



IFS CONVERSATIONS Volume 15

Recent Advances in Sperm Selection Techniques for IVF



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MESSAGE FROM THE PRESIDENT DESK

Dr Sudha Prasad
President - IFS



Dear Friends,

It is indeed a pleasure to address you all on this issue of IFS Conversations.

After the very successful virtual “Fertivision 2020”, I invite you all for “Fertivision 2021” which would be in a hybrid mode on 10th, 11th, and 12th December with 12 pre conference workshops on 4th and 5th December 2021.

In this IFS conversation we have dealt with detailed analysis of the sperm factor in infertility and recurrent pregnancy loss. The editorial team and the authors have worked very hard towards it. Hope you all will find it very useful. The conversation also showcase various recent academic activities conducted by our extremely enthusiastic and committed members spread over 27 chapters across India and abroad.

Wishing you all a very Happy New Year!

Dr. Sudha Prasad
President- IFS

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MESSAGE FROM THE SECRETARY DESK

Dr Neena Malhotra
Secretary - IFS



Dear Members and Friends

Indian fertility society has progressed over the past few years with almost 3500 members and 28 chapters. We are a very academically oriented society with monthly publications of newsletters and quarterly publication of IFS conversation. Even during the past 1.5 years when the whole world came to a standstill due to unprecedented corona pandemic, IFS was very active in continuing the knowledge updation through its various online academic activities.

This time the IFS conversation has focused on role of sperm DNA fragmentation in unexplained infertility and recurrent pregnancy loss. Also, there is a review on various latest sperm selection techniques. I congratulate the editorial board for their tireless efforts in bringing these publications throughout the corona pandemic.

I also take this opportunity to welcome you all for the 17th Annual National Conference, "Fertivision 2021"

I hope the knowledge provided in this issue of IFS conversation will be useful to you in your clinical practice.

Wish you all a very happy new year!

Neena Malhotra

Dr. Neena Malhotra
Secretary - IFS

WHY TO JOIN IFS

IFS is a Multi-disciplinary Society that values the input and participation of professionals in the scope of Reproductive Medicine.



IFS MEMBERSHIP Benefits At A Glance



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- Pan India Society
- Collaboration with ESHRE & IFSS
- 2546 Members & 27 Chapters
- National Conference Fertivision every year with reduced registration fees
- Special Interest Group (13) for IFS Members to show cast their talent
- Research Wing of IFS has its own ethical committee for Research Project approval
- Publication Wing - Fertility Science & Research Journal
- IFS Fellowship Program in Clinical ART & Embryology in collaboration with Amity University
- ESHRE Certified Embryologist Examination in India, conducted by IFS every year
- IFS Outreach activities all over India
- IFS Master Courses
- Free access to IFS E-Pathshala contents and Official Journal
- IFS E-Pathshala - IFS Conversation, Nexus, ARTtext, Fertility News, CATALYST

Offline Registration Form

Download the form and send to the secretariat with recent pic and cheque/draft

* Please make Cheque / Draft in favour of "INDIAN FERTILITY SOCIETY" payable at New Delhi.
* Please attach two recent passport size photographs.

Who can apply for IFS Membership : All Professionals with postgraduate qualification such as Obstetricians & Gynaecologists, Clinical embryologists, andrologists, ultrasonologists, counsellors, geneticists and other involved in the care of infertility patients.

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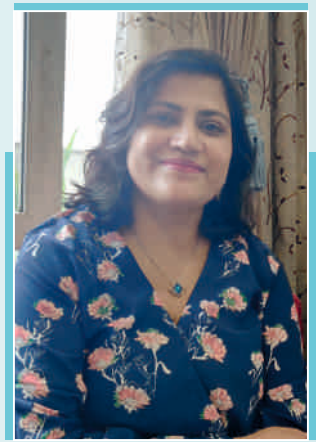
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MESSAGE FROM THE EDITOR'S DESK



Dr. Shweta Mittal Gupta
Editor - IFS



Dr Rashmi Sharma
Jt. Editor - IFS

Dear Friends,

Greetings from team IFS

In this issue of IFS conversation, we present to you a very important, though often neglected aspect of infertility treatment, that is role of sperm testing beyond the routine semen analysis. Sperm is a contributor of 50% genetic material in an embryo. There have been recent studies focusing on role of sperm DNA integrity in successful implantation and beyond. In this issue, we present a case report with 2 times poor quality embryos followed by successful IVF with sperms selection via microfluidic technique. We have also reviewed the literature on role of sperm DNA fragmentation in cases of unexplained infertility and recurrent implantation failure. There is also an in-depth article focusing on latest sperm selection technology like Microfluidics, MACS, IMSI etc.

We are a very academically active society. This issue also highlights all the academic activities undertaken in last 3 months from our state chapters, SIG's, vibrant webinars etc.

We sincerely thank all our authors for their wholehearted contribution towards this issue of IFS conversation. We would love to hear your comments and suggestions and also encourage all our readers to contribute in our forthcoming issues of IFS conversations.

We look forward to meeting you all at Fertilvision 2021.

Dr. Shweta Mittal Gupta
Editor, IFS

Dr. Rashmi Sharma
Joint Editor, IFS

INDIAN FERTILITY SOCIETY

IFS RECOMMENDATIONS FOR COVID 19 VACCINATION BEFORE ART

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INVITED ARTICLES

Sperm DNA Fragmentation: A cause of repeated IVF- ICSI failure: A case report

Dr. Rashmi Sharma

Director, Origyn Fertility and IVF

Joint Editor, Indian Fertility Society

Introduction

Infertility is a major issue among the couples . 1 out of 6 couples suffer from it. IVF has revolutionised the treatment of infertility but still there are many technical challenges to its success . Failure of IVF is a challenging situation. And if it occurs repeatedly it can have a major impact both on the patients treating doctor. Overall success rate of IVF is between 30%-40 % (1).

The pregnancy outcome after ART procedures has been unpredictable because several possible factors were involved in the process. Routine semen parameters, like semen concentration, motility and the percentage of normal sperm morphology are insufficient to predict pregnancy outcome after ART procedures (2).

Recent studies have shown that the integrity of genetic material in the sperm is essential for successful fertilisation and development of a healthy pregnancy . Sperm DNA fragmentation is a term used to denote abnormal genetic material within the sperm, which in turn may lead to male subfertility, implantation failure and miscarriages . Sperm DNA fragmentation (SDF) testing measures the quality of sperm as a DNA package carrier, and it therefore is more significant than the parameters analysed in conventional semen analyses.(3)

DFI, known as sperm DNA fragmentation index, was established to evaluate sperm chromatin integrity, and has gained increasing application for its diagnostic capabilities of male fertility potential and pregnancy outcome (4, 5)

While fully protaminated sperm DNA is highly stable and resistant to damage, deficiencies in protamination leave the DNA poorly compacted and more prone to damage (6)

Higher SDF is correlated with poor embryo development, lower implantation rate, and higher miscarriage rate in non-male factor infertility intracytoplasmic sperm injection cycles. Since defects in sperm may be hidden, the SDF test may bring additional information to the sperm quality evaluation of men with unknown infertility history (7).

Repeated implantation failure (RIF) is diagnosed when good-quality embryos repeatedly fail to implant after transfer in multiple IVF treatment cycles. There is as yet no universally accepted definition for RIF, despite There is as yet no universally accepted definition for RIF, despite many publications on this topic (8). RIF may be due to defects with either endometrium or embryo . There have been lot of focus on female part of it but since embryo is 50% male contribution , there have been recent focus in evaluating the role of sperm DNA fragmentation in RIF

Case report

A young couple with married life of 5 years came to Origyn fertility and IVF centre, Pitampura with primary infertility. The wife was 35 years old and husband 36 years. wife had regular cycles coming at an interval of 25- 30 days and normal flow.

Her baseline showed an endometrial poly of 12x8 mm size. AMH was 2.3 ng/ml, other investigations were normal . HSG showed bilateral patent tubes.

Husband had grade 3 varicocele .His semen analysis showed severe oligoasthenospermia with sperm

count < 1 million, 12 % showing forward motility and 2% morphologically normal sperms.

Repeat semen testing again showed sperm count< 1 million , 11% forward motility and 2 % morphologically normal sperms.

Hysteroscopic polypectomy was planned for wife followed by IVF- ICSI .

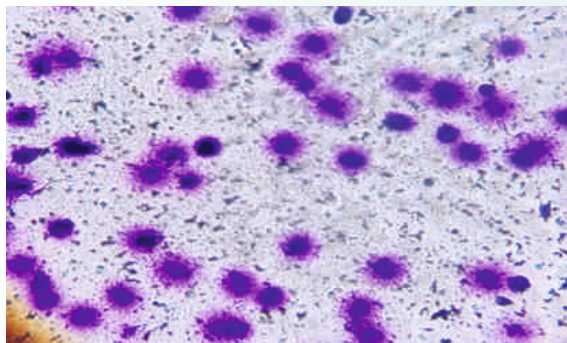
In the first cycle, ovarian stimulation was achieved with an antagonist protocol. On cycle day 2, recombinant FSH and human menopausal gonadotrophins administration was started. Their doses were adopted according to the number of ovarian follicles and their growth rates in vaginal ultrasonography. Gonadotropin-releasing hormone antagonist (GnRH antagonist) was initiated on 6 th day and continued up to the day when at least three follicles reached a diameter of ≥ 18 mm. Dual trigger was given and after 35 hours , OPU was performed. 13 oocytes - 5 M1 AND 8 M2 oocytes were obtained . ICSI was done and 5 grade B embryos were seen on day 3 , only 1 blastocyst could be transferred on day 5 . Beta HCG 12 days later confirmed negative result. Patient came back after second IVF failure from a different centre . In this cycle also in spite of good number of M II oocytes , only 1 not so good blastocyst was available for transfer .

Both these cycles resulted in poor quality embryos.

Sperm DNA fragmentation test was done after 2 IVF failures with a high DFI score of 72.2% where normally it should be <30%. Husband underwent varicocele surgery after consultation with a urologist . He also was put on antioxidants for 3 months. After 4 months – DFI score again was high at 60% along with continuing poor sperm count and motility .

Patient underwent third cycle of IVF – ICSI with sperm selection with the help of microfluidic chamber . This time we could obtain good quality 7 embryos (vitrified on day 4 – compaction stage in 3 straws)

2 grade A compaction stage embryos were transferred in the subsequent FET cycle with successful ongoing singleton pregnancy .



Discussion

Implantation is one of the most critical steps in reproduction. Recurrent implantation failure (RIF) is the absence of implantation after repeated embryo transfers. While this clinical phenomenon is commonly encountered and there is vast literature on the subject, there is no universally accepted definition.

Apart from the well-known causes for RIF still sometimes the cause remains not known. Studies at molecular level can explain many unexplained causes of RIF. Sperm DNA fragmentation is one on them.

Many studies have shown varying results between sperm DNA fragmentation and recurrent IVF failure with some studies saying it is not the cause and some saying it to be important cause of RIF (9)

Study by Coughlan C et al., do not support the hypothesis that sperm DNA fragmentation is an important cause of RIF or Recurrent miscarriages, or that sperm DNA integrity testing has value in such patients (10).

Study by Jhao J et al., indicate that assays detecting sperm DNA damage should be recommended to those suffering from recurrent failure to achieve pregnancy. Selection of sperm without DNA damage for use may improve the clinical outcome of ART (11).

Debate still goes on . For our patient very high sperm DNA fragmentation appears to be important cause of repeated failure to obtain good quality embryos and IVF failure . Selecting sperms with probably intact DNA through the use microfluidic chamber in this case seems to have helped the couple.

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Sperm DNA fragmentation:
A hidden cause of unexplained
Infertility and recurrent pregnancy loss

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Introduction

Unexplained infertility and recurrent pregnancy loss are two areas in the field of ART which if presents can bring much stress to both the treating doctor and the patient.

When in an infertile couple the results of a standard infertility evaluation i.e., semen evaluation, tubal tests and ovulatory studies are normal, a diagnosis of unexplained infertility is made. The likelihood that all such test results for an infertile couple are normal (i.e., that the couple has unexplained infertility) is approximately 15% to 30% [1].

