THE PCOS SOCIETY INDIA

PANDORA

Volume 6 | Issue 1 | Jan. - Apr. 2021 | Pages 12

www.pcosindia.org

...The Newsletter of The PCOS Society of India

Registered Address
Kwality House, 1st Floor, August Kranti Marg, Kemps Corner, Mumbai 400 026
Phone : 022 23802584, 022 23803965, Fax: 022 23804839
Email : thepcoscociety@gmail.com

Welcoming Our New Members....

Patron Members

Dr. Bhawna Puri
Gynaecologist

Dr. Farhat Jabeen
Gynaecologist

Dr. Smriti Agrawal
Gynaecologist

Dr. Sharvil Gadve
Endocrinologist

Dr. Parampreet Kaur Ghuman
Gynaecologist

Dr. Jayati Dureja
Gynaecologist

Life Members

Dr. Deepti Jain	*Gynaecologist*
Dr. Varsha Mahajan	*Gynaecologist*
Dr. Rachna Dubey	*Gynaecologist*
Dr. Bhagyamala Chalisani	*Gynaecologist*
Dr. Jayashree Ruge	*Gynaecologist*
Dr. Yeshita Pujar	*Gynaecologist*
Dr. Swetha Ghatnatti	*Gynaecologist*
Dr. Seema Marsurkar	*Gynaecologist*
Dr. Ufaque Muzaffar	*Gynaecologist*
Dr. Vikrant Ghatnatti	*Endocrinologist*
Dr. Rama Lakshmi	*Gynaecologist*
Dr. Yashvita Dalia	*Gynaecologist*
Dr. Meenu Deswal	*Gynaecologist*
Dr. Pratibha Singh	*Gynaecologist*
Dr. Kasturi Donimath	*Gynaecologist*
Dr. Aparna Govil Bhasker	*Bariatric & Laparoscopic Surgeon*
Dr. Priyanka Kosuru	*Gynaecologist*
Dr. Pranab Parmanik	*Gynaecologist*
Dr. Anjali Joshi	*Gynaecologist*
Dr. Dhara Singh	*Gynaecologist*
Dr. Piyali Bhaduri	*Gynaecologist*
Dr. Saroja Gollapalli	*Endocrinologist*
Dr. Bharathi Rajshekar	*Gynaecologist*
Dr. Minakshi Bansal	*Gynaecologist*
Dr. Indu Gopal	*Gynaecologist*
Dr. Farah Nabi	*Gynaecologist*
Dr. Shazia Rashid	*Gynaecologist*
Dr. Uma Maheshwari	*Gynaecologist*
Dr. Rahela Noble	*Gynaecologist*
Dr. Shipra Kunwar	*Gynaecologist*
Dr. Neena Pachchhapurkar	*Gynaecologist*
Dr. Ambreen Qureshi	*Gynaecologist*
Dr. Jasmine David	*Gynaecologist*
Dr. Smriti Attam	*Gynaecologist*
Dr. Geetha Vaidyanathan	*Gynaecologist*
Dr. Perveena Fareed	*Gynaecologist*
Dr. Saima Gayas	*Gynaecologist*
Dr. Sulekha Pandey	*Gynaecologist*
Dr. L.K.Pandey	*Gynaecologist*

Associate Members

Dr. Preeti Shukla	*Doctor Of Philosophy*
Dr. Rajeshwari Yadav	*Psychotherapist, Homoeopath*
Ms. Sowmya Mandarapu	*Nutritionist*
Ms. Zeba Mujib	*Nutritionist*
Dr. Anjali Joshi	*Ayurveda Specialist*
Dr. Karuna Neeli	*Gynaecologist*
Ms. Pooja Kochhar	*Nutritionist*

PCOS Quizzes

Past QUIZZES Modules

1	Diagnosis of PCOS
2	Cutaneous Manifestations in PCOS
3	Adolescent PCOS
4	Hormones in PCOS
5	PCOS and Menopause
6	Managing Gestational Diabetes Mellitus (GDM) in Your Clinic
7	PCOS and Fertility
8	PCOS & Cancer Risk
9	PCOS and Hypothyroidism
10	Ovulation Induction in PCOS
11	Ultrasound in PCOS
12	PCOS & Metabolic Syndrome
13	PCOS & ART
14	Genetics in PCOS
15	Nutrition in PCOS
16	Pharmacological Interventions In Pcos In Non-Infertility Scenarios
17	PCOS and Laparoscopic Ovarian Drilling
18	Adjuvants in Ovulation Induction in PCOS Women
19	Hirsutism in PCOS Women
20	Nutritional aspect in PCOS - Concern and care
21	Dyslipidemia or Oxidative Stress and PCOS
22	Cardiometabolic complications of PCOS
23	Controversies in PCOS - Part 1
24	Controversies in PCOS - Part 2
25	PCOS and Pregnancy
26	PCOS and Obesity
27	PCOS and Mental Health
28	Role of Myoinositol, Melatonin & Probiotics in PCOS women
29	PCOS & Infertility
30	PCOS & IUI
31	Understanding the Origin of PCOS

Congratulations

Monthly Quiz winners

Dr. Pavika Lal
15 Dec - 14 Jan

Dr. Shivani Barala
15 Jan - 14 Feb

Dr. Jaya Choudhary
15 Feb - 14 March

Check out the past Quiz Modules on the PCOS Society Website, which are archived. **https://www.pcosindia.org/become_a_quiz_member.php**

Email: thepcossociety@gmail.com
www.pcosindia.org

Editorial

Dr. Duru Shah
MD, FRCOG, FCPS, FICS, FICOG, FICMCH, DGO, DFP
Director, Gynaecworld
The Center for Women's Fertility & Health, Mumbai
President, The PCOS Society, India
Chief Editor, Pandora

Dear Friends,

2020 was the Virtual Year, the year none of us will ever forget! The last issue of Pandora as a hard copy was published in October 2019– January 2020.The onset of Covid in March 2020 prevented us from doing so, but we continued publishing our 3 issues / year for 2020 as soft copies instead! Below are the links of those 3 issues incase you have missed them and they are also available on our Website for further browsing.**https://www.pcosindia.org/newsletter.php**

It's truly a pleasure to write for the first issue of the year 2021, which details all what has happened from January 2021 to March 2021 and the forthcoming events from April onwards.

