinical practice. This approach permits comparisons in epidemiologic studies among different populations and allows researchers to identify high-risk individuals in clinical practice. More epidemiologic data are required among medically unbiased PCOS populations to better understand the natural course of this syndrome, as well as validate any strengths of true associations with comorbid disorders.

References -
1. Criteria, prevalence, and phenotypes of polycystic ovary syndrome

Daria Lizneva, M.D., Ph.D., a,b,c Larisa Shuturina, M.D., Ph.D., b,c Waldah Walker, M.P.H., a Soumia Brakta, M.D., a

Fertility and Sterility® Vol. 106, No. 1, July 2016 0001-0282/$36.00 Copyright ©2016 American Society for Reproductive Medicine, Published by Elsevier Inc. http://dx.doi.org/10.1016/j.fertnstert.2016.05.003

2. Diagnosis, phenotype, and prevalence of polycystic ovary syndrome

Enrico Carmina, M.D., a, and Ricardo Azziz, M.D., M.P.H., M.B.A. a

Fertility and Sterility. Vol. 86, Suppl 1, July 2006 S7 doi:10.1016/j.fertnstert.2006.03.012 Copyright ©2006 American Society for Reproductive Medicine, Published by Elsevier Inc.

3. Comparison of the different PCOS Phenotypes Based on Clinical Metabolic, and Hormonal Profile, and their Response to Clomiphene

Garima Sachdeva, Shalini Gainer, Vanita Suri, Naresh Sachdeva1, Seema Choprafrom http://www.jsrm.in on Sunday, September 27, 2020, IP: 27.62.199.110]

4. Prevalence, phenotype and cardiometabolic risk of polycystic ovary syndrome under different diagnostic criteria


5. Insulin resistance and the polycystic ovary syndrome revisited: an update on mechanisms and implications

10. Oocyte quality and embryo quality of infertile women with polycystic ovarian syndromeS. ChenDOI:https://doi.org/10.1016/j.fertnstert.2008.07.197


---

**Dr Pooja Kadhi**
Consultant OBGY
Sparsh Reconstructive Urogynaecology Clinic and Suyash Hospital, Raipur, Chhattisgarh

"Wake up Insulin- Be sensitive" Life me ENERGY KA TADKA lagao.
Here is the acronym for controlling PCOD/PCOS .
We all know it’s a disease which can be controlled but not cured. This acronym ENERGY is to summarise the Lifestyle modifications and anti inflammatory food.

E- Educate, Exercise - strength training
N- No to junk food/ Laziness
E- Early to bed, early to rise- as per body's natural circadian rhythm, Eat right, add Haldi, Cinnamon, plant based diet
R- RECHARGE yourself, Remove excess fat/ Reduce WC and HC
G- Gynecologist consultation
Y- Yoga, Love Yourself, Believe in yourself.

---

**INDIAN FERTILITY SOCIETY STATEMENT**

(14 April, 2020)

**COVID-19 & FERTILITY**

RECOMMENDATIONS FOR CLINICS & PATIENTS

For Details Visit
www.indianfertilitysociety.org
Attendees logged in 582

Take home points:

Luteal phase is an enigmatic part of the menstrual cycle. Luteal phase defect is now a known and recognised entity specifically in ART cycles but is also found in natural cycles. Luteal phase support is recognised as an essential treatment for good pregnancy outcomes. LPS varies with the type of patient and cycle. Variables are: Natural IUI IVF Stimulated Type of protocol Type of trigger Fresh and frozen transfer Each has to be supported on its own merits. Progesterone is the most important molecule for support Route of administration is variable with no difference in outcome. Estrogen and HCG can be used in some types of cycles. Case studies were discussed.