Recurrent pregnancy loss (RPL) is defined as the loss of two or more pregnancies. The exact prevalence of RPL is difficult to estimate, but most studies report that RPL affects 1–2% of women [2].

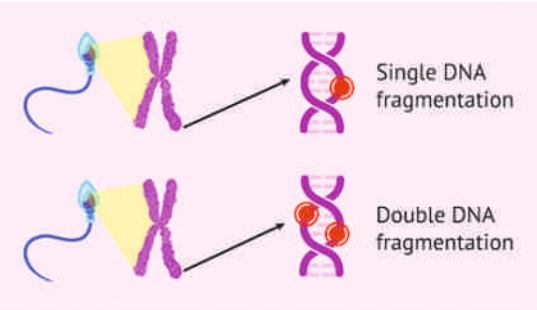
Sperm DNA fragmentation denotes abnormal genetic material within the sperm, which in turn may lead to male subfertility, implantation failure and miscarriages. Since the male gametes lack many DNA repair mechanisms, sperm DNA is especially susceptible to damage by oxidative stress from neighbouring immature sperm, leukocytes, and other environmental exposures.

DNA damage, such as fragmentation and denaturation, can have an untoward effect on fertilization and embryo development and can cause infertility and even recurrent pregnancy losses [3]. Sperm DNA fragmentation (SDF) testing measures the quality of sperm as a DNA package carrier; and it therefore is more significant than the parameters analysed in conventional semen analyses [4]. Sperm DNA integrity testing has therefore been proposed to be a test with promising potential to compliment the standard semen analysis [5].

This review of literature focuses on sperm DNA integrity testing in the evaluation of unexplained infertility and recurrent pregnancy loss.

What is sperm DNA fragmentation and why it happens?

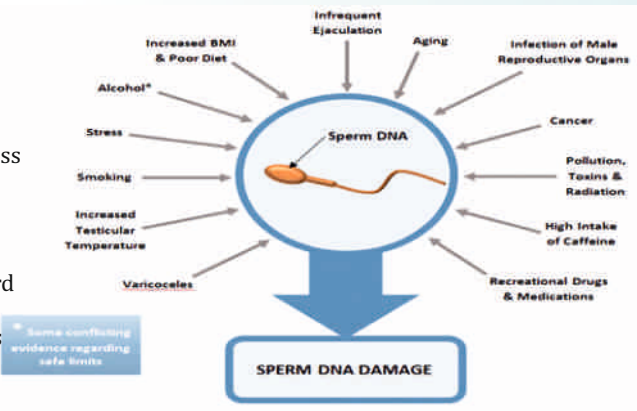
To simplify, sperm DNA fragmentation occurs when there is a change in the bases or a physical break in one or both of the DNA strands of the chromosomes contained within the sperm. Besides single standard DNA breaks (SS-DBs) and double standard DNA breaks (DS-DBs), chromatin damage includes altered chromatin configuration and defective nuclear protein.



Sperm DNA integrity is essential for the birth of healthy offspring [6]. Increasing documentation shows that sperm DNA fragmentation (SDF), a sign of damaged chromatin, has an independent and remarkable role in male infertility and reproductive success [7].

The causes of sperm DNA damage are numerous, of complex nature and could be testicular or post-testicular [8]. These may include defects in

spermatogenesis (e.g., genetic or developmental abnormalities) and testicular or post-testicular injury (e.g., gonadotoxins, hyperthermia, oxidants, and endocrine abnormalities). It has been suggested that protamine deficiency (with consequent aberrant chromatin remodeling), reactive oxygen species and abortive apoptosis may be responsible for sperm DNA damage [9].



Not all the patients require sperm DNA fragmentation. It is mainly warranted in couples with

- Unexplained infertility
- Arrested embryo development
- Poor blastocyst development
- Multiple failed IVF/ICSI treatments
- Recurrent miscarriage
- Advanced chronological age
- Varicocele
- Poor semen parameters
- Exposure to harmful substances

What Does Testing for Sperm DNA Fragmentation involve?

There are many different tests for sperm DNA fragmentation, but the most commonly studied ones are

1. The sperm chromatin structure assay (SCSA)
2. The deoxynucleotidyl transferase-mediated dUTP nick end labelling assay (TUNEL)
3. The single-cell gel electrophoresis assay (COMET)
4. The sperm chromatin dispersion test (SCD).

These tests provide an estimate of the degree of DNA damage present in a semen sample.

Sperm DNA fragmentation testing warranted in unexplained infertility and recurrent pregnancy loss patients

It is found that in recurrent pregnancy loss and unexplained infertility patients, sperm DNA fragmentation examination could help to identify the cause of the infertility or pregnancy loss and guide the possibly therapeutic strategies.

Various studies have shown varying results regarding using sperm DNA integrity testing in infertility workup.

Unexplained infertility

When infertile couples or individuals have undergone all appropriate tests and no cause for their infertility is found, they are diagnosed with unexplained infertility. As already stated earlier about 15- 30 percent of infertile couples are diagnosed with unexplained infertility, also referred to as idiopathic infertility.

Unexplained infertility most likely involves issues with poor egg or sperm quality, or problems with the uterus or fallopian tubes that aren't identifiable in routine infertility tests. Studies at molecular level have found out that DNA fragmentation can be the underlying hidden causes in some of these couples.

A study by Oleszczuk et al was done to investigate the prevalence of high DFI in male partners of unexplained infertile. In this study, The percentage of couples with diagnosis 'unexplained infertility' in which the male partner has DFI >20% or DFI >30% was calculated. In the group diagnosed with 'unexplained infertility' 17.7% of the men (95% CI 10.8-24.5) presented with DFI between 20 – 30% and 8.4% (95% CI 3.40-13.4) had DFI ≥30%. A significant part of men diagnosed as unexplained infertility according to traditional diagnostic methods had remarkably high degrees of fragmented sperm DNA [10].

A review article by Alaa hamada et al, on unexplained Male infertility: diagnosis and management, concluded that further tests are certainly required beyond semen analysis for evaluating sub fertile couples where cause remains unknown. The time has come for technological developments in the field of andrology to bring robust and cost-effective clinically useful tests to look for sperm DNA fragmentation to fix the shortcomings of the routine semen analysis [11].

Study by Kim GY et al concluded that physicians and researchers working with ART must continue to make efforts to obtain healthy sperm with nuclear DNA integrity to minimize the adverse effects that may arise in offspring conceived from sperm with DNA damage [12].

A review of literature by Pandravadra S et al says that though semen analysis is the cornerstone of evaluating male infertility, it is imperfect and insufficient to diagnose male infertility. As a result, about 20% of infertile males have undetermined infertility, a term encompassing male infertility with an unknown underlying cause[13].

Thus we see that it may be advisable to offer sperm DNA fragmentation testing in couples with unexplained or idiopathic infertility. An abnormal test result may indicate that fragmented sperm chromatin might be the cause of infertility. In an age when a small quantity of sperm can lead to pregnancy through in vitro fertilization or intracytoplasmic sperm injection, selecting healthy sperm is important. In couples with unexplained or idiopathic infertility and elevated sperm DNA fragmentation, a reproductive andrologist evaluation is warranted to assess underlying causes of DNA fragmentation.

Recurrent pregnancy loss

Recurrent pregnancy loss is a devastating experience for a couple and their caregivers. The aetiopathogenesis of recurrent pregnancy loss (RPL) is heterogeneous.

Various causes such as uterine anatomical anomalies, genetic factors, and infectious and endocrine disorders have been reported for RPL. However, approximately 50% of the causes are unknown, which can be due to male factors. Several studies have been done on semen parameters to determine the unknown causes and risk factors for miscarriages, however, only studying common semen parameters have not been sufficient.

Two very recent comprehensive reviews on sperm DNA fragmentation tests [14,15] have reopened the debate over their usefulness in improving pregnancy outcome.

In this regards, two aspects need to be seen. First, spermatozoa are not simply carriers of paternal chromosomes, but play a role beyond fertilization. For instance, the spermatozoon transcribes genes critical for early embryonic development, inferring that integrity of sperm genome is essential for a successful gestation. Second, if sperm factors play a role in early embryonic development, are sperm DNA integrity tests useful as diagnostic and prognostic markers, especially in the context of recurrent pregnancy loss (RPL)? [16]

A systematic review and metaanalysis by McQueen DB et al concluded that there was a link between sperm DNA fragmentation and recurrent pregnancy loss. Fifteen prospective studies were included in the review. Pooled data from 13 studies suggest that male partners of women with a history of recurrent pregnancy loss have a significantly higher rate of sperm DNA fragmentation compared to the partners of fertile control women: mean difference 11.91, 95% CI 4.97-18.86. However, given the significant heterogeneity between studies and lack of prospective pregnancy outcome data, they said that further large prospective studies are needed [17].

A study was carried out by Carlini T et al to investigate the male factor in Italian couples experiencing RPL following natural conception. The results suggested a correlation between increased SDF and impaired reproductive capacity in terms of both fertilization and pregnancies carried to term but they concluded that high SDF cannot yet be considered a predictive factor for the risk of RPL [18].

A meta-analysis was conducted of 12 prospective and 2 retrospective studies involving 530 men with a history of RPL by Tan J et al. In the study it was found that Couples with a history of idiopathic RPL demonstrated higher levels of SDF than fertile couples (average mean difference 11.98, P < 0.001). Results supported the diagnostic value of SDF over standard semen analysis, as well as a possible paternally derived genetic origin of unexplained RPL [19].

Recurrent pregnancy loss (RPL) is pathogenically complicated. So far, studies on the aetiology of RPL have focused on women and little attention has been paid to the role of sperm in the development and progression of the disease. Half of the genomes in the embryo are provided by sperm. RPL may be induced by abnormal number and structure of sperm chromosomes and sperm DNA integrity, gene mutations, and epigenetic abnormalities. This review presents an overview on the advances in the studies of the role of sperm genetic abnormality in RPL, hoping to give some help with the prediction, diagnosis and treatment of the disease.

Conclusion

Sperm DNA fragmentation testing has become an important test for evaluating male fertility though the relationship between DNA fragmentation in idiopathic recurrent pregnancy loss (RPL) and unexplained infertility remains a topic of ongoing debate.

There are studies to suggest that sperm DNA fragmentation testing should be offered to the couples of recurrent pregnancy loss and unexplained infertility in an effort to find hidden causes. In future more comprehensive studies may increase the scope of providing SDF testing to infertile couples for better clinical management.

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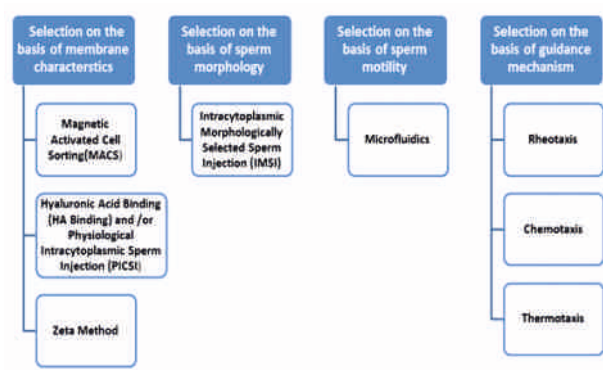
Sperm DNA fragmentation:
A hidden cause of unexplained
Infertility and recurrent pregnancy loss

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INTRODUCTION

Out of the millions of sperms that are ejaculated, only a few hundred of those make it to the ampulla, where they encounter the egg and fertilization takes place. Presumably, the selection of this subpopulation of sperms through the oviduct is done in a way that only the ones with highest fertilization capacity and all the required features to support embryo development are selected to fertilise the egg.

