INDIAN FERTILITY SOCIETY

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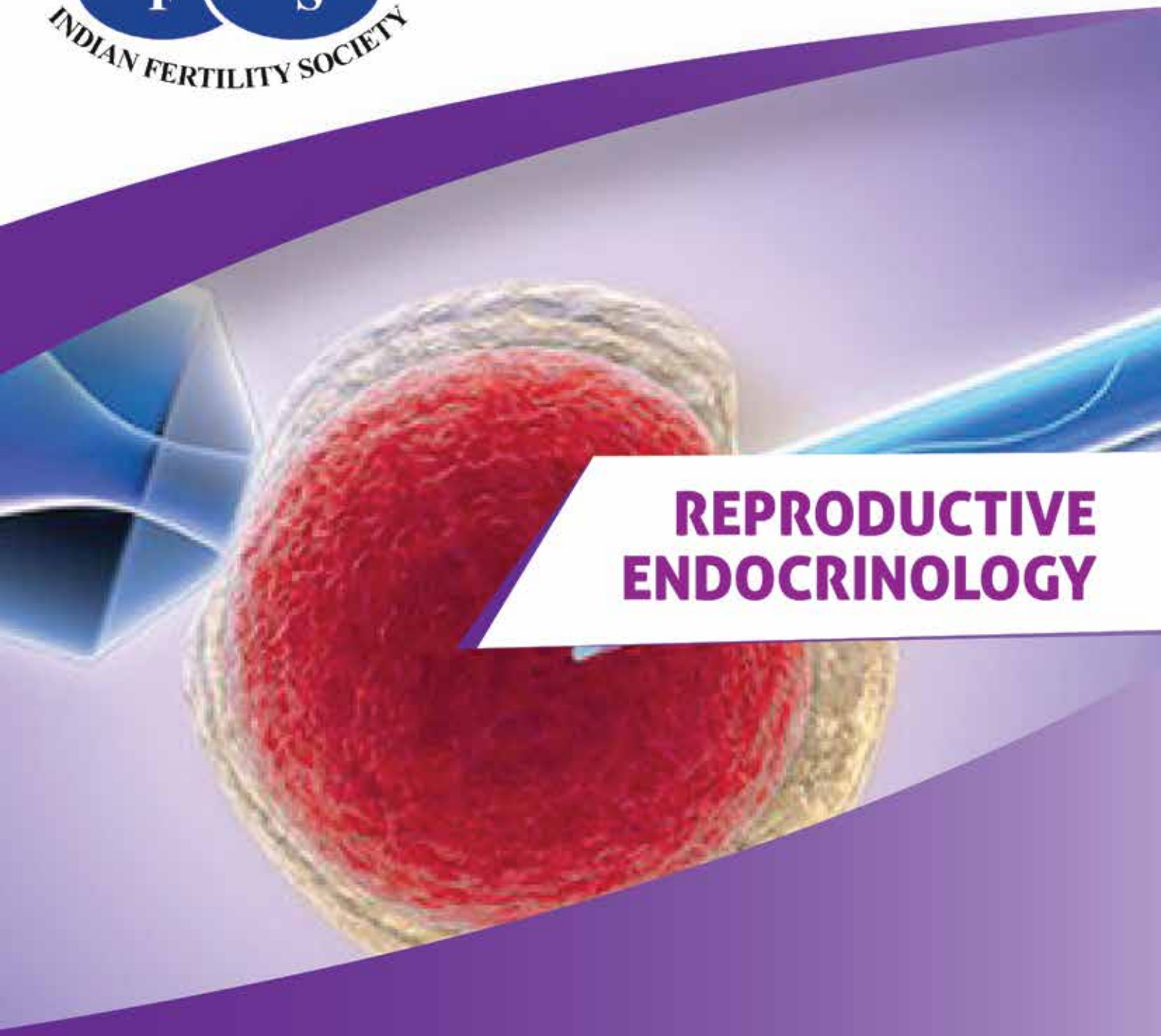