It's been difficult working in 2020, though we have been able to achieve a lot virtually. The year 2020 had been focussed on creating Patient Awareness through **"Club PCOS"**.Our Committee Members have participated in 16 episodes of live chats on Instagram with PCOS patients. A collaboration with **"Conquer PCOS"**, a portal for PCOS patients with a 5000 plus current membership, has offered us the opportunity to reach out to PCOS girls and women with the correct scientific information which they need from us. Also attached are the links of videos for patient awareness each about 2-3 mins, which have been created and hosted on the **"You Tube Channel"** of the "PCOS Society of India"and on our Website.

1) **Signs & Symptoms of PCOS** : https://youtu.be/IPemr73G7ho
2) **Irregular Menstrual Cycles** : https://youtu.be/SymefDOecVs
3) **Cosmetic Issues** : https://youtu.be/AwHmuuHUChw
4) **Does PCOS affect Fertility** : https://youtu.be/IvKo3U42PiA
5) **PCOS and Assisted Reproduction** : https://www.youtube.com/watch?v=IrjLAZKtOWk
6) **Diet in PCOS** …….. and many more in the making

The **W3 Webinar Series** has been initiated this year for us all to understand the complexities of PCOS in a very practical way when we ask **"What, When and Why?"** These Webinars are extremely clinical and discuss threadbare the issue under focus, with the help of experts from the related disciplines of medicine. We have had a fantastic response to the completed Webinars, the details of which are available on page9 of this issue and the videos are on our website.

A Brilliant 2 day **Masterclass** on **"Elective Freeze all"** was held on **20th & 21st March, 2021** with international and National Experts. Supported by Origio,Torrent, Emcure, & Shield, The entire event is recorded and available free of cost to all members of the PCOS Society to view, if they were unable to attend it. The Abstracts of the Masterclass are included on the Center-spread of this issue, which I am sure will tempt all of you to watch it on our Website!

The biggest advantage of the Covid Era is the possibility of listening to so many global and National Experts, giving us the opportunity to update ourselves in areas which we do not normally seek in-depth knowledge, the knowledge now comes to us in a ready format!

But at the same time the human touch is missing! I am sure we are all longing to be with our families and our friends, we truly miss meeting each other personally meeting colleagues and friends at conferences gives us opportunities, where we combine academics, friendship and travel to different countries! Let's hope our magic returns and we all meet each other again at the **Annual Conference of the PCOS Society** of India to be held in **Mumbai** on the **2nd & 3rd October, 2021**.

I would like to take this opportunity to thank our Corporate Partners who have supported our Academic Programs so that we as the PCOS Society of India can reach out to all of you with the most recent updates on the subject. We also thank them for making it possible for us to create this Newsletter "Pandora" which reaches on the desk of 35000 physicians.

Hoping all of you have been **Vaccinated** towards a healthy and safe 2021!

With warm regards,

Duru Shah
Founder President
The PCOS Society of India

Events & Updates

Convenors : Dr. Duru Shah | Dr. Madhuri Patil | Dr. Uday Thanawala

January 9, 2021

CME Workshop - BADHAI HO!

Tackling the Pregnant PCOS

THE PCOS SOCIETY INDIA

Dear Friends and Colleagues,

Greetings from **"The PCOS Society of India".** It gives us great pleasure in inviting you to participate in our diverse workshop on **"Tackling the Pregnant PCOS"** organized by "The PCOS Society of India".

9th January 2021 | CME Workshop | 4.00 - 8.00 pm (IST)

4.00 - 4.05 pm	**Welcome by Dr Duru Shah**
4.05 - 4.10 pm	**About the Workshop - Dr Uday Thanawala**
Session 1	***Common Pregnancy Problems Patients worry about*** *Moderator:* ***Dr Uday Thanawala***
4.10 - 4.20 pm	*Can I continue my Beauty Regime in Pregnancy - Hair colour, laser, etc* - ***Dr Jaishree Sharad***
4.20 - 4.30 pm	*Diet & Exercise helped me to conceive - now what level of exercise shall I continue in Pregnancy?* - ***Dr Nigamaja Hariharan***
4.30 - 4.40 pm	*If I diet now - won't my baby be malnourished?* - ***Dr Shilpa Joshi***
4.40 - 5.00 pm	*Discussion on above topics*
Session 2	***Hyperglycemia In Pregnancy - HIP*** *Moderator:* ***Dr Madhuri Patil***
5.00 - 5.20 pm	*Risks faced by a PCOS who is now pregnant* - ***Dr Sujata Kar***
5.20 - 5.30 pm	*Discussion*
5.30 - 5.50 pm	*Methods of Monitoring Sugar Levels - What is recommended and what is practical for the patient?* - ***Dr Piya Ballani Thakkar***
5.50 - 6.00 pm	*Discussion*
6.00 - 6.20 pm	*Metformin or Insulin - Which to start & when?* - ***Dr Shashank Joshi***
6.20 - 6.30 pm	*Discussion*
6.30 - 6.50 pm	*When to terminate a Pregnancy in HIP?* - ***Dr Uday Thanawala***
6.50 - 7.00 pm	*Discussion*
Session 3	***Panel on - The 4th Trimester & Beyond***
7.00 - 7.45 pm	*Panel to address - Immediate Post-partum care,* *Long term follow up - Keeping PCOS at Bay*
Moderator ***Dr Anita Soni***	*Panelists -* ***Drs Ritu Joshi, Gauri Karandikar, Sarita Bhalerao, Nigamaja Hariharan***
7.45 - 8.00 pm	*Audience Interaction*