One of the reasons for the low efficacy of ART has been credited to the lack of appropriate methodology and technique for the in-vitro selection of subpopulation of sperms with all the required features. Therefore, in order to overcome these shortcomings, techniques that are simple, economical, ensure the enrichment of sample with best quality sperms which are devoid of leukocytes and bacteria, as well as toxic or bioactive substances like reactive oxygen species (ROS)are required. So, the techniques that meet all these requirements and are the most extended techniques for the preparation of sperms are Swim-Up (SU) and Density Gradient Centrifugation (DGC). Both these methodologies are used all around the world prior to IVF and ICSI, but the one of the major disadvantages of these procedures is that, the selection is only on the basis of the motile capacity of the sperms which does not necessarily mean that the sperms are of highest quality. Therefore, the need of the hour are those sperm selection methods that are based on sperm characteristics which not only focus on the motile capacity of the sperm but also its morphology and fertilization ability.

Therefore, different sperm selection techniques are available, these includes PICSI, IMSI, MACS and MFSS. The application of these techniques depends upon sperm concentration, motility and



Principle
The head of a mature sperm possesses a hyaluronan-specific ligand receptors which facilitates the mature sperm devoid of any aneuploidies and abnormal DNA integrity to unite to hyaluronan. This precisely is the principle of Physiological Intracytoplasmic Sperm Injection (PICSI) wherein an embryologist chooses the sperms which are mature, competent and biochemically active. This modus operandi mimics one of the most crucial steps in the innate fertilization course of action, that is, the binding of the sperm to the cumulus-oocyte complex.

History and Evidence
According to a study, the relative reduction in Sperm DNA Fragmentation (SDF) after PICSI was found to be 67.9% (2). Though according to another randomised control trial PICSI did not shown any benefit over ICSI and no significant difference in the implantation rate and the pregnancy rate was found but it did show a reduction in the miscarriage rate (7.0% vs 4.3%, p-0.003). Studies also revealed that HA-ICSI decreased the miscarriage per woman randomly assigned: 7% chance of miscarriage with ICSI versus 3% to 6% chance with HA-ICSI and per clinical pregnancy: 20% chance of miscarriage with ICSI compared to 9% to 16% chance with HA-ICSI (3)

Technique (1)
Currently, two ready-to-use systems specifically designed for sperm-HA binding selection are available:

1. Plastic culture dish with HA hydrogel attached to

the bottom of the dish (PICSI® Sperm Selection Device, MidAtlantic Diagnostic - Origio, Måløv, Denmark)

a) PICSI dishes are conventional plastic dishes pre-prepared with 3 microdots of powdered HA which are then re-hydrated with ~5ul of fresh culture media

b) Then, a 2ul droplet of prepared sperm sample is then connected to the culture medium droplet along with the drops of Polyvinylpyrrolidone (PVP) are also placed elsewhere on the dish at this time for the manipulation of the sperms.

c) The PICSI dish is then incubated under oil; within 5 min the bound spermatozoa are attached by their head to the surface of the HA-microdots and start spinning around their head. Finally, an ICSI injecting needle is used to pick up the best motile HA-bound sperms in order to inject them into the oocytes.

2. A viscous medium containing HA (Sperm Slow™, MediCult – Origio)
This requires a specific method of droplet preparation in order to allow selection of sperms bound to HA. It is more versatile than PICSI as it can also be used on a glass bottom culture dish for higher magnification sperm evaluation.

Advantages
More filtered way of selecting the most competent sperms for fertilisation process. In this, the choice of sperm is completely based on its ability to fertilise and perform the role job
Disadvantages
There are no such drawbacks of this technique except for the fact that in case of TESA samples or immotile sperms wherein PICSI cannot be employed. It also cannot be employed in cases of patients with occasional spermia where sperm count is ≤1million/ml

Intracytoplasmic Morphologically selected Sperm Injection(IMSI)

Principle

IMSI is a technique which involves the use of MSOME in conjunction with ICSI, the sperm selection criteria is based upon the various approaches used in studies to assess the sperm morphology through SEM(Scanning Electron Microscope) and TEM(Transmission Electron Microscope).The microscopic examination of sperms involves the assessment of six subcellular organelles, wherein, in case of sperm head, three important characteristics taken into consideration are the shape, the presence of vacuoles and the base. So, MSOME does provides an accurate description of the sperm abnormalities, particularly the presence of head vacuoles (5). However, there has been no consensus on normal or abnormal MSOME criteria, despite being essential to transposing MSOME analysis into routine evaluation of male infertility (6).

History and Evidence

So, to overcome the limitations of the conventional magnification (sperm evaluation at ICSI is a maximum 400x), Bartoov et al (1994, 2001, 2002) introduced a new approach involving real-time high magnification observation of unstained spermatozoa called **Motile Sperm Organelle Morphology Examination (MSOME)** and incorporation of this technique together with micromanipulation gave rise to a modified ICSI termed as **Intracytoplasmic Morphologically selected Sperm Injection (IMSI)**. This method involves the use of an inverted light microscope equipped with high power Nomarski optic enhanced by digital imaging to achieve a magnification of up to 6300X.

But, according to a systemic review published in 2013 there is no evidence of effect of IMSI on live birth or miscarriage and the evidence that IMSI improves clinical pregnancy is also of very low quality. (9)

Technique

The analysis of the sperm involves the use of interference phase contrast inverted microscope with the optics of Nomarski. The final image obtained on the screen is a result of a combination of the magnification of the objective, the camera adaptor, ratio between the diagonal screen size (mm), diagonal of the camera chip size(mm), and internal magnification of the microscope. So, depending upon these specific characterstics of the IMSI system, the final magnification varies from 6000X to 6600X

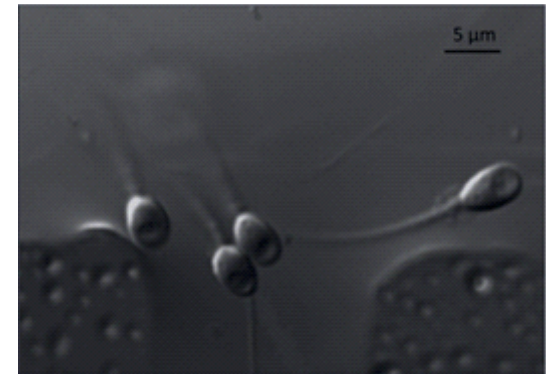


Fig 3: Human spermatozoa with head vacuoles observed using MSOME, at x6600 magnification (6)

Preparation ofIMSI dish

The dish used for IMSI is usually a glass bottom dish in which three types of droplets are made.

- a) Observation droplets: These droplets of sperm culture medium might contain PVP ranging from 0% to 10% depending upon the intensity of motility of the sperms.
- b) Clean droplets of clean sperm culture medium: After the sperm cells have been evaluated, they are transferred to these droplets.
- c) Clean droplets of PVP 10%: These are 1ul droplets created parallel to the droplets containing spermatozoa. It is recommended to create bridges between these two droplets as it eases the detection of spermatozoa as it helps capture the head of mature sperms.

IMSI in practice

- a) 1ul of prepared sperm sample droplet is placed inside the observation droplet of the pre-prepared IMSI dish.
- b) Sperms with morphological abnormalities are omitted and not aspirated while the other motile sperms are transferred to the fresh PVP droplets and classified in accordance with classification published by Perdrix et al. (2012):
 - **Type 0:** spermatozoa without vacuole.
 - **Type 1:** spermatozoa with vacuoles occupying 0–5.9% of the nuclear surface.
 - **Type 2:** spermatozoa with vacuoles occupying 5.9–12.4% of the nuclear surface.
 - **Type 3:** spermatozoa with vacuoles occupying over than 12.4% of the nuclear surface.

Finally, individual sperm cell is then placed in appropriate droplet based on the type in the IMSI dish

Advantages
IMSI helps select live sperms in real time, therefore helps separate sperms
It allows for an accurate visualisation of sperm cells and is around 15 times more powerful than conventional microscopes used in IVF or ICSI
Disadvantages
It is very time consuming
Long exposure of sperm to the heated stage of microscope increases vacoulation in the sperm head and also affects the sperm cytoplasm

Magnetic Activated Cell Sorting (MACS)

History and Evidence

Evidence from various studies suggest that normal spermatozoa used for ICSI can have negative impact on ART outcomes. The methodologies like swim-up and Density Gradient Centrifugation do not take into account certain important molecular features such as apoptosis and/or sperm DNA fragmentation. Therefore, development of new technologies was required in order to allow better gamete selection. So, following this rationale, MACS was applied as a sperm preparation method in order to remove apoptotic cells using Annexin V. Overall, it is a method of separating cells of interest from a mixed cell population.

Principle

MACS method is based on using of paramagnetic Annexing V-conjugated microbeads. It involves the conjugation of magnetic micro beads with specific antibodies or proteins on the target cell's membrane. It has been proposed as a safe method to select non-apoptotic and viable spermagnetic(12). Annexin V has a strong affinity for phosphatidyl serine but cannot pass through the intact sperm membrane. Colloidal superparamagnetic beads (~50 nm in diameter) are conjugated to highly specific antibodies to annexin V and used to separate dead and apoptotic spermatozoa by MACS. Annexin V binding to spermatozoa indicates compromised sperm membrane integrity.

Technique

- 1) A 100 μL sperm sample is mixed with 100 μL of MACS microbeads and incubated at room temperature for 15 minutes.
- 2) The mixture is loaded on top of the separation column which is placed in the magnetic field [0.5 Tesla (T) between the poles of the magnet and 1.5 T within the iron globes of the column];1 Tesla = 10,000 gauss.
- 3) The column is rinsed with buffer. All the unlabeled (annexin V-negative) non-apoptotic spermatozoa pass through the column.
- 4) The annexin V-positive (apoptotic) fraction is retained in the column.
- 5) The column is removed from the magnetic field, and annexing V-positive fraction is eluted using the annexin V-binding buffer.



Fig 5: Magnetic Activated Cell Sorting(MACS)

Advantages
MACS acts at the molecular level as opposed to routine sperm preparation techniques that rely on sperm density and motility.
Disadvantages
Viable spermatozoa ought to be separated from all substances in the ejaculate such as apoptotic spermatozoa, leukocytes, and seminal plasma. MACS, which removes apoptotic spermatozoa, needs to be used in conjunction with other techniques such as density gradient centrifugation to remove the other substances.

MICROFLUIDICS

History and Evidence

The silicon microfluidics device was used in mid 1990s for selection of motile sperm (Kricka et al., 1993). Human semen was firstly processed in year 2003 and motile sperm isolation was done with impending therapeutic efficacy (Schuster et al., 2003). Cho et al., 2003 designed special parallel microchannel maintained by gravity driven pumping mechanism in microfluidics device and Schulte et al., 2007 reported that microfluidic sperm processing could significantly decrease the percentage of sperm with DNA damage and provide high motility sperm. Then, a microfluidic device was developed by Nosrati et al., 2014 to isolate progressively motile sperm in 500 parallel microchannel and also sperms with high DNA integrity and motility (15)(16).

Principle

Microfluidics helps sort sperms in a faster and a gentler way that closely mimics the natural sperm selection and avoids all the detrimental elements of current sperm sorting techniques. Microfluidics sperm sorter (MFSS) is a technique used to separate motile and morphologically good sperm with normal DNA integrity. It is a fluid dynamics-based model with sub microliter channels. The raw semen sample is used in this technique without any centrifugation, in order to avoid the generation of ROS. The geometry and flow involved in microfluidic platform closely mimics the natural in vivo locomotion of sperm at sub-microlitre level in micro confined environment of female reproductive tract.

Technique

Given below is the protocol of a cyclo-olefin polymer-based microfluidics sperm sorting chip manufactured by Menicon Co, which is approved by U.S. Food and Drug administration (Qualis Sperm Sorter, Menicon Life Science)(17).

- 1) Dilute the semen sample 1:1 with sperm washing media and maintain 37 degrees before using MFSS.
- 2) The sample is poured in the chamber A and the medium is dispensed into B which is parallel to each other and withdrawal to their specific outlet A-to-D and B-to-C. This technique helps to sort good spermatozoa collected in chamber C and immotile spermatozoan flow into the chamber D.
- 3) Firstly, fix the chip in 60 mm dish and load 100μl media in the given 4 chambers A, B, C and D. By this loading of media, streamlines are made.