REPRODUCTIVE ENDOCRINOLOGY

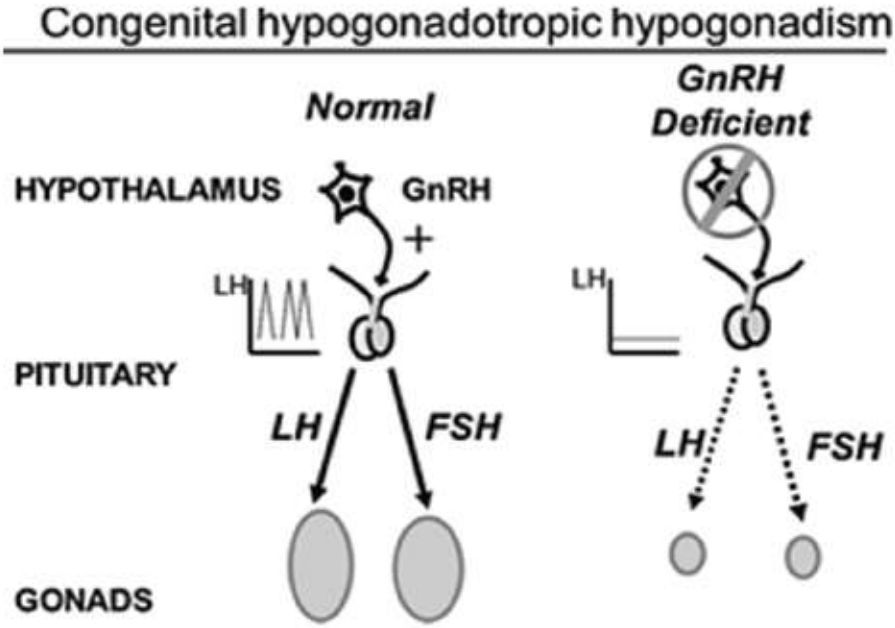
Hypogonadotropic Hypogonadism

Hypogonadotropic Hypogonadism (HH)

Gonadotropin releasing hormone (GnRH) acts as a primary stimulus for gonadotropin release. An optimal frequency of GnRH pulsatile stimulation of the gonadotropes is essential to maintain appropriate plasma levels of luteinising hormone (LH) and follicle-stimulating hormone (FSH).

The circulating gonadotropins decline when the frequency of GnRH pulses is too low, and also when GnRH stimulation is too frequent or continuous.

Hypogonadotropic hypogonadism (HH) is characterised by absent or decreased function of the female ovaries and defined by inappropriately low serum concentrations of LH and FSH, which is an effect of GnRH deficiency.[1]



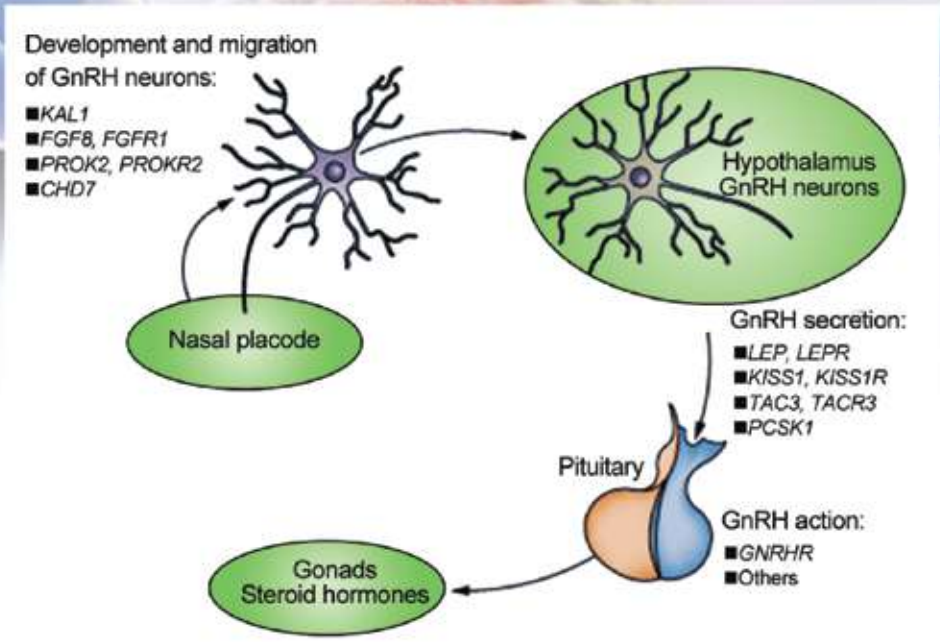
Causes of Hypothalamic Hypogonadism [1,2]

- HH is most frequently acquired and caused by a number of pathological processes, but it can also occur as part of various congenital syndromes.

- **Acquired and syndromic causes include** CNS or pituitary tumours, infiltrative diseases, infection, brain/pituitary radiation, pituitary apoplexy, head trauma, drugs (GnRH agonists/antagonists, glucocorticoids, narcotics, chemotherapy), functional deficiency resulting from chronic systemic illness, eating disorders, hypothyroidism, hyperprolactinemia, diabetes mellitus, and Cushing's disease.

- **Idiopathic hypogonadotropic hypogonadism (IHH)** - Known genetic defects account for about 30% of all IHH cases. In the presence of anosmia or hyposmia, IHH is classified as **Kallmann syndrome (KS)** which accounts for 50-60% of caseswhereas in the presence of a normal sense of smell, it is termed **normosmic idiopathic hypogonadotropic hypogonadism**. KS is characterized by defective migration of olfactory and GnRH neurons.