Dr. Duru Shah
Founder President
The PCOS Society (India)

Dr. Uday Thanawala
Convenor
Treasurer
The PCOS Society (India)

1100+ Registered Delegates

"PCOS Science Live" is a series of interactive discussions with Researchers who have had impactful publications in indexed journals. Our agenda is to reach out to young minds and get them inclined towards research.

Check out the past Episodes on the PCOS Society Website, which are archived.

https://pcosindia.org/webinars.php

The PCOS Society of India collaborated with the Indian Society for the Study of Reproduction and Fertility (ISSRF) for the International Conference on **Challenges and strategies in reproductive and environmental health with special reference to covid-19 pandemic**.The conference was a 3 day academic meet with indepth discussion of COVID-19 right from its ontogenesis to the Epidemiological and Psycho-social Behavioral link between COVID -19 & reproductive health.

Dr.Duru Shah, the President of The PCOS Society of India highlighted **the effect of COVID-19 on Adolescents & Young Adults**, strategies to reach out to them & the need for developing new Policy Recommendations to address their issues in future.

Masterclass: “Elective Freeze-All” Progam

2088+ **Doctors Enrolled and still rising**

“I really appreciated all the speaker’s personal anecdotes. I feel like it drives the important points home.”

Dr.Shahana Abdu

“I found the seminar incredibly helpful and I’m looking forward to employing what I learned this season.”

Dr.Neelangini Gokhale

“I found this meeting really helpful. One of the most enjoyable and informative seminars I have ever attended. Thank you for organizing and a very special thanks to the great speakers!”

Dr.Shally Gupta

Masterclass Abstracts

Dr. Jatin Shah

Director, Mumbai Fertility Clinic & IVF Centre

Why Freeze All?

Rapid improvements made in cryopreservation techniques (Vitrification) have led to few or no detrimental effects to the embryo and have resulted in no consequences to the offspring when compared to fresh embryos. This inspired the concept of the freeze-all policy (when all viable embryos are electively cryopreserved in the fresh cycle and transferred in a posterior cycle).

Although fresh embryo transfer (ET) has been the norm until recently, there are many concerns about the possible adverse effects of controlled ovarian stimulation (COS) on endometrial receptivity and the uterine environment. COS may contribute to modifications in the endometrium (by way of the supra-physiologic levels of Estradiol and Progesterone), which might be related to poorer outcomes when fresh ET is performed.Despite rapid advances in laboratory technology, incubators, culture media and recombinant gonadotropins, live birth rates with fresh ET have remained in the range of 18% to 42% with an average of 32%. Also, in cycles with fresh ET, there is still a risk for the development of late onset and often severe OHSS, which is an iatrogenic, serious and potentially life threatening complication of COS. Furthermore, there is data to suggest that pregnancies from fresh ET are more prone (owing to COS and supra-physiologic hormonal levels) to early pregnancy losses, ectopic pregnancies, pregnancy induced hypertension, low birth weight, abnormal placentation and accidental haemorrhage.

In the freeze-all strategy, the entire cohort of embryos is vitrified (not just the “surplus”), and the best embryos are transferred in a subsequent cycle with a more physiologic endometrium. In the past few years, the freeze-all strategy has emerged as a safer and more successful alternative to conventional fresh Embryo transfer during IVF / ICSI cycles. Data suggests that live birth rates are higher and obstetric and perinatal outcomes in pregnancies resulting from frozen embryo transfer (FET) are better than those from fresh ET. There is concern, however, about macrosomia and long term effects of vitrification on the babies born.

Besides circumventing the adverse effects of ovarian stimulation, the freeze-all strategy is also useful for patients of endometriosis, elevated or low progesterone on day of hCG, thin endometrium, previous unexplained repeated implantation failures, previous ectopic or biochemical pregnancies and patients with recurrent miscarriages.

At the same time, although the principle that COS may cause a less physiological milieu for embryos to implant, we must establish when and for whom this freeze-all approach is appropriate. How can we balance better implantation rates against the possible unnatural changes that we may be causing the embryo as a result of freezing? Is it time now to reconsider our freeze-all strategies and establish protocols for individualised segmented IVF & FET?

Dr. Steven Fleming

Director of Embryology, Cooper Surgical

Should we freeze D3 or D5 embryos?

The evolution of cryopreservation techniques has been intricately linked with the trend towards undisturbed, extended culture and selection of embryos for transfer, embryo biopsy and vitrification. However, the clinical services offered by various assisted reproduction centres around the world remain varied for several reasons, including capacity and convention. Furthermore, the latest pandemic has brought into focus the central role of cryopreservation in risk mitigation. Therefore, the answer to the question raised by the title of this presentation is not simplistic, there being many variables to consider. Indeed, there are probably as many good arguments for freezing D3 as there are for freezing D5 embryos and this presentation will consider the scientific basis for each case..

Dr. David Morroll

Director of Clinical Support, Cooper Surgical Fertility Solutions, Denmark

Principles of Vitrification & Warming

Cryopreservation is an essential element of a comprehensive medically assisted reproduction (MAR) service. As well as boosting overall success rates by offering additional chances to conceive beyond an initial fresh transfer1, it provides the opportunity for fertility preservation, whether for medical reasons or social ones (where permitted).