- 4) Remove media from all the four chambers. Further, load 20 μl media in the chamber C and D, while 100 μl media in chamber B. Then, gently load 65 μl of suspended semen sample in chamber A.
- 5) The best motile spermatozoan move and get collected in chamber C within 30 to 35 minutes (25-30 μl).
- 6) While immotile spermatozoa, dead spermatozoa and debris accumulate in chamber D.
- 7) Sperm can be collected from chamber C and used accordingly for IVF/ICSI.

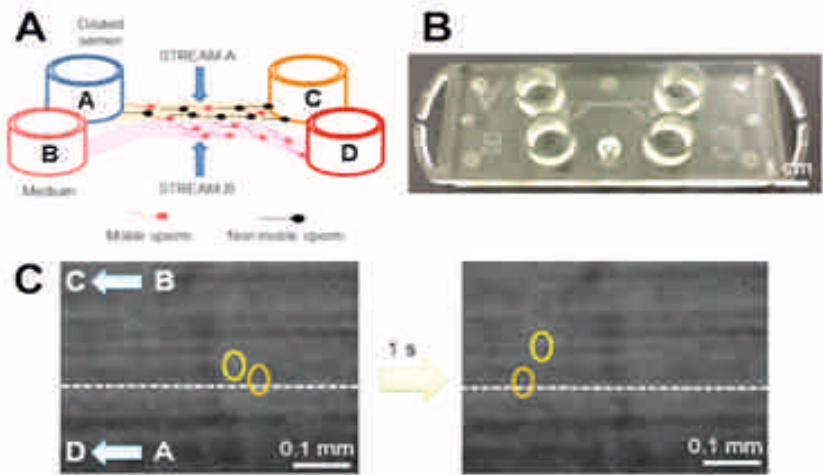


Fig 6: (A) Schematic of the mechanism of microfluidic sperm sorting devices; (B) Chip device made of cyclo-olefin polymer (Menicon Co. Ltd.); (C) Microscope images during sperm sorting; Yellow and orange circles show human sperm swimming across the interface of the two laminar flows (18)

Microfluidic sperm sorting approaches can generally be sorted into three categories:

Type 1: Microfluidic devices that isolate only motile sperm

This device employs the technologies that improve the swim up method by translating the process of motility screening to a microfluidic system and is one of the largest microfluidics devices.

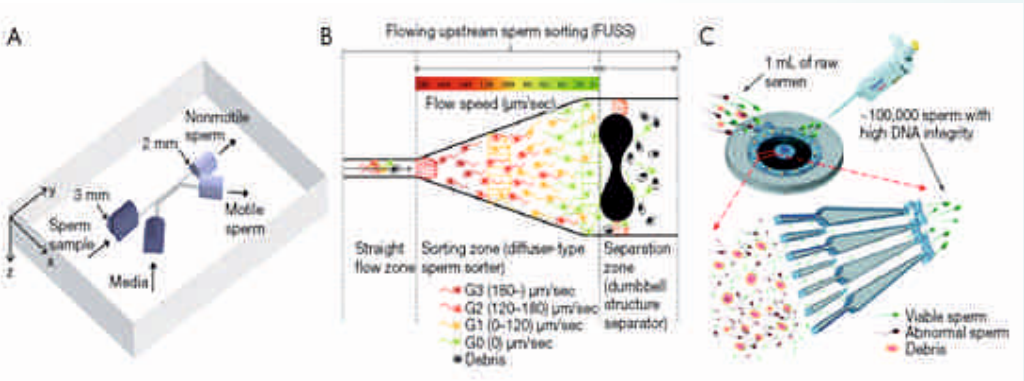


Fig 7: Type 1- Microfluidic systems designed for separation of sperm based on sperm motility. (A) Motile sperm can be selected from immotile sperm due to their ability to swim across channel width (19); (B) motile sperm are selected and sorted by swimming speed using the imposed velocity gradient (20); (C) a series of parallel, long narrow channels are used to select motile, viable sperm (15)

Type 2: Microfluidic devices that isolate sperm cells without relying on sperm motility

The selection mechanism of these microfluidics devices relies upon sperm shape, size, and/or other physical biomarkers instead of sperm motility. The primary focus of these systems is not on capturing an improved sperm sub-population, rather these systems focus more on the potential to retain the full fertilization capability of a sub-fertile semen sample by indiscriminately capturing sperm cells

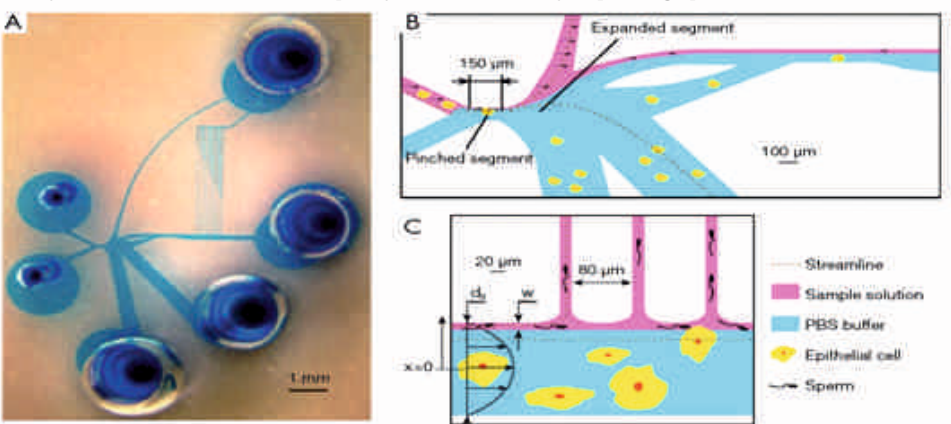


Fig 8: Type 2- This figure depicts a microfluidic system designed for rapid separation of sperm from epithelial cells with application in forensics related to sexual assaults. (A) A picture of the actual device; (B) the cell mixture is aligned against the top wall in the pinched segment, and then the position difference of different sized cells is amplified in the expansion region; (C) sperm recovery rate is improved in the parallel capillary tubes

Type 3: Microfluidic devices for the observation and selection of individual sperm.

These microfluidic devices take advantage of the ability of microfluidics to capture and non-invasively investigate the characteristics of a single sperm cell while maintaining sperm viability. An emerging area of research which focusses on isolation of a single sperm cell uses microfluidics sperm sorting system combined with Raman spectroscopy, a type of vibrational spectroscopy that relies on inelastic scattering of monochromatic light by the molecular structure of a system to determine the constituents of the system.

Advantages
Spermatozoa are separated without centrifugation that aids in reducing centrifugation induced ROS generation.
Spermatozoa separated have better DNA integrity.
Disadvantages
Can only work in progressive motility spermatozoa samples.

CONCLUSION

The efficiency of Assisted Reproductive Technology (ART) still has a scope of improvement. Sperm selection is one of the most important factors on which the success of IVF and ICSI lies, especially in the cases where the cause of infertility is the male factor. However, the methodologies widely and commonly used have not proven to be useful and are effective in only certain cases of infertility.

But the various novel methodologies discussed above which are based on physiological selection operating in vivo and on microfluidic environment have given promising results.

But further studies are still required to get a better understanding of their advantages and limitations, in order to improve the ART outcome.

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"Complications in IVF pregnancy"



Dr. Renu Tanwar
Professor & IVF Consultant,
IVF & Reproductive Biology Centre,
Dept of Obs & Gynae - MAMC, New Delhi



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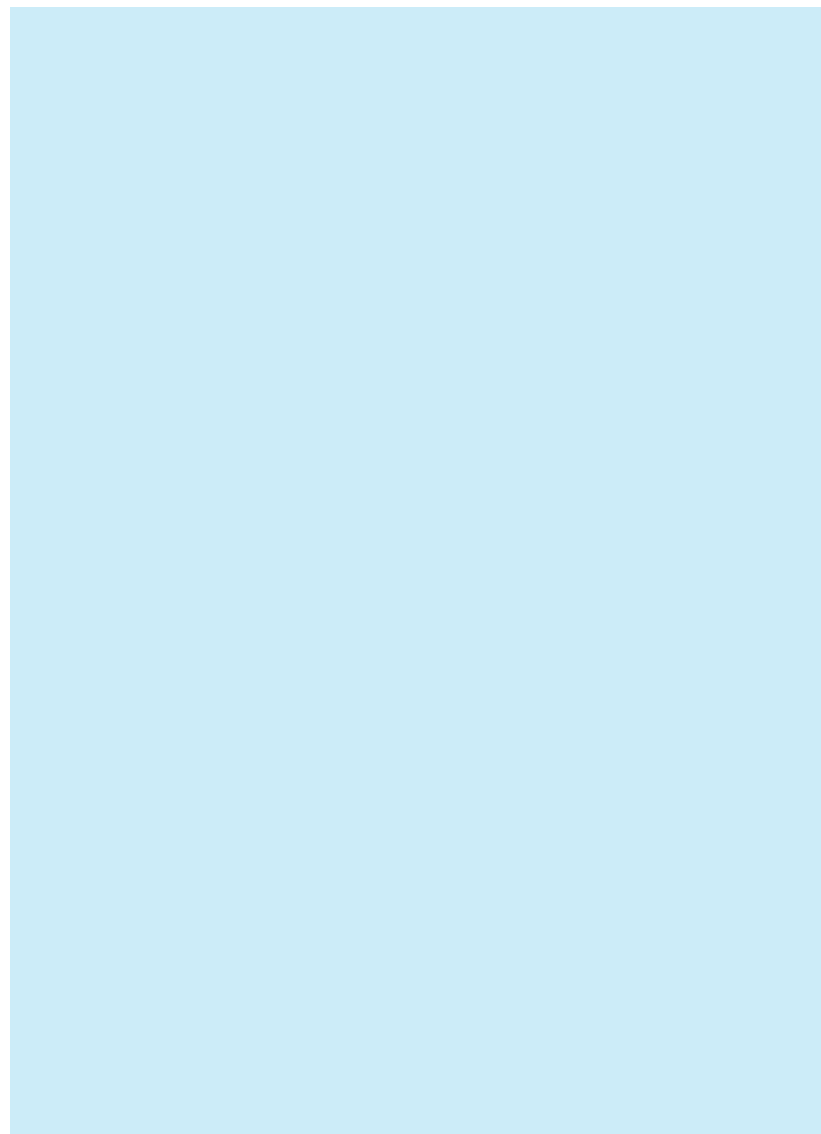
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CHAPTER ACTIVITIES

Rajasthan Chapter

Date: 19 June, 2021

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Date: 8th July 2021 | Time: 5:00 - 7:00PM

Theme: Fertility Management of PCOS

INAUGURATION



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President, IFS, Delhi



Dr. Neena Malhotra
General Secretary, IFS



Dr. Jaydeep Tank
Guest of Honour
Secretary FOGSI



Dr. Himanshu Roy
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Bihar Chapter

Session 1

CHAIRPERSON



Dr. Himanshu Roy
Secretary, IFS, Bihar Chapter



Dr. Pratibha Singh
Director of IVF Unit,
Bhagalpur

PCOS: Latest Update



Dr. Sudha Prasad
President, IFS, Delhi

Non pharmacotherapy in PCOS



Sheryl Salis
RD, CDE, CPT,
CISSN, ND, MCHA

Session 2

Panel Discussion on Nuances of Ovarian stimulation Protocols in PCOS

EXPERT



Dr. Sudha Prasad
President, IFS, Delhi



Dr. Anita Singh
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MODERATORS



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Himachal Chapter

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Joint Secretary, IFS-VI

Topic: Unraveling the secrets of follicular tracking with ultrasound

Speakers



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Dr. N. D. N. N. N.
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Q & A Session

Quizzers



Dr. Sangita Tejwani



Dr. Megha Jain

Panel Discussion:
Pretreatment ultrasound workup of Infertile female

Moderators



Dr. Sonal Panchal



Dr. Raj Kumar Chaudhary



Dr. Subhraj Singh



Dr. Manish Mahapatra

Panelists



Dr. Manjushree Bhoir



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Dr. Rajendra Babbar



Dr. Manjushree Choudhary

Odisha Chapter

Date: 11 July, 2021



Indian Fertility Society
(Odisha Chapter)