- Patients with KS may have additional phenotypic abnormalities including craniofacial defects, neurosensory deafness, digital anomalies, unilateral renal agenesis, and neurological defects whereas normosmic IHH is usually not associated with any other malformations.



Diagnosis of Hypothalamic Hypogonadism [2,3]

- Clinical presentation - diagnosis of IHH is made during the second / third decade of life, when the patient presents with delayed pubertal onset, absent or poorly developed secondary sexual characteristics (SSC), primary amenorrhea, eunuchoid proportions or infertility. Adult-onset HH is characterized by secondary ammenorrhea, decreased libido, infertility and osteoporosis.

- Low/normal gonadotropin levels (FSH, LH) and low estradiol level.

- Multiple pituitary hormone deficiencies should be evaluated by basal hormonal levels. Thyroid function tests, IGF-I for the somatotropic axis, morning cortisol and ACTH levels.

- IV GnRH stimulation test has been questionable because of its low cost-effectiveness. The response to GnRH test is highly variable and depends on the severity of the gonadotropin deficiency.

- MRI of the hypothalamo-pituitary region can demonstrate a malformation, an expansive or infiltrative disorder. Absent or abnormal olfactory bulbs or sulci is strongly suggestive of KS.

- Renal ultrasound in KS cases

Management of Hypogonadotropic Hypogonadism

Goals of therapy are induction and maintenance of normal puberty and fertility.

Secondary Sexual Characters

- Initially estrogens in low doses (1mg estradiol orally) should be commenced.
- After approximately six months, when breast development has been optimised, cyclical therapy can be initiated by adding a progestogen, and the dose of estrogen is gradually increased over a 2- to 3-year period.
- Once reached, the full replacement dose of estrogen daily (2 mg estradiol) combined with cyclic 5–10 mg medroxyprogesterone acetate for withdrawal bleeding should then be continued.
- Alternatively, combined contraceptive pills can be used.

Fertility management [4-8]

- IV pulsatile administration of GnRH is similar to the hormonal changes in a normal cycle and useful in ovulation induction
- Gonadotropin treatment is recommended in patients with HH for ovulation induction. In these patients, optimal clinical results are achieved by using FSH in combination with LH, which is accomplished by administration of HMG, recombinant LH or low dose human chorionic gonadotropin.
- Ovaries may or may not be visualized on ultrasound in these patients. Only after the patient is subjected to gonadotropin stimulation, we can estimate her response
- AMH may not be a very good predictor of ovarian reserve in these patients. AMH reflects the growing follicular pool that is responsive to gonadotropins. In these patients there is permanent or sustained interruption of gonadotropin release which may lead to a decreased AMH levels and therefore an underestimation of the true ovarian reserve.
- Some studies have suggested to use step-down and step-up approach where patients receive 2 or 3 ampoules of HMG daily (depending on BMI) for 2 days then only one ampoule is given from day 3 to 7.From day 8 onward, HMG is administered on the based on requirement of the patient and principles of step-up regime. This might reduce the duration and the cost of the ovarian stimulation.
- Some studies have suggested a gradual step-up protocol with a starting dose of 75 IU of HMG daily. These patients may need longer duration of stimulation. This reduces the risk of multiple pregnancy and ovarian hyperstimulation syndrome (OHSS).
- Success of ovulation induction is about 60–80% with a multiple pregnancy rate of 20–50%
- GnRH agonist trigger cannot be used in these patients as there is endogenous deficiency of gonadotropin.

Systemic management

- Young women with HH are at risk for bone loss.
- Estrogen and progesterone replacement therapy
- Calcium and Vitamin D supplementation

Conclusion

Hypogonadotropic hypogonadism is characterized low serum concentrations of LH and FSH, which is an effect of GnRH deficiency.It can be due to acquired and congenital causes. Kallmann syndrome is one of the common causes of idiopathic hypogonadotropic hypogonadism. The diagnosis is based on clinical symptoms, blood tests and MRI. The main goal of therapy is induction and maintenance of normal puberty and fertility. Estrogen and progesterone therapy is needed for development and then maintenance of secondary sexual characters. Ovulation induction in these patients is a challenge to the treating physician. When planned for ovulation induction we should be prepared for longer duration of stimulation.Both the patient and the treating doctor need a lot of patience and motivation to continue the treatment for longer duration. Step up protocols are preferred to reduce the risk of multiple pregnancy and OHSS

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Organised by

15th Annual Congress of Indian Fertility Society

FERTIVISION 2019

6-8 December

The Leela Ambience Hotel, Gurugram
New Delhi | India

Theme: Beyond Tomorrow

First Announcement

www.fertivision2019.com

Invitation

Dear Friends, Welcome to *FERTIVISION 2019*

On behalf of the Indian Fertility Society (IFS), we are extremely pleased to announce and cordially invite you to the much awaited academic event – the **15th National Annual Conference - Fertivision 2019**, to be held on **6th, 7th & 8th December 2019** at Hotel **The Leela Ambience, Gurugram, New Delhi / NCR, India.**