Key points

1. Disorders of anovulation account for about 20-30% of infertility. Ovulation induction (OI) with or without IUI is performed as the first line treatment in anovulatory, unexplained and mild male infertility.
2. Before initiating OI, it is important to evaluate the underlying cause of anovulation and to treat underlying medical conditions, as applicable. It is also essential to do a semen analysis and tubal patency test before starting treatment.
3. An FSH threshold level is required for follicular recruitment and growth.
4. FSH window - the time for which the FSH level remains at the threshold level. It regulates the number of follicles recruited. FSH window needs to be narrow for monofollicular development.
5. LH is essential for producing the androgen substrate in the early follicular phase, is involved in follicular growth and DF selection and subsequently an LH surge in mid-cycle leads to ovulation and formation of corpus luteum (CL).
6. Oral (CC, Tamoxifen, Letrozole) and injectable drugs (GT) are used.
7. H-P-O axis needs to be functional for use of oral drugs.
8. Hypogonadotropic Hypogonadism. Since the GnRH pulses are absent there is need for exogenous GT. (FSH & LH or GnRH). Dose titration required to define FSH threshold and FSH window is narrow for monofollicular development. LH surge has to be initiated with HCG, GnRH agonist will not work. Luteal support is important.
9. PCOS - Basic issue is an endocrine imbalance - A. Oral drugs used as first line followed by combination of oral and GT and GT only as a last resort. Recruitable pool of follicles is increased 6 fold so high risk of hyperstimulation and OHSS. Strict dose titration required with GT to define FSH threshold. Use of ISA helpful. If AMH levels >7 ng/ml - dose OI drugs is required. For LH surge – agonist/HCG can be used.
10. Unexplained infertility - OI + IUI – 1st line treatment, helpful in patients with infertility > 2 yrs and AMA. OI alone not as effective. Oral and GT can be used.
11. LPS is important where GT are used for stimulation to avoid LP deficiency.
12. Fertility drugs do not appear to increase risk of invasive ovarian, endometrial, BC or other cancers.
13. CC more than 7 cycles (esp >2000 mg) in subfertile women is associated with a higher risk of endometrial cancer. May be due to inherent PCOS risk. (Cochrane 2017)
14. CC should be restricted to 6 cycles. Malignant melanoma & thyroid cancer risk higher among CC treated women in almost all studies. (Yilmaz et al 2017)
ICMR Regulations in ART

Dr. Vandana Bhatia

Dr. Shrimanta Sanyal & Dr. Prapti Sanyal

30th May 2023 03:00 PM IST

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Understanding Semen Analysis

Dr. Aanchal Agarwal

27th April 2023 05:00 PM IST

VIBRATE MEETINGS

IFS ACTIVITIES

ICMR Regulations in ART

Dr. Vandana Bhatia

Dr. Shrimanta Sanyal & Dr. Prapti Sanyal

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**IFS ACTIVITIES**

**VIBRATE MEETINGS**

**TORCH infection: The current perspective**

**Dr. K. Aparna Sharma**

*Date: 4th October, 2020*

10:30 AM - 12:45 PM

**Invited Faculty**

Dr. Sudha Prasad
Dr. Neena Mahatara
Dr. Shreem Chotravali
Dr. Nitin Lad
Dr. Manjir Valaangkar

**Chairpersons**

Dr. Rajan S Vaidya
Dr. Chaitanya Nagori
Dr. K D Vaidya
Dr. Pankaj Talwar
Dr. Priya Kannan

**ORCID**

https://orcid.org/0000-0002-5555-6666

**Password:** 681083

**Join e-CME with the link**

https://us02web.zoom.us/j/89398695156?pwd=MS9kb1N0cEYwbUF6UTVzTTdTTzZ5dz09

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**FUNCTIONS**

**PROFESSIONAL**

**SESSION 3: Embryo - Endometrial dialogue**

**Chairpersons**

Dr. Anjali Patil
Dr. Chaitanyar Nagori
Dr. Rajalaxmi Walawalkar
Dr. Sunil Tidke

**Sponsored By**

**IFS Western Maharashtra Chapter**

**President:** Dr. Sudha Prasad

**Secretary General:** Dr. Neena Mahatara

**Chief Guest:** Dr. Sudha Prasad

**Secretary General:** Dr. Neena Mahatara

**Convener SIG:** Dr. Chaitanyar Nagori

**Moderator:** Dr. Pankaj Talwar

**Co Convener SIG:** Dr. Priya Kannan

**Invited Faculty**

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Dr. Chaitanyar Nagori
Dr. Rajalaxmi Walawalkar
Dr. Sunil Tidke

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**IFS Vidarbha Chapter**

**Date: 30th January, 2021**

**Initiated by**

**IFS Vidarbha Chapter**

**STRATEGIC SUPPORT**

**IFS Vidarbha Chapter**

**President:** Dr. Sudha Prasad

**Secretary General:** Dr. Neena Mahatara

**Chief Guest:** Dr. Sudha Prasad

**Secretary General:** Dr. Neena Mahatara

**Convener SIG:** Dr. Chaitanyar Nagori

**Moderator:** Dr. Pankaj Talwar

**Co Convener SIG:** Dr. Priya Kannan

**Invited Faculty**

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Dr. Chaitanya Nagori
Dr. K D Vaidya
Dr. Pankaj Talwar
Dr. Priya Kannan

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Dr. Anjali Patil
Dr. Chaitanyar Nagori
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Dr. Sunil Tidke

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**IFS Conversations (Volume : 13)**
Attendees logged in 582

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IFS ACTIVITIES

CHAPTER ACTIVITIES

Odisha Chapter
Date: 24th February, 2021

Karnataka Chapter
Date: 21st March, 2021

Vidarbha Chapter
Date: 10th June, 2021

U.K. Chapter
Date: 12th June, 2021

Rajasthan Chapter
Date: 19th June, 2021
Questions faced by gynaecologist while treating infertile couples with semen abnormalities.