Invites you for a Webinar on
FERTILITY

DATE: 11th JULY 2021, SUNDAY | TIME: 6.00 PM-8.00 PM

Panel Discussion
MANAGEMENT OF INFERTILE COUPLE- CASE SCENARIO

EXPERT



Dr. P. C. Mahapatra

MODERATORS



Dr. Akshaya Kumar Mahapatra



Dr. Sujata Pradhan

PANELISTS



Dr. Indira Palo



Dr. Sanghamitra Satapathy



Dr. Sweta Singh



Dr. Saumya Nanda



Dr. Purnima Rani Dutta



Dr. Arun Singh

Click Link: <https://www.scienceabovetall.com/INDIAN-FERTILITY-SOCIETY/SENORA/>

Underwritten by:






IFS ACTIVITIES 2021

CHAPTER ACTIVITIES

Gujrat Chapter

Date: 24 & 25 July, 2021

Rajasthan Chapter

Date: 30 July, 2021

Chhattisgarh Chapter

Date: 10 August, 2021

ACADEMIC FEST ON WORLD IVF DAY
IFS GUJARAT CHAPTER - ANNUAL CONFERENCE
2020 - 2021 WITH AOGS

Dr. Sudha Prasad President - IFS
Dr. Neena Malhotra Secretary - IFS
Dr. Jayesh Amin Secretary - Gujarat Chapter
Dr. Jignesh Deliwala President - AOGS
Dr. Manoj Pandya Secretary - AOGS

International Speakers

Dr. Fady Sharara
Dr. Marketa Mikelson
Dr. (Prof.) Budu Wiewko

National Speakers

Dr. Jayesh Amin
Dr. Himanshu Bavishi
Dr. Sudha Prasad
Dr. K. D. Nayar
Dr. Hrishikesh Pal
Dr. Tejashu Shah

Moderator
Dr. Neena Malhotra

Panelists
Dr. Kamini Patel
Dr. Nayna Patel
Dr. Himendra Somani
Dr. P. M. Gopinath
Dr. Durga Rao
Dr. Rohit Gargula

Scientific Agenda

Time	Topic	Speaker
24th July, 2021 - 07:00 pm to 08:00 pm		
Chair Person: Dr. Jignesh Deliwala, Dr. Manoj Pandya		
30 Min.	Ovarian stimulation - One is done, is it possible?	Dr. (Prof.) Budu Wiewko
30 Min.	Luteal phase support in frozen embryo transfer	Dr. Jayesh Amin
30 Min.	Role of PGT in ART	Dr. Marketa Mikelson
30 Min.	Role of IV in ovarian stimulation	Dr. Fady Sharara
25th July, 2021 - 10:00 am to 01:00 pm		
Chair Person: Dr. Himanshu Bavishi, Dr. Shashvat Jain		
20 Min.	Optimising results in IUI	Dr. Himanshu Bavishi
20 Min.	Can we have a remote control of the ovary?	Dr. Sudha Prasad
30 Min.	Management of poor responders	Dr. K. D. Nayar
30 Min.	Recurrent pregnancy loss - role of art & genetic science	Dr. Hrishikesh Pal
30 Min.	Sperm Retrieval Technique in Azospermia	Dr. Tejashu Shah
Moderator: Dr. Neena Malhotra		
1 Hr.	Panel discussion (10 clinical cases & its management)	Dr. Kamini Patel Dr. Nayna Patel Dr. Himendra Somani Dr. P. M. Gopinath Dr. Durga Rao Dr. Rohit Gargula

IFS Rajasthan Chapter
Invites you for a webinar on

"Optimizing Intra Uterine Insemination: Facts & Logistics In Today's Fertility Management"

DATE - 30th JULY '21 | TIME - 5:30 PM - 7:30 PM

To Join Please Use This Link : <https://bit.ly/3s3AAWJ>

Dr. Sudha Prasad President IFS
Dr. Neena Malhotra General Secretary IFS

Convener
Dr. Anju Mathur Sec. IFS Rajasthan Chapter
Dr. Sanjay Shukla Sec. Academy of Clinical Embryologist India
Dr. Neela Baheti IVF Specialist, Baheti Hospital, Jaipur
Dr. Kirti Gaur IVF Specialist, Kirti IVF Center, Jaipur

Chairpersons
Dr. Anju Mathur
Dr. Sanjay Shukla
Dr. Neela Baheti
Dr. Kirti Gaur

Guest Speaker **3:30 PM - 6:20 PM**
Dr. Neeru Thakral
Topic: Trouble shoot in ovarian stimulation in IUI
Moghaus Thakral International IVF Center, Gurgaon

Panel discussion **6:20 PM - 7:10 PM**
Topic: Optimizing Intra Uterine Insemination: Facts & Logistics In Today's Fertility Management

Moderator **Dr. Abha Majumdar**
Director Centre of IVF and Human Reproduction, Dr. Gangaram Hospital, New Delhi

Co-Moderator **Dr. Sangita Sharma**
IVF Specialist, JEC, MCGH, Jaipur

Panelists
Dr. Nirmala Agrawal Medical Director, Juhl Fertility Centre, Hyderabad
Dr. Dipan Thakkar IVF Specialist, Usha Nursing Home, Anand
Dr. Sapna Basandani Director, Anmol IVF Center, Jaipur
Dr. Sanjay Makwana Dr. Consultant IVF & Endoscopic Surgery, Vasudhara Hospital, Jaipur

Vote of Thanks & Program Coordinator **(7:10 PM)**
Dr. Neelam Bafna IVF Specialist, Shreeva Fertility & IVF Centre, Jaipur
Dr. Harpreet Bajwa ICSI Hospital & Fertility Centre, Jaipur

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INDIAN FERTILITY SOCIETY
Vidarbha Chapter (IFS-VC)

In Association with
IFS- Chhattisgarh Chapter

Presents
Sizzling Masterstroke Fertility Web-Series

Series 4 - Simplifying the Sperm Story

CORCONNECT - Live Show

AUG 10 | 2021 **6:00 PM**

www.corconnect.org/ifsvidarbha

Dr. Sudha Prasad President IFS
Dr. Neena Malhotra General Secretary IFS
Dr. Jayesh Amin Secretary IFS
Dr. Jignesh Deliwala President AOGS
Dr. Manoj Pandya Secretary AOGS

Dr. Anju Mathur Sec. IFS Rajasthan Chapter
Dr. Sanjay Shukla Sec. Academy of Clinical Embryologist India
Dr. Neela Baheti IVF Specialist, Baheti Hospital, Jaipur
Dr. Kirti Gaur IVF Specialist, Kirti IVF Center, Jaipur

Dr. Nirmala Agrawal Medical Director, Juhl Fertility Centre, Hyderabad
Dr. Dipan Thakkar IVF Specialist, Usha Nursing Home, Anand
Dr. Sapna Basandani Director, Anmol IVF Center, Jaipur
Dr. Sanjay Makwana Dr. Consultant IVF & Endoscopic Surgery, Vasudhara Hospital, Jaipur

Dr. Neelam Bafna IVF Specialist, Shreeva Fertility & IVF Centre, Jaipur
Dr. Harpreet Bajwa ICSI Hospital & Fertility Centre, Jaipur

Panel Discussion:
Sperm: A Microscopic yet Mysteriously Dynamic Gamete

Dr. Anil Bajaj
Dr. Sangita Sharma
Dr. Neela Baheti
Dr. Himendra Somani
Dr. P. M. Gopinath
Dr. Durga Rao
Dr. Rohit Gargula

Vote of Thanks : Dr. Binu Chinnai
MCQ : Dr. Swati Bhatia, Dr. Payal Agrawal

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IFS ACTIVITIES 2021

CHAPTER ACTIVITIES

Haryana Chapter

Date: 27 August, 2021

IFS Haryana Chapter
In association with
Panchkula Obstetric & Gynaecology Society

Invites you for a webinar on
Male Infertility

DATE - 27th AUGUST '21 | TIME 4 PM - 6 PM
To Join Please Use This Link : <https://bit.ly/3gbbB95>

IFS Haryana Chapter

Chairpersons

Speakers

WHO Manual 2021 Implications For ART

Managing Male Infertility Urologist's Perspective

Panel Discussion (Case Based)

Male Infertility

Quizzes

Panel Discussion: Tackling Endometriosis: Case Scenarios

Punjab Chapter

Date: 8 September, 2021

INDIAN FERTILITY SOCIETY
Vidarbha Chapter (IFS-VC)
In Association with
IFS- Punjab Chapter
Nagpur Obstetrics and Gynecological Society (NOGS)

Sizzling Masterstroke Fertility Web-Series

Series 1 : Solving the Endometriosis Puzzle

CORCONNECT- Live Show

SEP 8 | 2021 | 6:00 PM

TO JOIN
www.corconnect.org/ifsvidarbha
HELP LINE : +91-981301791

Speakers

Chairpersons

Q & A Session

Quizzes

Panel Discussion: Tackling Endometriosis: Case Scenarios

Chhattisgarh Chapter

Date: 12 September, 2021

SRMS

WESTERN UP CHAPTER OF IFS
FERTILITY PRESERVATION 2021

Date: 12th September 2021 | Time: 10:30 AM - 1:25 PM

Awarded 1 ICOG CREDIT POINT

National Executive Committee

Organizing Team

PROGRAMME

Time	Topic	Speaker
10:30AM - 10:35AM	Welcome address	Dr. Shashi Bala Arya Dr. Ruchita Goel
10:35AM - 10:55AM	Chairperson - Dr. Bharti Maheshwari, Dr. Anshu Sethi Fertility Preservation overview: why we need it	Dr. Namini Mahajan
10:55AM - 11:05AM	Chairperson - Dr. Pragati Agarwal, Dr. Poonam Singh, Dr. Shikha Jaiswal	
11:05AM - 11:20AM	Barriers to Fertility Preservation - Concerning hurdles	Dr. Rishi Sharma
11:20AM - 11:35AM	Fertility Preservation: Update and Guidelines: Social, Ethical and Legal Issues	Dr. Umesh Sood
11:35AM - 11:50AM	Fertility Preservation in Children and Adolescent: A newer concept	Dr. Parvati Tewari
11:50AM - 12:05PM	Chairperson - Dr. Shikha, Dr. Vinay Sharma, Dr. Namita Agarwal	
12:05PM - 12:20PM	Chronic Aging and Fertility Preservation	Dr. Rishi Sharma
12:20PM - 12:35PM	Fertility Sparring Surgeries	Dr. J.K. Goel
12:35PM - 12:50PM	Stimulation Protocols: What's new	Dr. Swati Verma
12:50PM - 1:00PM	Hybrid Inauguration	
1:00PM - 1:10PM	Debate: Gamete freezing in Indian Perspective: Should it be done	
1:10PM - 1:20PM	Judges - Dr. Sonu Malik, Dr. Anshu Sood, Dr. Shikha Sethi	
1:20PM - 1:30PM	For	Dr. Rishi Sharma
1:30PM - 1:40PM	Against	Dr. Shikha Mittal
1:40PM - 1:50PM	Discussion	
1:50PM - 2:00PM	Vote of thanks	

Register e-CME with the link
<https://www2evs.com/registration/register?eventid=6&id=6&id=6>

Webinar Associate:

IFS ACTIVITIES 2021

SIG ACTIVITIES

IFS SIG- Applied Genetics

Date: 18 June, 2021

Preimplantation Genetic Testing: Where We Stand Today

SIG (Applied Genetics)
18th Jun, 2021

Redcliffe Diagnostics

Dr. Sudha Prasad (President, IFS)
Dr. Neena Malhotra (General Secretary, IFS)
Dr. Sarabjeet Singh (Convener, SIG Applied Genetics)
Dr. Rakesh Kumar (Co-Convener, SIG Applied Genetics)

SESSION 1

CHAIRPERSON
Dr. Umesh Jindal
Director, Jindal IVF & Sant Memorial Nursing Home, Chandigarh

Time	Topic	Speaker
5:00PM - 5:30PM	Preimplantation Genetic Testing for Monogenic disorders	Dr. Ana Cervero Sanz Senior Director, Igenomix
5:30PM - 5:45PM	Discussion	