In MAR, cells and tissues are almost exclusively cryopreserved by slow freezing/rapid thaw techniques or vitrification, with this latter technique now predominating at least for oocytes and embryos. Both approaches have benefits and drawbacks. Given that cell damage by ice formation is a significant risk, vitrification (if done well) obviates this risk as ice will not form2,3 and so appears to give improved outcomes at all stages1,4,5.

Vitrification systems use a combination of permeating cryoprotectant agents (CPAs) during the equilibration phase, typically ethylene glycol (EG) and either dimethyl sulfoxide (DMSO) or 1,2-propanediol (PrOH). A sugar (sucrose or trehalose, for example) is added to the vitrification medium as a non-permeating CPA that produces an osmotic gradient which results in water egress from the cells. The permeating CPAs are omitted from warming solutions, with the rehydration process controlled solely using an osmotic gradient, again using the sugar, non-permeating CPA. The similarity between commercial systems has led to the introduction of universal protocols for warming6 which can also be applied successfully to slow-frozen samples7. Optimization of vitrification/warming depends on quality of gametes/embryos, temperature control, volumes of media used, timings (eg equilibration time) and very rapid warming.

Overall, results are favourable compared with slow freezing and available data suggest that vitrification is largely safe with no increase in congenital malformations8 though fetuses may show elevated incidence of macrosomia and being large for gestational age9.

Dr. Madhuri Patil

Clinical Director of Dr. Patil’s Fertility & Endoscopy Clinic, Bangalore

How do we assess the optimum endometrial parameter in a FET cycle?

Successful Implantation requires morphological and functional endometrial development, healthy normal embryo, embryo-endometrial synchrony, a successful molecular dialogue and Immune tolerance. Evaluation of endometrium is an effective tool to increase success of infertility treatment.

Identification of one or more of endometrial parameters that definitely indicate receptivity for implantation remains an elusive goal.None of the endometrial receptivity markers have sufficient discriminatory value to act as a diagnostic test for endometrial receptivity based on their ability to predict clinical pregnancy.Endometrial evaluation by 2D and 3D USG with or without doppler, endometrial biopsy with ERA, endometrial fluid aspirate or hysteroscopy may be of help in determining endometrial receptivity.

Dr. Tilleman Kelly

Director IVF laboratory, Ghent University Hospital, Belgium

Safety concerns about contamination in open vs closed systems

Vitrification is currently the most widely used method for the cryopreservation of embryos. Through high cooling and warming rates, effective vitrification is possible with high survival rates after warming. The fact that this technology bypasses the crystallisation phase and immediately solidifies the content is the very reason of its success. There are closed and open systems for executing the procedure of vitrification. Closed vitrification ensures a physical separation of the embryo and the surrounding liquid nitrogen. In open systems, there is direct contact between the environment and the embryo. Concerns about contamination were raised when open systems were brought to the market although there has been no direct evidence of disease transmission by cryopreserved human embryos or contamination of embryos by microorganisms surviving in the cryopreservation vessels. These risks can be mitigated by using closed vitrification systems. Systematic reviews show that there is no statistical difference in effectiveness (survival rates, implantation rates and live birth rates) of vitrification of embryos in open versus closed systems. Using sterile liquid nitrogen washes is also a possibility and has shown to be effective in removing artificially contaminated straws. A risk that is often overlooked is the fact that contamination can also occur when handling the straws, regardless of the open or closed procedure. Training of personnel, making them aware of the possible risks of contamination and having an elaborate and clear standard operating procedure is important in good cryopreservation practices, regardless of the open or closed vitrification. This talk will give an overview of the theoretical and hypothetical risks associated with open and closed systems and how to mitigate them.

Transporting embryos from one site to another

Along side the core fertilization techniques like – IVF or ICSI, variety of pharmacological agents and interventions are being implicated as Adjuvant Therapies. Numerous Adjuvants have been proposed to improve IVF success rates, the more commonly used adjuvants therapies in current practise can broadly be classified as : Adjuvants for Ovarian Response/ oocyte, Adjuvants for Sperm, Adjuvants for Embryos, Adjuvants for Endometrial Preparation/ Implantation. Despite, huge progress in the treatment of subfertile couples, Endometrial receptivity remains a key limiting factor for implantation after IVF. In achieving a successful pregnancy, it is essential to establish receptivity in embryo implantation. Undeniably, the role of immune system is well recognised as it facilitates tolerance for the foreign embryo attachment. Different adjuvants have been proposed to prepare Endometrial Receptivity like Low – dose Aspirin, Heparin, Estrogens, Vaginal Sildenafil, Pentoxyphylline, Glucocorticoids, G-CSF, Endometrial Scratching, Hysteroscopy, Intravenous Lipids, Anti-Tumor factor - a (TNF-a) agents, Autologous Platelet Rich Plasma, Hysteroscopic Subendometrial infiltration and treatment with Bone Marrow derived stem cells. To conclude, more well – designed and randomised studies are required in order to understand the safety and efficacy of the Adjuvant Therapy in IVF.

Checkout recoreded program on
https://pcosindia.org/video-gallery.php

Masterclass Abstracts

Dr. Ethiraj Balaji

Chief Embryologist, Thomson Fertility Centre, Singapore

Developmental potential of vitrified Day 3 embryos

Identifying a viable embryo in fresh embryo transfers is a critical task of an embryologist to maximize chances of pregnancy for patients. This task is even more demanding in selecting frozen thawed embryos as freezing and thawing could cause irreversible damage to the embryo. Survival of embryos after freezing and thawing is the first indicator to tell us the effect of cryopreservation on the embryo. Slow freezing of embryos involves ice crystal formation inside the cells which could damage embryos if not controlled properly. Such ice formation is avoided in Vitrification where cytoplasm reaches a glass like state achieved by high concentration of cryoprotectants and a very rapid cooling. Vitrification yields much higher survival rate than slow freezing. As ice formation is avoided, damage to cellular components is also minimised.