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3. Ultrasound report shows the diagnosis of varicocele with subnormal semen parameters. What should be advised?
4. How to proceed if azoospermia is reported in first semen analysis report and when and where to refer such cases?
5. Can we treat medically obese men with low semen analysis with sexual dysfunction?
6. What is the role of available antioxidants in treating low semen parameters in infertile men?
**Indian Fertility Society**

**e-CME**

**Date:** 21 January, 2021  
**Time:** 4:00 PM - 6:00 PM

**Endometrium Is The Partially Resolved Riddle Between Best Embryo & Complete Success**

**Join Us For Dealing With Implantation Failures With Senior Faculty From IFS**

**President, IFS**  
**Secretary General, IFS**

**Time**  
**Topic**  
**Speaker**

- 4:00 PM - 4:05 PM  
  Welcome  
  Dr Sudha Prasad & Dr Neena Malhotra

- 4:05 PM - 4:25 PM  
  Understanding Implantation  
  Dr (Brig.) RK Sharma

- 4:30 PM - 4:50 PM  
  Refractory Endometrium  
  Dr Ritu Jain

- 4:50 PM - 6:00 PM  
  Panel Discussion  
  Recurrent Implantation Failure With Focus On Endometrium  
  Expert: Dr Gouri Devi, Dr Sudha Prasad, Dr Holdeep Jain, Dr K D Nayar  
  Panelists: Dr Shweta Mittal, Dr Aunchal Agrawal, Dr Somya Wagle, Dr Renu Mishra, Dr Laxmi Goyal, Dr Nikita Banerjee, Dr Sonu Balhara

**For Details Visit**  
www.indianfertilitysociety.org

**Sponsored By**  
SUN Pharmaceuticals

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**ARTiculating IVF eCME**

**Organized by Abbott**

**Date:** 18th March 2021 (Thursday)  
**Time:** 04:30pm to 05:30pm

**Speaker**  
**Luteal Phase Support in FET Cycles**  
**Dr. Sonia Malik**  
(DGO, MD, FICOG, FIAMS)  
Program Director & HOD, Southend Fertility & IVF  
Renowned IVF Specialist with multiple prestigious awards and numerous publications to her name  
President, Indian Fertility Society (2014-2016)  
Chairperson, Infertility Committee of FOGSI (2014-2016)  
Member, Editorial Board, Fertility Sterility, the Journal of Human Reproductive Sciences  
Member, ICMR Task Force for Genital TB

**When it’s time, join your Webex meeting here.**  
Meeting number (access code): 187 370 3094

Meeting password: 12345

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**Indian Fertility Society**

**U.P. Chapter e-CME**

**Ovulation Induction from A to Z**

**Wednesday, 27th January 2021**  
**5.30 PM to 7.30 PM**

**Patron**  
Prof. Chandravati

**Guest of Honour**  
Dr. Manju Shukla

**Moderator**  
Dr. Amita Pandey

**Co-Ordinator**  
Dr. Smriti Agrawal

**Speakers**

- Dr. Vinita Das
- Dr. K D Nayar
- Dr. Sunita Chandra

**Chairpersons**

- Dr. Renu Makker
- Dr. Surheeta Karem
- Dr. Gita Khanna
- Dr. Sangeeta Jain
- Dr. Rakesh Tyagi
- Dr. Anshu Jindal

**Guest of honour**  
- Dr. Manju Shukla

**Welcome address**  
- Dr. Amita Pandey

**Blessings By**  
- Dr. Chandravati

**Speaker**  
Dr. K D Nayar

**Topics**  
Ovulation induction in normal and poor responders

**Speaker**  
Dr. Vinita Das

**Topics**  
Antagonist protocol for hyper responders

**Speaker**  
Dr. Sunita Chandra

**Topics**  
Handling OHSS in hyper responders

**Q&A**  
- Dr. Manju Shukla, Dr. Amita, Dr. Smriti

**Vote of Thanks**  
Dr. Smriti Agrawal
IFS ACTIVITIES

WEBINARS

**INVITATION TO BIG INFERTILITY ISSUES WEBINAR**

"ENDOMETRIOSIS IS NOT A ONE POINT CARE"