SESSION 2- PANEL DISCUSSIONS
Topic: **Recent Advances in PGT-A**
Time: 5:45pm onwards

MODERATORS

Dr. Ashish Fauzdar
Consultant - Clinical Cytogenetics, Founder & Director, CYTOGENOM

Dr. Rajni Khajuria
Sr. Consultant - Human Genetics and Scientific Affairs

PANELISTS

Dr. Carmen Rubio
Senior Director - Research Igenomix

Dr. Priya Selvaraj
Associate Director, CG Hospital, Fertility Research & Women's Specialty Center

Dr. Sheetal Jindal
Consultant - Cytogeneticist, Jindal IVF & Sant Memorial Nursing Home

Dr. Sam Bahu
Deputy Genome Manager, Genomics, IISc, Insights, Pvt Ltd

Dr. Kishore Pasadi
Fellow IVF (UK), Cysta IVF, Pune

IFS SIG- Ultrasound

Date: 22 July, 2021

Indian Fertility Society
NEW DELHI

IFS SIG- Ultrasound
Endometrium and Follicles

Webinar Invite

22 JULY 2021 06:00 - 07:30 PM

President, IFS
Dr. Sudha Prasad
Matritava- Advance IVF and Training Centre New Delhi

Secretary General, IFS
Dr. Neena Malhotra
Art Centre AIMS New Delhi

Invited Faculty

Dr. Bharti Jain
Convener SIG, USG- IFS

Dr. Kuldeep Singh
Co-Convener SIG, USG- IFS

Dr. Nalini Mahajan

Dr. Maansi Jain

Programme

Inauguration and Welcome Address by
Dr. Sudha Prasad, President IFS, Dr. Neena Malhotra, Secretary, IFS

6.00 - 6.10 pm	Introduction	Dr. Bharti Jain
6.10 - 6.40 pm	2D and CD in Follicle Monitoring	Dr. Kuldeep Singh
6.40 - 7.10 pm	Management Approach to Thin Endometrium and Resistant Ovulation	Dr. Nalini Mahajan
7.10 - 7.30 pm	Importance of Baseline Scan	Dr. Maansi Jain

Get Register with the link
https://us02web.zoom.us/join/register/WN_YOeJC7dR762IBDY78sn8A

www.indianfertilitysociety.org indianfertilitysocietydelhi@gmail.com [indianfertilitysociety](https://www.facebook.com/indianfertilitysociety)

IFS SIG- Applied Genetics

Date: 6 August, 2021

WEBINAR SERIES
RECURRENT IMPLANTATION FAILURE-GENETICS BEHIND

SPECIAL INTEREST GROUP (APPLIED GENETICS)

DR. SUDHA PRASAD (President, IFS)
DR. NEENA MALHOTRA (General Secretary, IFS)
DR. SARABJEET SINGH (Convener, SIG Applied Genetics)
DR. RAKESH KUMAR (SMVDU, CO-CONVENOR SIG Applied Genetics)

SESSION 1 - LECTURES

DR. DEEPAK MODI
PROFESSOR, ICMR-IMB, MOLECULAR AND CELLULAR BIOLOGY LAB, MUMBAI

DR. RITA SINGH
PROFESSOR & CHAIR, DIVISION OF MOLECULAR ENDOCRINOLOGY & REPRODUCTION, DEPT. OF TOGOLGY, UNIVERSITY OF DELHI, NEW DELHI

DR. RAKESH KUMAR
SMVDU, CO-CONVENOR SIG Applied Genetics

Genetic Networks in the Recurrent Implantation Failure
05:00 PM - 05:30 PM

Genetics/Epi-genetics of Recurrent Implantation Failure in Women with PCOS
05:33 PM - 05:45 PM

Paternal genomics in Recurrent Implantation Failure
05:50 PM - 06:30 PM

SESSION 2 - ASK THE EXPERT
THEME: **RECURRENT IMPLANTATION FAILURE-GENETICS BEHIND**
6:30 PM TO 7:00 PM

MODERATORS

Dr. Vidhu Dhanwan
ASSISTANT PROFESSOR, ICMR, DEPT. OF REPRODUCTIVE BIOLOGY, JALMA, NEW DELHI

Dr. Rajni Khajuria
Sr. Consultant - Human Genetics & Scientific Affairs

06TH OF AUGUST 2021
FRIDAY || 5:00 PM ONWARD
REGISTRATION OPENS

ACADEMIC PARTNER
INDNA LIFE SCIENCES

IFS SIG- Applied Genetics

Date: 6 September, 2021

WEBINAR SERIES
BIOPSY & PGT

DR. SUDHA PRASAD (President, IFS)
DR. NEENA MALHOTRA (General Secretary, IFS)
DR. SARABJEET SINGH (Convener, SIG Applied Genetics)
DR. RAKESH KUMAR (Co-Convener, SIG Applied Genetics)

Sessions

Module 1
Martine Nijs, PhD
Global Training Manager, CooperSurgical
Topic: **Trophectoderm biopsy and cell preparation for PGT**
4:30 pm - 5:15 pm IST

Module 2
Colleen Lynch, PhD
Training and Scientific Manager, CooperSurgical Fertility and Genomic Solutions
Topic: **Vitrification/warming of biopsied and re-biopsied blastocysts**
5:35 pm - 6:20 pm IST

Module 3
David Chimes, PhD
Director of Global Genomics Business Development, CooperSurgical
Topic: **Interpretation of PGT reports**
6:40 pm - 7:25 pm IST

REGISTER NOW
6TH SEPTEMBER, 2021
MONDAY | 4.30 PM IST ONWARDS

For Registrations, please contact Ms. Nishrin Karachiwala
Nishrin.Karachiwala@coopersurgical.com or insales@origio.com
Mobile Number: +91 8450953114

For more info write to us at insales@coopersurgical.com
[facebook.com/TrainingOrigio](https://www.facebook.com/TrainingOrigio)


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IFS ACTIVITIES 2021

SIG ACTIVITIES

IFS SIG- Andrology

Date: 19 September, 2021




INDIAN FERTILITY SOCIETY


IFS TAMILNADU AND SIG ANDROLOGY

Registration Link/Viewer Link: https://bit.ly/IFS_HandsOnWorkShop


HANDS ON SEMEN ANALYSIS AND PREPARATION (HYBRID WORKSHOP)




Dr. Sudha Prasad
President IFS



Dr. Neena Malhotra
Secretary General IFS




Dr. Venugopal
SIG Andrology




Dr. K. D. Nayar
President Elect


IFS TAMILNADU CHAPTER



Dr. Rajapriya Ayyappan
Secretary



Dr. Aarthi Paari
Joint Secretary



Dr. Priya Kannan
Treasurer

Free But Registration is must


Program Details

Date : 19.09.2021 SUNDAY

8.30 am - 9.00 am Registration

VENUE **Hotel Green Park**
N.S.K. Salai, Arcot Rd, Vadapalani, Chennai - 600026, TN

Limited seats only Pre-Register
For Registration contact Mr. Sakthivel - 94448 53664 / Mr. Santhosh - 63811 95504
"All covid precautions will be taken"



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IFS SIG- Fertility Preservation

Date: 26 September, 2021



INDIAN FERTILITY SOCIETY

IFS SIG

FERTILITY PRESERVATION: EMERGING TRENDS

Sunday, 26th September, 2021 | 10:15 AM - 12:30 PM



Dr. Sudha Prasad



Dr. Neena Malhotra



Dr. Pankaj Talwar



Dr. Pragyanika Gurung

INVITED FACULTY



Dr. Neera Thakral



Dr. Sunita Chandra



Dr. Basimi Sharma



Dr. Puneet Rana Arora



Dr. PM Gopinath



Dr. Roya Rozati



Dr. Umesh Jindal



Dr. Kausiki Roy



Dr. Gunjan Bhatnagar



Dr. Srinivas M S



Dr. Rupali Bansi



Dr. Jayesh Amin



Dr. Meeta Sharma



Dr. Bindu Chimote

Programme

TIME	TOPIC	SPEAKER
10:15 - 10:30 AM	Welcome Address	Dr. Col (Prof.) Pankaj Talwar
	Video Lamp Lighting	Dr. Sudha Prasad
	Inaugural speech	
Session 1		
Chairpersons: Dr. Neera Thakral, Dr. Sunita Chandra, Dr. Rashmi Sharma		
10:30 - 10:55 AM	Ovarian Stimulation Protocols in Onco Fertility	Dr. Puneet Rana Arora
11:00 - 11:25 AM	Fertility Preservation in Children, Adolescent and Young Adults (CAYA) Cancer Patients	Dr. PM Gopinath
11:30 - 11:55 AM	Endometriosis and Fertility Preservation	Dr. Roya Rozati
Session 2		
12:00 - 12:30 PM	Panel Discussion: Fertility Preservation : Where we Stand 2021? Panelists: Dr. Umesh Jindal, Dr. Kausiki Roy, Dr. Gunjan Bhatnagar, Dr. Srinivas, Dr. Rupali Bansi, Dr. Jayesh Amin, Dr. Meeta Sharma, Dr. Bindu Chimote	Moderator: Dr. Pankaj Talwar Co-Moderator: Dr. Pragyanika Gurung
	Vote of Thanks Dr. Prajnanika Gurung	



Meeting ID:
862 5692 8053
Password: 483634

Join with the link
<https://us02web.zoom.us/j/86256928053?pwd=V0orMXc5Tm9kUGlvTlRtWk1XbmJ3Zz09>

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IFS ACTIVITIES 2021

WEBINAR



INDIAN FERTILITY SOCIETY

Invites you for

WEBINAR

IFS Karnataka Chapter

Date : 4th July 2021 (Sunday)
Time : 09:50 AM to 12:00 PM

ENDOMETRIOSIS AND INFERTILITY: ADVANCES AND CONTROVERSIES

EC Members

Dr. Chaitra Nayak

Mr. Hemant Kumar MA

Dr. Jyoti Paril

Dr. Yogita Rao

Dr. Mangala Devi

Dr. Mir Jaffar

Dr. Rekha Rajendrakumar

Indian Fertility Society Office Bearers


Dr. Sudha Prasad
President IFS


Dr. Neena Malhotra
Secretary General IFS


Dr. Divyashree P.S.
Secretary IFS Karnataka Chapter


Dr. Vyshnavi Rao
Joint Secretary IFS Karnataka Chapter


Dr. Chandrika Kulkarni
Treasurer IFS Karnataka Chapter

Invited Faculty


Dr. Harish Bhandari


Dr. Madhuri Vidyashankar


Dr. Kundavi Shankar


Dr. B. Sireesha Rani


Dr. Shilpa G.B.