The shift in regulating development from maternal genes to embryonic genes occurs on D3 when embryos have around 8 cells. Such transition may be affected by cryopreservation rendering a compromise on embryonic viability. Although blastocysts are preferred over cleavage stage embryos for transfer, a large proportion of practice involves cleavage stage embryos, D3 in particular. D3 embryos are preferred over D2 embryos as D3 could have crossed developmental block. D3 embryos are either transferred fresh or cryopreserved for later use. Does cryopreservation or vitrification the predominant method of cryopreservation compromise the developmental potential of D3 embryos?

Vitrified D3 embryos are transferred either as such or cultured after warming for one day or two more days and transferred as morula or blastocyst respectively. Culturing them after thawing for one or two days is considered as a better option to identify the developmental potential of these embryos. D3 embryos with 6 or lesser number of cells showed developmental potential same as blastocysts from D3 embryos with higher number of cells (≥ 7 cells) when cultured to blastocyst stage1. Blastocyst formation is observed to be better in D3 embryos with more than 7 cells than in those with 6 or less than 6 cells. Number of cells on D3 may be a good predictor to assess developmental potential of D3 embryos.

Good or optimal quality vitrified D3 embryos have shown similar survival and delivery rates as good quality blastocysts 2. The major difference between optimal and good quality D3 embryos is fragmentation where optimal quality embryos have 7-8 cells and less than 10% fragmentation while good quality has 7-8 cells with 11-25% fragmentation.

Accelerated cell cycle may be one reason for high number of cells and this may increase developmental potential of D3 embryos 3.

Analysis of our own data suggested that vitrified D3 embryos have higher developmental potential when they are cultured to blastocyst stage before embryo transfer than to morula stage. The Survival and developmental rate of vitrified D3 embryos is better than vitrified D2 embryos.

Compromise was not seen in survival and developmental potential of vitrified D3 embryos.

Dr. Dimitry Nikiforov

Clinical Embryologist, Researcher, Laboratory of Reproductive Biology, Denmark

Challenges in oocyte vitrification of mature and immature oocytes

Over the last three decades vitrification as a technique saw a rapid evolution towards efficient and safe procedure, as it is now. The technique has significantly advanced, resulting in high success rate with easy technical implementation. However, some issues remained, and research is undergoing in order to address such shortcomings. For example, vitrification of immature (both GV and MI) oocytes leads to significantly lower survival rate than vitrification of MII stage oocytes. This presentation comprehensively covers clinical experiences in immature oocyte cryopreservation, explains what challenges are there when compared to mature oocyte freezing and provides data, which could help estimating success of immature oocyte vitrification for your patients.

Dr. Zdravka Veleva

Researcher | Department of Obstetrics and Gynecology Helsinki University Hospital and University of Helsinki, Finland

Endometrial preparation - natural cycle/ stimulated or the artificially prepared cycle?

The proportion of children born after a frozen-thawed embryo transfer is increasing, thanks to improvements of embryo cryopreservation techniques and especially to extended embryo culture. Timing of the embryo transfer is significantly easier with a hormonally substituted cycle than with a spontaneous cycle and helps avoid work on weekends. A Cochrane analysis found that overall, the regimen did not affect live birth rates. This study was however based on RCTs with small participant numbers, and the quality of the embryo transferred was not taken into account. Evidence from Northern Europe shows that natural cycle should be favored over stimulated or hormonally substituted regimens because of higher live birth rates and lower miscarriage rates.Furthermore, pregnancy hypertension and other pregnancy-related pathologic conditions might be related to endometrial preparation type. PCOS women are at a higher risk of miscarriage because of an unfavorable uterine milieu, therefore evidence from the general IVF/FET population is all the more valid in these patients.

Live birth rates and pregnancy outcome after FET

The first transfer of a frozen-thawed embryo was carried out in 1983, and the first birth after FET was reported the following year. In the almost 40-year-old history of FET, this treatment method has seen dramatic increase of pregnancy and live birth rates. Results from the European IVF Monitoring Consortium show that FET increased from 12% in 1999 to 26% in 2016. Finland is one of the countries with the highest proportion of FET performed (upto 77.5% of fresh embryo cycles). Live birth rates after FET depend on factors such as the number and quality of embryos cryopreserved.The use of freeze-all maximizes the number of good-quality embryos available for transfer in FET and keeps live birth rates high. However, there is a trade-off: by choosing not to perform embryo transfer in the fresh cycle, time to live birth might be longer. Pregnancy outcome after FET is also to be considered because of the increased live birth weight of FET infants and associated higher incidence of operative delivery.

Dr. Duru Shah

Director, Gynaecworld - The Center for Women's Fertility & Health, Mumbai

Is luteal phase support different in FET cycles?

It is a well known fact that the Luteal Phase is inadequate in fresh IVF cycles due to raised hormone levels following Controlled Ovarian Stimulation. The luteal support required in a Frozen- Thaw Embryo transfer Cycle needs to be modified as per the protocol used to prepare the endometrium in order to maintain endometrial embryo synchrony. In Artificial Cycles (AC) which is prepared by the use of steroid hormones, a larger luteal support is required as compared to the modified natural cycle, due to the absence of a Corpus Luteum.