Organized By: IFS TELANGANA CHAPTER

On 20th February 2021, Saturday 6:30 to 7:45 pm

- Dr. Sudha Prasad
  MBBS, MD, DNB, FICQ, FICO
- Dr. Neena Malhotra
  MBBS, MD, DNB, MRCOG

**AGENDA**

- Introduction & Address: Dr. Royy Ramesh
  6.30 pm
- Impact of diagnosis delay & long-term follow up of pain in Endometriosis:
  Dr. Sivakumar Vepakomma
  6.40 - 7.00 pm
- Practical tips for classification & management of fertility:
  Dr. Ephra Yeemin
  7.30 - 7.45 pm
- Vote of Thanks: Dr. Srinidhi Gunturi
  7.45 pm

**For Details Visit**

www.indianfertilitysociety.org
IFS ACTIVITIES

SIG ACTIVITIES

IFS SIG- Embryology
Date: 1st October, 2020

IFS SIG- Holistic Medicine
Date: 5th October, 2020

IFS SIG- Endometriosis
Date: 10th October, 2020

IFS SIG- POR
Date: 17th October, 2020
Questions faced by gynaecologist while treating infertile couples with semen abnormalities.

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IFS ACTIVITIES

**IFS ACTIVITIES**

**IFS SIG-APPLIED GENETICS**

Date: 30th January, 2021

**IFS SIG-PCOS**

Date: 20th February, 2021

**IFS ACTIVITIES**

**IFS SIG-APPLIED GENETICS**

Date: 30th January, 2021

**IFS SIG-Search Methodology**

Date: 1st & 2nd April, 2021

**IFS SIG-Applied Genetics**

Date: 16th April, 2021

**IFS SIG-APPLIED GENETICS**

Date: 18th June, 2021
INTERNATIONAL PRESENTATION
FROM IFS MEMBERS- ASRM 2020

1. Reduction of Bacterial Colony Forming Units in an Obstetrics Operation Theater using Cold-Plasma based Dielectric Barrier Discharge Air

   Milind RAMCHANDRA Ubale
   Professor and Head Department of Microbiology
   Rajiv Gandhi Medical College & Chatrapati Shivaji Maharaj Hospital
   Thane, India

   1Dr. Milind Ubale M.D. 2Dr. Rajvi H. Mehta Ph.D.
   1 RGM College & CSM Hospital, Kalwa, Thane
   2 Trivector Biomed LLP, Mumbai, INDIA

2. Improvement in the Blastocyst Formation and Subsequent Clinical Pregnancy Rates Following the Use of Cold-Plasma Based Air Purification System in the Embryo Culture Laboratory

   Satish Manohar Patki
   Head of the Institute
   Patki Hospital, IVF Consultant
   Kolhapur, India

3. Retrospective study to compare between hyaluronan enriched medium and blastocyst transfer medium for frozen embryo transfer and its impact on CPR in patients with 2 or more in vitro fertilization/intracytoplasmic sperm injection (IVF-ICSI) cycle failures.

   R Sharma, A Gupta, F Rahman, N Kaul, Rohan
   ORIGYN FERTILITY & IVF CENTER, NEW DELHI, INDIA

4. Role of blastocyst morphology in predicting clinical outcomes in single frozen blastocyst transfers

   Majumdar G, Sehgal S, Gupta S, Tiwari N, Satwik R and Majumdar A
   Center of IVF and Human Reproduction, Sir Ganga Ram Hospital, New Delhi, India

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   Kanad Dev Nayar, Poonam Nayar, Shweta Gupta, Minal Singh, Ratanboli Bhattacharya, Gaurav Kant, Rahul Gahlot, Kapil Dev Nayar
   Akanksha IVF Centre, Delhi, India

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   Kanad Dev Nayar, Shweta Gupta, Minal Singh, Ratanboli Bhattacharya, Eshna Gupta, Rahul Gahlot, Kapil Dev Nayar
   Akanksha IVF Centre, Delhi, India
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VITAMIN D3 (25 OH D) LEVELS IN FOLLICULAR FLUID STRONGLY CORRELATE WITH DEVELOPMENTAL POTENTIAL AND GRADES OF EMBRYO IN IVF CYCLES

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THE POSITION OF POINT OF HATCHING (POH) AND ITS ANGLE VIS-À-VIS THE INNER CELL MASS IS A ROBUST CRITERIA FOR SELECTION OF HATCHING BLASTOCYST FOR ENHANCED LIVE BIRTH RATES IN IVF CYCLES

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