Dr. Sandhya Krishnan


Ms. Monali Madne

Program Details

09:50 am - 10:00 am	Welcome address	
10:00 am - 10:20 am	Laparoscopy for endometriosis associated infertility: When and how? Discussion 10 minutes	Dr. Madhuri Vidyashankar
10:30 am - 10:50 am	Endometriosis Fertility Index (EFI): The toolbox of prediction and management Discussion 10 minutes	Dr. Harish Bhandari
11:00 am - 12:00 pm	Panel Discussion: Therapeutic targets to improve ART outcomes in endometriosis Moderators: Dr. Harish Bhandari, Dr. Kundavi Shankar Panelists: Dr. Shilpa G.B., Dr. B. Sireesha Rani, Dr. Sandhya Krishnan, Dr. Madhuri Vidyashankar, Ms. Monali Madne	

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INVITATION TO WEBINAR

"FERTILITY MINISTRATIONS"

Organized by: **INDIAN FERTILITY SOCIETY (IFS) TELANGANA CHAPTER**
On 29th July 2021, Thursday 6:00 pm to 7:20 pm

President, IFS

Dr. Sudha Prasad
MBBS, MD, FICM, FICOG
Director Maternal & Neonatal IOP
& Training Centre, New Delhi

Secretary General, IFS

Dr. Neena Malhotra
MBBS, MD, DNB, MRCCOG
Professor AIGS, New Delhi

Chairperson

Prof. Roy Rozati
Telangana Secretary IFS
MD (Obs. & Gynae)
Shastri Institute of Medical Sciences

Co-Convenor

Dr. Neeti Thewari
MD - Obs. & Gynae, MBBS
Consultant (Obs. & Gynae)
Dr. Banga Ram Hospital, New Delhi

PROGRAMME

6:00 - 6:10 PM - Welcome Address by Dr. Roy Rozati
6:10 - 6:25 PM - ART & Adenomyosis by Dr. Neena Malhotra
6:25 - 6:35 PM - IFS Activity Talk by Dr. Neena Malhotra
6:35 - 7:15 PM - Panel Discussion

PANEL DISCUSSION **MAN OR SPERM - WHOM TO TREAT FIRST ?**

Moderators


Dr. Charulata Chatterjee
Scientific Head &
Consultant Embryologist
Fertyl Fertility Centre, Sec 68


Dr. Sweta Agarwal
Clinical Director & Fertility specialist
Southern gem Hospital
Hyderabad


Dr. Bindu Chimote
IVF Scientist and Consultant
Clinical Embryologist

PANELISTS


Dr. Rahul Reddy


Dr. Paresh Makwana


Dr. Shashant


Dr. Charudutt Joshi


Dr. Gaurav Kant


Dr. Saroj Agarwal


Dr. Prakash

7:15 pm to 7:20 pm

Vote of thanks by:
Dr. Charulata Chatterjee

zoom ID: Password:


IFS UP, RAJASTHAN & HARYANA CHAPTER


presents


Webinar Series-Master Class on - Living with PCOS


Thursday, 12th August 2021 5.00 PM to 7.00 PM


Guest of Honour


Dr. Sudha Prasad
President, IFS



Dr. Neena Malhotra
Secretary, IFS


Dr. Sunita Chandra
Secretary, IFS UP



Dr. Sonu Balhara
Secretary, IFS Haryana


Dr. Anju Mathur
Secretary, IFS Rajasthan


Dr. Surveen Ghumman
Topic:
Does obesity and Hypomenorrhoea in a young Girl always mean PCOS


Dr. Smriti Agarwal
Topic:
Role of non medical therapy in management of adolescent PCOS

Chairpersons



Dr. Usha Shekhawat


Dr. Neela Baheti


Dr. Suman Mittal


Dr. Amita Pandey


Dr. Ritu Jain Expert


Dr. Manjusha Quiz Master


Dr. Sarika Agarwal Master of Ceremony

INDIAN FERTILITY SOCIETY
(Odisha Chapter)

Invites you for a Webinar on

OPTIMISING IUI OUTCOME

DATE : 14th AUGUST 2021, SATURDAY | TIME : 6:00 PM to 8:00 PM


Dr. Sudha Prasad
President


Dr. P. C. Mahapatra
President, IFS Odisha


Dr. Neena Malhotra
Secretary


Dr. Akshaya Kumar Mahapatra
Secretary, IFS Odisha


Dr. Rohani Nayak
Joint Secretary, IFS Odisha


Dr. Surendra Kumar Mohanty
Treasurer, IFS Odisha

PANEL DISCUSSION

OPTIMISING IUI OUTCOME

EXPERT


Dr. P. C. Mahapatra


Dr. Rohani Nayak


Dr. Surendra Kumar Mohanty

PANELISTS


Dr. Lilawati Guna


Dr. Arun Singh


Dr. Harshvardi Agasthi


Dr. Sanghamitra Dash


Dr. Neeta Mahapatra


Mr. P. Subramanian
(Moderator)

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IFS UTTARAKHAND MEET 2021



Dr. Sudha Prasad
MBBS, MD, FRCMCH, FRCOG
President- Indian Fertility Society



Dr. Neena Majhotra
MBBS, MD, DNB, FRCOG
Secretary- Indian Fertility Society

Session 1

Topic: Ovarian Reserve Management

Speaker



DR. SHWETA MITTAL GUPTA
(Senior Consultant Centre of IVF & Human Reproduction, Sir Ganga Ram Hospital, New Delhi)

Chairpersons



DR. JAYA CHATURVEDI
(Professor & HOD, Obs & Gynae Dept., AIIMS Rishikesh)



DR. ARTI LUTHRA
(MS, FRCOG, FRCMCH), President- Dehradun UroGyna Society 2020-21

Session 2

Topic: Optimising IUI

Speaker



DR ANUPAMA BAHADUR,
Professor, Department of Obs & Gynae, AIIMS Rishikesh

Chairpersons



DR ANNU DHIR
Past Secretary & President FOGSI (Dehradun)



DR. MEENU VAISH,
(MD, FRCMCH-KMC LKO), President Uttarakhand Obs & Gyn Society

Session 3

Panel Topic: Difficult Shootouts in Infertility

Panel Moderators



DR. RITU PRASAD
Senior Consultant Gynaecologist
Consultant of Infertility Treatment, Kirti Hospital
Dehradun, Uttarakhand
IFS India, Dehradun



DR. (PROF.) RUCHIRA NAUTIYAL
Professor & HOD Obs & Gyn Dept.,
Uttarakhand Institute of Medical
Sciences, Dehradun



DR. REKHA SRIVASTAVA
MBBS, MS (Gynae), Senior Lecturer,
Senior Lecturer & Research Fellow,
Dehradun



DR. RADHIKA RATURE
MBBS, MS (Obs & Gynae)
Secretary Dehradun Obs & Gynae Society
2021-22

Panelists



DR. SHASHI RALA ARYA
MBBS, MS, FRCOG, FRCMCH, FRCOG
(Fellow, FRCOG)
Consultant & Chief, Centre of Infertility & Fertility
Treatment, Kirti Hospital, Dehradun



DR. ADITI GUPTA,
MBBS, FRCOG, FRCMCH, FRCOG
Consultant & Fertility Specialist,
Kirti Hospital, Dehradun



DR. DIVYA AGARWAL,
MBBS, MS, FRCOG, FRCMCH, FRCOG
(Fellow, FRCOG), Fellow in
Reproductive Medicine, Consultant
Gynaecologist, Kirti Hospital,
Dehradun



DR. LATIKA CHAWLA,
Consultant Physician,
Department of ESR & STD,
Kirti Hospital



Dr. Aakriti Gupta
MBBS, MS (Obs & Gynae)
Junior Lecturer & FRCMCH of
Kirti Hospital, Dehradun, Uttarakhand



JOIN NOW!

Date : 19th August 2021 (Thursday)
Time : 4.30 PM to 6.30 PM





INDIAN
FERTILITY
SOCIETY

A never ending cycle of

CHALK & DUSTER

Learning | Erasing | Re-learning

on

Teachers Day, 5th Sept - Sunday

Time : 10.30am - 1.30pm

Webinar link:

<https://zoom.us/j/93522830008?pwd=OFFpUXJ253dTenVZRI93V0tYVHRsUT09>



BSV
Bringing life to life



Dr. Sudha Prasad
President IFS



Dr. Neena Malhotra
General Secretary IFS



Dr. Sarabjeet Singh
Chapter Secretary
Punjab IFS



Dr. Sukriti Bansal
Jt. Secretary
Punjab IFS



Dr. Jasleen Randhawa
Treasurer
Punjab IFS



INDIAN FERTILITY SOCIETY

WEBINAR

ART IN VIRAL INFECTIONS

4th September, 2021 | 4:00 - 6:00 PM

President, IFS		Secretary General, IFS		Moderators	
 Dr. Sudha Prasad	 Dr. Neena Malhotra	 Dr. Surveen Ghumman	 Dr. Sweta Gupta		
Experts					
 Dr. Kuldeep Jain <small>Past President, IFS</small>	 Dr. Sonia Malik <small>Past President, IFS</small>	 Dr. Sakshi Verma <small>Past President, IFS</small>	 Dr. Umesh Dhilli <small>Past President, IFS</small>	 Dr. K.D. Nayyar <small>President Elect, IFS</small>	 Dr. Bharat Dhorepatil <small>Vice President, IFS</small>
Welcome			Dr. Surveen Ghumman		
E Launch of Book "ART in Viral Infections" by IFS President.			Dr. Sudha Prasad		
Editors: Dr. Sweta Gupta, Dr. Surveen Ghumman					
Panel Discussion: Case Based Scenarios Moderator: Dr. Surveen Ghumman & Dr. Sweta Gupta					
HIV			Experts: Dr. KD Nayyar Dr. Bharti Dhorepatil		
Panelists: Dr. Kavita Verma (UK), Dr. Arpita Ray (UK), Dr. Pikee Saxena, Vikramjeet Singh					
Hepatitis B			Experts: Dr. Sudha Prasad Dr. Neena Malhotra		
Panelists: Dr. Uma Pandey, Dr. Rashmi Sharma, Sandesh Kumar Patel					
Hepatitis C			Experts: Dr. Kuldeep Jain Dr. Sohani Verma		
Panelists: Dr. Nisha Thakre (UK), Dr. Neeti Tiwari, Dr. Sarabpreet Singh					
Other Viral Infections			Experts: Dr. Sonia Malik Dr. M Gouri Devi		
Panelists: Dr. Poonam Nayyar, Dr. Archana Mishra, Dr. Rupali Goyal, Dr. Saumya Prasad					
Vote of Thanks			Dr. Sweta Gupta		

Click Here To Join



Meeting ID: 89383941251
Passcode: 047962

indianfertilitysocietydelhi@gmail.com

IFS SECRETARIAT
 302, 3rd Floor, Kaillash Building
 26, Kasturba Gandhi Marg C.P.
 New Delhi - 110001

 www.indianfertilitysociety.org

 indianfertilitysocietydelhi@gmail.com

 [indianfertilitysociety](https://www.facebook.com/indianfertilitysociety)

Surat O&G Society in association with Indian Fertility Society, Navsari and Bharuch O&G Society

Webinar on **"Male Infertility"**

10th September 2021, Friday | Time- 6.00pm to 9.00pm

CLICK HERE TO LOGIN

IFS






Dr. Sudha Prasad
IFS President

Dr. Neena Mahalinga
IFS Secretary

Dr. Jayesh Amin
Secretary

Dr. Nimesh Shelat
Joint Secretary

GILMART IFS CHAPTER



Dr. Kalkita Desai
Joint Treasurer Gilmart Chapter

Welcome Speech: Dr. Sudha Prasad

🕒 6:00pm to 6:10pm

SESSION 1



Dr. Jagruti Desai
President, Surat O&G Society



Dr. Chintan Thekkar
President, Bharuch O&G Society

CHAIRPERSONS



Dr. Pankaj Talwar

Topic: How will you approach a case presenting with abnormal semen parameters

🕒 6:10pm to 6:40pm



Dr. Jayesh Amin

Topic: Medical management of Oligoasthenozoospermia and Azospermia

🕒 6:40pm to 7:00pm

SPEAKERS

SESSION 2



Dr. Pratul Doshi



Dr. Vipul Kapadia

CHAIRPERSONS



Dr. Kalkita Desai

Topic: Donor male Gamete-when, how, why, and it's medico legal implications

🕒 7:10pm to 7:25pm



Dr. Ashok Agrawal
International Speaker

Topic: Beyond basics in semen analysis in today's era - Sperm function test

🕒 7:25pm to 7:40pm



Dr. Nimesh Shelat

Topic: ICSI for all?

🕒 7:40pm to 8:10pm

SPEAKERS

IFS ACTIVITIES 2021

WEBINAR

IFS UTTARAKHAND CHAPTER
Affiliated to Indian Fertility Society (IFS)

You are Cordially invited for
Webinar

Friday
24th September 2021

3.00 to 5.00 PM

Topic : Role of immunoglobulins in RPL

Topic : Role of testosterone gel in prediction and management of poor responders.