Progesterone can be administered via the oral, parenteral, vaginal or rectal routes. Adjuvants such as HCG, estradiol and GnRh agonist bolus have been utilized, with only the use of GnRh agonist giving better results. Both the parenteral and vaginal routes have been found to be equally effective. The use of the oral natural Progesterone seems to be ineffective, whilst the synthetic progesterone Dydrogesterone has been found to be equally effective. This could be an alternative for those not comfortable with vaginal or parenteral routes.

The number of children born after artificial Frozen thaw cycles is increasing globally. It has been noted that these pregnancies are associated with a higher risk of Pregnancy Induced Hypertension and larger babies, hence there seems to be a trend to move away from the Artificial Cycle and utilize the Modified Natural cycle instead.

Dr. Nayna Patel

Medical Director, Akanksha Hospital and Research Institute

Adjuvants in Endometrial Preparation

Along side the core fertilization techniques like – IVF or ICSI, variety of pharmacological agents and interventions are being implicated as Adjuvant Therapies. Numerous Adjuvants have been proposed to improve IVF success rates, the more commonly used adjuvants therapies in current practise can broadly be classified as : Adjuvants for Ovarian Response/ oocyte, Adjuvants for Sperm, Adjuvants for Embryos, Adjuvants for Endometrial Preparation/ Implantation. Despite, huge progress in the treatment of subfertile couples, Endometrial receptivity remains a key limiting factor for implantation after IVF. In achieving a successful pregnancy, it is essential to establish receptivity in embryo implantation. Undeniably, the role of immune system is well recognised as it facilitates tolerance for the foreign embryo attachment. Different adjuvants have been proposed to prepare Endometrial Receptivity like Low – dose Aspirin, Heparin, Estrogens, Vaginal Sildenafil, Pentoxyphylline, Glucocorticoids, G-CSF, Endometrial Scratching, Hysteroscopy, Intravenous Lipids, Anti-Tumor factor - a (TNF- a) agents, Autologous Platelet Rich Plasma, Hysteroscopic Subendometrial infiltration and treatment with Bone Marrow derived stem cells. To conclude, more well – designed and randomised studies are required in order to understand the safety and efficacy of the Adjuvant Therapy in IVF.

Dr. Satish Kumar Adiga

Professor & Head, Clinical Embryology Kasturba Medical College, Manipal .

Age and stage specific sensitivity in oocytes to vitrification-warming

Oocyte maturation is a complex process that involves both nuclear and cytoplasmic maturation, which if disturbed can alter spatial and temporal dynamics of the oocyte and affect their functional competence. One specific major problem associated with cryopreservation of metaphase II oocytes is the sensitivity of the microtubular spindle to cryoprotectants and low temperatures. To circumvent this problem, vitrification of whole follicles or immature oocytes at the GV stage can be used although this requires in vitro maturation after warming. It is hypothesized that prepubertal GV stage oocytes have limited functional ability than oocytes from adults and that subjecting them to in vitro maturation after vitrification will further reduce their structural and functional integrity. Using mouse model, we tried to investigate whether IVM is more successful before or after vitrification in maintaining the structural and functional integrity of prepubertal oocytes. The initial observations suggested that prepubertal oocytes are susceptible to IVM when compared to that of young adults. Further, subjecting the prepubertal IVM oocytes to vitrification-warming resulted in an increase in the number of abnormal meiotic spindles and cortical distribution pattern in oocytes, reduced sperm zona binding and fertilization rate.

Continued on page 10

W3 Webinar Series

WHAT
WHEN
WHY

The W3 Webinar Series explains the "What","When" and "Why" of the various complexities of PCOS in a practical format.

"Thank you for the greatest experience and wisdom shared. Learned a lot that is going to greatly help in my practise."
- Dr. Pratap Kumar

"Three cheers for wonderful orgnization."
- Dr. K Tara

"Best and simple treatment for thin PCOS,especially teenage girls for better compliance in the management."
- Dr. Shashikala N

"Congratulation PCOS Society of India and Omnicuris for the webinar. Looking forward to more."
- Dr. Zainee

"Smooth program and excellent coordination Dr. patted and team."
- Dr. Bhavana Mistry

975+ Doctors Enrolled and still rising

https://youtu.be/rROJRAioRaw

"Excellent discussion & presentation."
- Dr. S K Gupta

"Nice Informative session."
- Dr. Bindu Rao

"Great speakers! Very important career development information."
- Dr. M Rajagopalan

"Excellent discussion, provided very valuable information."
- Dr. Kamal M Advani

"Very informative, useful, insightful."
- Dr. Vanita B Metgud

"Basic and very informative."
- Dr. Manjula Singhal

1160+ Doctors Enrolled and still rising

https://youtu.be/g7o8qEKvH6M

"Thank you to all speakers and organizers for this informative webinar."
- Dr. Deorao Kambale

"Thank you so much for enlightening us on PCOS."
- Dr. KB Kavitha

"Thank you all doctors, PCOS Society, good presentation."
- Dr. Anveshi Koppula

"Very nicely covered."
- Dr. Kinjal Lodaya

"Thank you so much all of you."
- Dr. Mumtaz Begum

"Thanks to all very informative talk."
- Dr. Sangeeta Patel

900+ Doctors Enrolled and still rising

https://youtu.be/B6Gh9cJQWZk

W3 Webinar Series

"It was very informative and also very interesting session. Thank you for providing this level of platform where we can learn more and more."
- Dr. Akhila Kosuru

"Excellent topic discussion with each member sharing their experiences from real life and simple solutions. Thank you all."
- Dr. Akash Giri

"Excellent, as moderator allowed question specific panelist to answer. No repetition by panelist is best part."
- Dr. Shendurnikar

"Very good discussion on all aspects of management of PCOS pts. Clarified many wrong concepts on diet."
- Dr. Nidhi Nair

"Enjoyed every bit of session."
- Dr. Saima Gayas

"Thank you so much mam & sir for such informative webinars on pcod."
- Dr. Ruby Kumari

"Thanks for valuable discussion."
- Dr. Jitendra Mandal

"It was a helpful session. Thank you."
- Dr. Neha Vegad

950+ Doctors Enrolled and still rising

https://youtu.be/xp_fsjNowc8

501+ Doctors Enrolled and still rising

https://youtu.be/c31DVFohpO0

Upcoming W3 Webinar Series

WHAT WHEN WHY

W3 Webinar Series

Month & Day		Date & Time		Topic	Convenor	Sponsors
April	Saturday	03 - 04 - 21	7:00 - 8:30 p.m.	The ART & SCIENCE of COH in infertile PCOS women	Dr. Sujata Kar	USV
		10 - 04 - 21		Can adjuvants assist in improving oocyte quality?	Dr. Kanthi Bansal	torrent PHARMA
		17 - 04 - 21		Why Does OHSS occur and how to manage OHSS in PCOS?	TBA	SUN PHARMA
May	Saturday	08 - 05 - 21	7:00 - 8:30 p.m.	What is "Fatty Liver"?	Ms. Ruby Sound	USV
		15 - 05 - 21		Does PCOS and Vitamin D have any connection?	Dr. Sandhya Saharan	torrent PHARMA
		22 - 05 - 21		Do Inositols play a role in PCOS management?	TBA	SUN PHARMA
June	Saturday	05 - 06 - 21	7:00 - 8:30 p.m.	Managing GDM for best outcomes for mother and child	Dr. Sarita Bhalerao & Dr. Shilpa Agarwal	USV
		12 - 06 - 21		Do PCOS women develop Osteoporosis after menopause?	TBA	torrent PHARMA
		19 - 06 - 21		Which Gonadptrophins should we use in ART for PCOS?	Dr. Payal Bhargava	SUN PHARMA

Upcoming Events

Masterclass Abstracts

Dr. Alessandra Alteri

Senior Clinical Embryologist , San Raffaele Hospital,Italy

The current scenario of embryo storage, including COVID-19

Cryopreservation of reproductive tissues and cells has dramatically improved clinical outcomes for patients all over the world. Storage in liquid nitrogen (LN2) or vapour nitrogen is definitely the most common system used to store gametes, embryos and gonadal tissue. Embryo cryopreservation and thawing are a daily process in a fertility clinic.

To ensure short and long-term maintenance of viable cryopreserved specimens, reliable cryostorage tanks capable of efficiently holding LN2 temperature below -150 °C have been fabricated by creating a double metal container with an insulated, sealed vacuum air chamber between them.

Cryostorage presents many potential risks to the cryopreserved cells/tissues, including loss of viability and contamination.

Some events of cryogenic storage tank failures have created worldwide concern among infertility patients and patients storing embryos and gametes for future use. Quality management plans applied by IVF laboratories need to include a more comprehensive focus on the cryostorage of reproductive specimens.With an emphasis on risk assessment related to tank failures, remote monitoring and alarm systems are needed in the continuous assessment of tank functionalities. Failures can occur when alarms are “turned-off” and a critical issue is ignored. It is highly unlikely for alarm systems and tanks to fail, but complacency can result in failure. Therefore, it is essential to act and resolve repetitive signals of an impending problem by implementing a risk assessment plan.

Another issue is the introduction of contamination in the storage vessel, which can happen due to human manipulations during processing. Viral and microbial agents can survive for long periods of time in LN2. However, no reports have shown cross-contamination between these environmentally induced pathogens and the preserved reproductive cells and tissues. Also, storage of samples originating from patients carrying infectious diseases in LN2 has not led to cross-contamination of other frozen reproductive material residing in the same vessel. Even though evidence is lacking, it should be considered good laboratory practice to store reproductive material of patients with positive serology and negative serology separately. In such a context, with the advent of COVID-19 global pandemic, IVF laboratories are forced to apply preventative measures in order to minimize the risk of disease transmission to and between human embryos, gametes and reproductive tissues in cryostorage.