Dr Narendra Malhotra
MBBS, MD(OBS&GYN)
FRCOG, FICS, FMAS, AFIAP, FICOG,
DIRECTOR INTERNATIONAL S.A.F.O.G.,
P.P. FOGS/ISAR/ISPAT/IFUMB

Dr Ritu Prasad
MBBS, MS, FICMCH

Chair person :
Dr Arti luthra
Dr Meenu Vaish

Chair person :
Dr Sangeeta Maheshwari
Dr Akriti Gupta

SECRETARIAT
IFS U.K. CHAPTER
Prasad Hospital, Adarsh Near Railway Station, Rishikesh

IFS Chandigarh Chapter
invites you for a webinar on **BSV**

25th Sep, 2021 | 4pm - 6pm

Webinar link:
<https://zoom.us/j/94910065912?pwd=dUZ1ZlQ3SkJ4WE12czl2RmlvcEEwdz09>

Guest of Honour

Dr. Sudha Prasad
President IFS

Dr. Neena Malhotra
General Secretary IFS

Progesterone primed ovarian stimulation - Is it the way forward?
04:00 - 04:30 pm

Speaker
Dr. Shweta Mittal

Chairpersons
Dr. Shalini Gainder **Dr. Nidhi Sharma** **Dr. Manishi Mittal**

Ovulation Trigger for IVF - Which and Why?
04:30 - 05:00 pm

Speaker
Dr. Surveen Ghuman

Chairpersons
Dr. Umesh N Jindal **Dr. Preeti Jindal** **Dr. Swati Verma**

Panel Discussion - Perplexities while planning a frozen embryo transfer
05:00 - 06:00 pm

Moderator
Dr. Anupam gupta

Experts
Dr. Lavleen sedhi **Dr. Nalini Mahajan** **Dr. Umesh N Jindal**

IFS U.P., RAJASTHAN & HARYANA CHAPTER
Presents

Webinar Series: Master Class on - Living with PCOS

Module 3:
Metformin vs. Inositols in PCOS

30th September
2021, Thursday
5.45 PM - 7.15 PM

Guest of Honour

Dr. Sudha Prasad
President, IFS

Dr. Sonia Mallik

Dr. Neena Malhotra
Secretary, IFS

Dr. Sunita Chandra
Secretary, IFS, U.P.

Dr. Sonu Balhara
Secretary, IFS Haryana

Dr. Anju Mathur
Secretary, IFS Rajasthan

Speakers

Dr. Basab Mukherjee
Topic: Metformin in PCOS - when & Why
6.00 PM - 6.20 PM

Dr. Mukesh Gupta
Topic: Inositols in PCOS - when & Why
6.30 PM - 6.50 PM

Experts

Dr. Anju Rani **Dr. Sweta Gupta** **Dr. Namita Kotia** **Dr. Neeti Tiwari**

Quiz Master **Judge** **Master of Ceremony**

Dr. Manjusha **Dr. Amita Pandey** **Dr. Tripti Bansal**

INAUGURAL CEREMONY OF
IFS
HARYANA 2021 TEAM & FERTILITY CME

Date : 24th June, 2021
Time : 4:30pm - 6:30pm

Guest of Honour
Dr. Sudha Prasad & Dr. K D Nayar

Dr. Sudha Prasad (President)
Dr. Neena Malhotra (Secretary)
Dr. Sonu Balhara (Secretary, Haryana Chapter)
Dr. Priya Varshney (Local Secretary, Haryana Chapter)

Activity	Speaker	Time	
Mater of Ceremony	Dr. Priya Varshney		
Welcome Address	Dr. Neeru Thakral	4:30 PM - 4:40 PM	
Inauguration	Dr. Sonu Balhara	4:40 PM - 4:50 PM	
Chairperson : Dr. Pankaj Talwar, Dr. Ragini Agarwal, Dr. Kiran Arora			
Fertility during Covid times	Dr. Sudha Prasad	4.55 PM - 5.10 PM	
Ovulation Induction - Nuts and Bolts	Dr. Nalini Mahajan	5.10 PM - 5:30 PM	
Panel Discussion - ART Pregnancies Role of ART Specialist in Prevention of ANC Complications			
Moderator : Dr. Neena Malhotra Dr. Aparna Sharma		5.30 PM - 6.15 PM	
Dr. Sonia Malik - (Expert)			
Panelist : Dr. Sunita Chandra Dr. Anju Mathur, Dr. Ila Gupta Dr. Ritu Jain Dr. Vandana Chadha			
Question and Answer			
Vote of Thanks	Dr. Seema Mittal	6.25 PM - 6.30 PM	

Webinar Registration/Viewer link
www.streamteach.in/IFS-Haryana-Chapter

FERRING
FERTILITY CENTRE

IFS ACTIVITIES 2021

MISCELLANEOUS

SANOFI eConnect

20TH JUNE, 2021 | 5:00-6:00 PM

SANOFI In association with

Invites you to an
International Speaker Program

GUT DYSBIOSIS & IMMUNITY- ITS ROLE DURING COVID-19

with
Prof. Quak Seng Hock
MBBS, MMed, MD, FRCPCH, FRCP, FAMS, Professor, Department of Pediatrics, National University of Singapore

PANELISTS

Dr. Sonia Malik
DGO, M.D., FICOG, FIAMS
Director & HOD, Southend Fertility & IVF, Delhi

Dr. Lalit Bharadia
M.D., PDCC
Pediatric Gastroenterology, Santokba Durlabhji Hospital, Jaipur

Dr. Keya Lahiri
MBBS, MD, MCH
Professor, D.Y. Patil University School of Medicine, Navi Mumbai

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FERTILITY KONNECT
For upcoming Gynecologists & Post Graduates on Basics of Infertility & Reproductive Endocrinology

A joint effort of

Topic: Evaluation of Female Partner- when, what & how much?

Speaker- Dr. Sudha Prasad
President, IFS

Dr. Neena Malhotra
Secretary General, IFS

Block 2nd & 4th Wednesday of the Month
Date: 14th & 28th July 2021 Time : 7 to 8 pm

Registration Link:
<https://webinar365.in/SUN-SPECTRA-IFS-Webinar/>

For more information: www.indianfertilitysociety.org
Contact Number: +91 9899308083

Prior Registration is mandatory

An Initiative from the makers of

SustenCap **Letoval** **Dronis 30/20**
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INDIAN FERTILITY SOCIETY
CELEBRATES
WORLD EMBRYOLOGIST DAY

INTERNATIONAL FACULTY

8:00 PM - 8:30 PM | 8:30 PM - 9:00 PM | 9:00 PM - 9:30 PM

Dr Raj Mathur
Chair British Fertility Society (UK)
THE FUTURE OF FERTILITY SERVICES POST PANDEMIC

Dr Denny Sakkas
Director Boston IVF (USA)
PGT- A- "TO DO OR NOT TO DO"

Dr David Mortimer
President & Co-owner Of Oozoo Biomedical (Canada)
WHY NOT ICSI FOR ALL (DOWNSIDES OF USING ICSI WHEN IT'S NOT NECESSARY)

INTERNATIONAL SYMPOSIUM
25 July, 2021 | 8:00 PM - 9:30 PM

IFS SECRETARIAT
302, 3rd Floor, Kailash Building
26, Kasturba Gandhi Marg C.P.
New Delhi - 110001

Dr. Sudha Prasad
President, IFS

Dr. Neena Malhotra
Secretary General, IFS

www.indianfertilitysociety.org | indianfertilitysocietydelhi@gmail.com | [indianfertilitysociety](https://www.facebook.com/indianfertilitysociety)

Meeting ID: 878 0797 7099 | Passcode: 179518

3 hrs to go

FERTILITY KONNECT
For upcoming Gynecologists & Post Graduates on Basics of Infertility & Reproductive Endocrinology

A joint effort of

Topic : Evaluation of Male Partner-When and How?

Dr. Sudha Prasad
President, IFS

Dr. Neena Malhotra
Secretary General, IFS

Speaker- Dr. K. D. Nayer
President elect, IFS
Director - Akanksha IVF
Meta Chaman Devi Hospital, New Delhi

Block 2nd & 4th Wednesday of the Month
Date: 28th July 2021 Time : 7 to 8 pm

Registration & Webinar Link:
<https://webinar365.in/SUN-SPECTRA-IFS-Webinar/>

For more information: www.indianfertilitysociety.org
Contact Number: +91 9899308083

Prior Registration is mandatory

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FERTILITY KONNECT

For upcoming Gynecologists & Post Graduates on Basics of Infertility & Reproductive Endocrinology

A joint effort of



Topic: Beyond Basic investigations of male partners-For whom and how?



Dr. Sudha Prasad
President, IFS



Dr. Neena Malhotra
Secretary General, IFS



Speaker- Dr. P. M. Gopinath
Director & Senior Consultant
SRM Institute for Medical Sciences, Chennai
Founder Secretary, IFS Tamil Nadu chapter

Block 2nd & 4th Wednesday of the Month
Date: 11th August 2021 Time : 7 to 8 pm

Registration Link:
<https://webinar365.in/SUN-SPECTRA-IFS-Webinar/>

For more information: www.indianfertilitysociety.org
Contact Number: +91 9899308083

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FERTILITY KONNECT

For upcoming Gynecologists & Post Graduates on Basics of Infertility & Reproductive Endocrinology

A joint effort of



Topic: Ultrasound in evaluation of Female Infertility



Dr. Sudha Prasad
President, IFS



Dr. Neena Malhotra
Secretary General, IFS



Speaker- Dr. Kuldeep Singh
Ultrasound & Color Doppler Clinic, New Delhi
Master Trainer in Ultrasound, Obs. & Gyn

Date: 26th September 2021 Time : 11 to 12 pm

Registration & Webinar Link
<https://webinar365.in/SUN-SPECTRA-IFS-Webinar/>

For more information: www.indianfertilitysociety.org
Contact Number: +91 9899308083

Prior Registration is mandatory

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Indian Fertility Society

Online Tutorials- Learn Laparoscopy

Who Should Attend

- Gynaecologists
- Infertility specialists

Live Interaction 2 hour Every Friday 5.00-7.00 pm

24 September, 2021	OT setup, instrumentation, sterilization
01 October, 2021	Laparoscopic Anatomy, Port position & entry diagnostic laparoscopy
08 October, 2021	Energy Sources Ectopic Pregnancy
15 October, 2021	Ovarian Surgery - Clinical Implications
22 October, 2021	Endometriosis - Implants, Endometrioma & DIE
29 October, 2021	Myomectomy and Adenomyomectomy & fertility Tissue Retrieval and Morcellation
05 November, 2021	Fertility Sparing Surgeries in Cancer

Course Fees
INR 2000

For Queries, Contact
Dr Damodar Rao +91-900 333 4329
Dr Renu Misra +91-981 114 7217

Registration fees to be paid to "Indian Fertility Society"



Dr. Sudha Prasad
President, IFS



Dr. Neena Malhotra
Secretary General, IFS



Dr. Renu Misra
Convener



Dr. Damodar R Rao
Co-convener

For Online Transfer

- Account Name: Indian fertility Society
- IFSC Code: UTIB0000007
- SWIFT Code: AXISINBBA09
- Branch: Statesman House, Barakhamba Road, Connaught Place, New Delhi-110001
- Account number: 918010102240295
- Bank: Axis Bank

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17th Annual Conference OF Indian Fertility Society



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Abstract Submission
Closes on
30th November, 2021

Conference Registration Details

Category	Till 30 th November 2021
IFS Member	Complimentary
Non IFS Member	INR 3000
PG Student	INR 2000
Foreign Delegates	\$ 50

For More Information Call Mr Vikas Sharma
M: +91-9560493999 | Email: fertivisiondelhi@gmail.com

Workshops: 4 & 5 December, 2021

Conference: 10 - 12 December, 2021

2021

New Delhi | India

Theme: "Challenges and Innovations in ART"

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12 PRE- CONFERENCE WORKSHOPS

1 PGT (Embryo Biopsy and Applied Genetics)
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3 Managing ART Pregnancy INR 1500

4 Mastering the ART of Ovarian Stimulation
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5 Challenges in OPU and ET INR 1500

6 Laparoscopy in Endometriosis INR 1500

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9 Research Methodology in Reproductive
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10 Ultrasound in Infertility and ART INR 1500

11 Setting and Maintenance of ART Lab INR 1500

12 Counselling in Infertility and ART INR 1500

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