Club PCOS

Educational Videos on PCOS

PCOS & Assisted
Reproduction I Dr. Duru Shah

Does PCOS affect
Fertility | Dr. Duru Shah

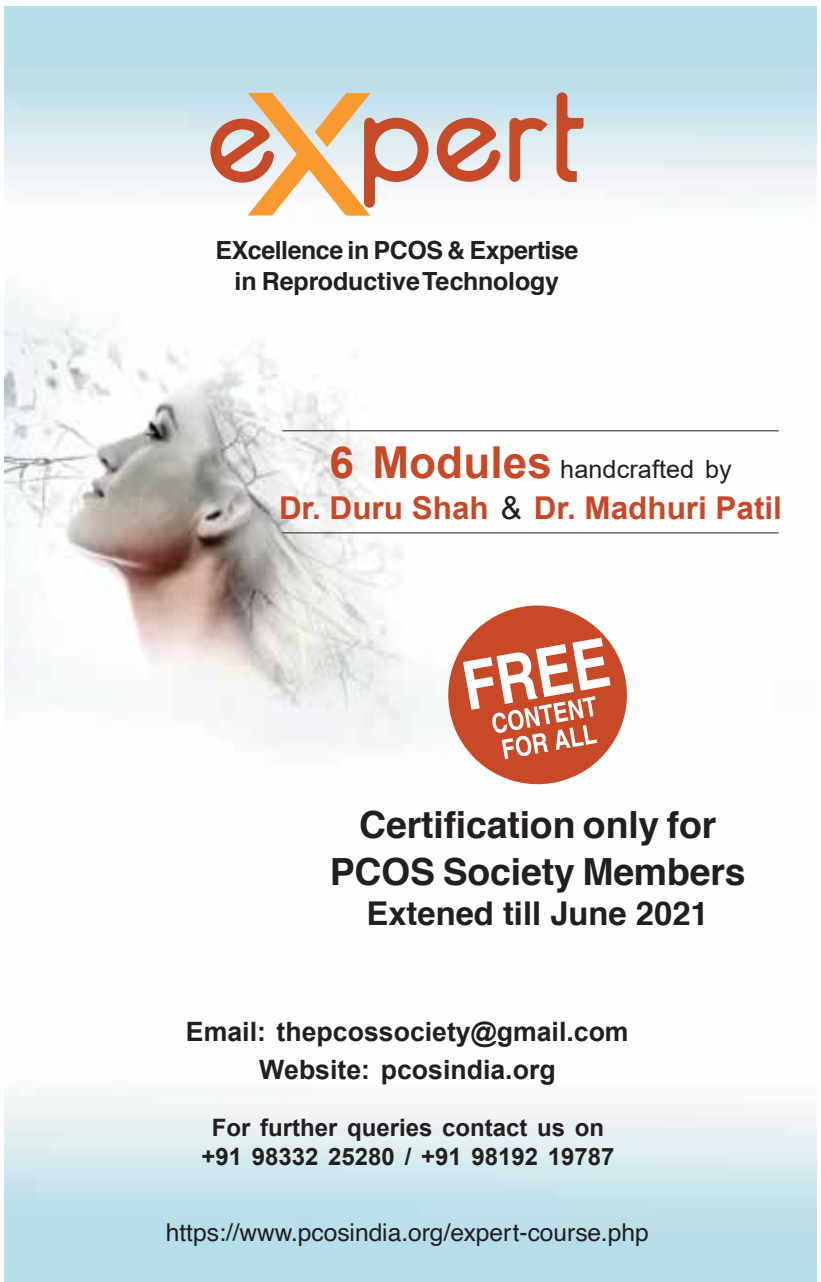
Cosmetic Issues | Dr. Duru Shah
Dr. Lipika Moharana

Irregular Menstrual Cycles
Dr. Duru Shah | Dr. Lipika Moharana

Signs & Symptoms of
Polycystic Ovarian Syndrome
Dr. Duru Shah | Dr. Lipika Moharana

WATCH MORE VIDEOS ON https://pcosindia.org/patient-awareness-videos.php

Upcoming Events



From Preconception Pregnancy to Lactation,

Shelcal-XT

Calcium carbonate 1250 mg, Vitamin D_3 2000 IU, Methylcobalamin 1500 mcg,
L-Methyl folate 1000 mcg, Pyridoxal 5 Phosphate 20 mg

Powered with 2000 IU of Vitamin D_3

The High Potency Calcium with EXTraordinary Power of Vitamin D_3 & Active Form of Vitamins

In PCOS Patients,

L-Carnitine in the Purest Form

CARNISURE-500

L-Carnitine 500 mg Tablets

The Metabolic Energizer

In Pcos Management,

D-360

Vitamin D_3 Capsules & Granules 60000 IU

Efficiency in Deficiency with Better Patient Compliance

torrent PHARMA

In infertility related to PCOS

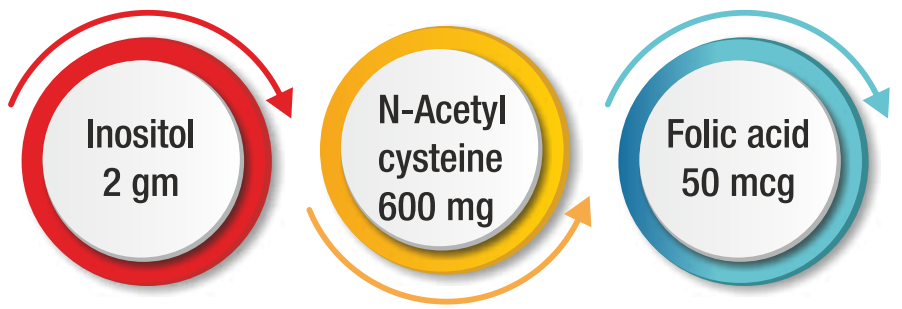
Inca Life Sciences
a SUN PHARMA division

Introducing

NORMOZ PLUS

Inositol 2 gm, N-Acetyl cysteine 600 mg, Folic Acid 50 mcg

Alleviates Hyperandrogenism... Restores Fertility



- Improves HPO axis functioning[2,3,4]
- Reduces insulin resistance[2,3,4,5,6,7]
- Reduces hyperandrogenism[2,3,4,8]
- Improves oocyte & embryo quality[2,3,4,9]
- Helps to improve ovarian function in PCOS patients[1]

1. Hindawi Publishing Corporation Obstetrics and Gynecology International Volume 2014, Article ID 141020, 5 pages 2. Gynecological Endocrinology, March 2008; 24(3): 139–144
3. European Review for Medical and Pharmacological Sciences 2007; 11: 347-354 4. Gynecological Endocrinology, December 2007; 23(12): 700–703 5. EL-Gharib. Reprod Med Int 2018, 1:003 Volume 1 | Issue 1
6. Eur J Endocrinol 2004 Oct; 151(4):483-9 7. Obstetrics and Gynecology International Volume 2014, Article ID 141020, 5 pages 8. Mostajeran, et al Adv Biomed Res 2018;7:100 9. Reprod Fertil Dev. 2016 Apr;28(6):723-31.