This conference is aimed to provide the most comprehensive academic platform in the field of Infertility and Assisted Reproductive Technology (ART)" befitting the theme of the meeting "Beyond Tomorrow"

Renowned and leading expert faculty from around the world would gather and deliver talks in our cutting edge scientific program which will not only enrich your current knowledge and clear all doubts faced in day-to-day clinical practice, but will also enlighten you about the latest innovations and ongoing research.

A large number of renowned international faculties have already confirmed their participations till date. The pre-congress workshops on 6th December are specially designed for informal in-depth training with hands on sessions on simulators and live, where ever feasible. There will be 4 simultaneous running streams on 7th & 8th December covering a wide variety of topics, enabling you to choose the deliberations specific to your area of interest and clinical practice. We are having a dedicated hall for the esteemed embryologist friends.

The best oral and poster presenters under various categories and the quiz winners will be honored with special awards and prizes. Do join us in large numbers and update your knowledge with most updated current standards in clinical practice, as well as get inspired to innovate further to overcome remaining enigmatic issues!

The three days of scientific program will encompass didactic lectures, keynote presentations, panel discussions and orations. There will be 9 Pre-conference workshops based on Ovulation Induction, Ultrasound, Andrology, Embryology, Hands on Embryo Transfer, Ovum Pickup and PGS and more. These workshops will be in addition to the special state of the art workshops by the faculty from IFFS and ESHRE. We expect delegates across India, Sri lanka, Bangladesh, Nepal, Middle - East Countries and African Nations and the arrangements are being made to accommodate more than 2500 delegates.

The exhibition area will be one of the highlights of the conference. Exhibiting provides tremendous benefits to both participating industry and the society. Tea, coffee and lunch will be served confluent with the trade area to allow optimal interaction between the trade companies and delegates during beverage and lunch breaks.

We invite you to participate in the Fertivision 2019 and exchange your expertise with more than 2500 specialists in the field of Assisted Reproduction.

We look forward to your active participation and suggestions for successful conduct of the conference.

With Our Best Regards

Dr. M Gouri Devi
Organizing Chairperson
FERTIVISION 2019

Dr. Pankaj Talwar
Organizing Secretary
FERTIVISION 2019

and All Executive Committee of Current IFS team

Scientific Highlights

1. Fertivision 2019 Would be One of the Most Comprehensive Coverage on "Best Practices, Innovations and Progress in the Field of Infertility and ART" Being Conducted in India.
2. We Promise You Cutting Edge Academic Deliberations Delivered by Leading Renowned Expert Faculty from Around the world befitting the Theme of the Meeting "Beyond tomorrow"
3. In the Conference There Would Be 4 Simultaneous Halls Running with Legendary Faculty in Lead Interacting With You, Covering a Wide Variety of Topics, and Enabling You to Tailor the Program Especially to Your Area of Interest and Clinical Practice. We are Having a Dedicated Hall for the Esteemed Embryologist Friends.
4. Along With the Main Conference We are Having 9 Pre -Congress Workshops on 6th Dec 2019 Pertaining to the Burning Issue in ART.
5. We Welcome You and Offer You This Opportunity to Showcase Your Research Work on a Prestigious National Platform and Enhance Your CV.
6. Scientific Quiz for sharp talented young minds with primary rounds conducted by various IFS Chapters across the country and abroad
7. Several Prizes and Awards for Best Paper, Poster and Quiz winners
8. Enjoy the Evenings With Exciting Social and Cultural Program
9. Sightseeing Tours in and Around Delhi Organized Professionally by Leading Event Management Teams.
10. A Great Opportunity for All of Us to Amalgamate the Most Updated Current Standards in Our Clinical Practice and Look Beyond Tomorrow

Limited Seats

Choose from 10 Pre Conference Workshops | 6 December

1)	*IFFS Workshop on Do's and Don'ts in Ovarian Stimulation*
2)	*Reproductive Surgery*
3)	*Ultrasonography Imaging In Infertility*
4)	*Andrology & Semenology*
5)	*Ovum Pickup and Embryo Transfer (With Simulators)*
6)	*Cryobiology*
7)	*Total Quality Management*
	Pre Lunch Workshop (0900 - 1300 Hrs)
8 A)	*Holistic Medicine and Patient Counselling*
	Post Lunch Workshop (1400 - 1700 Hrs)
8 B)	*Publish or Perish*
9)	*PGT and Genomics*

Early Bird Reg. Ends 1st September

Registration Details

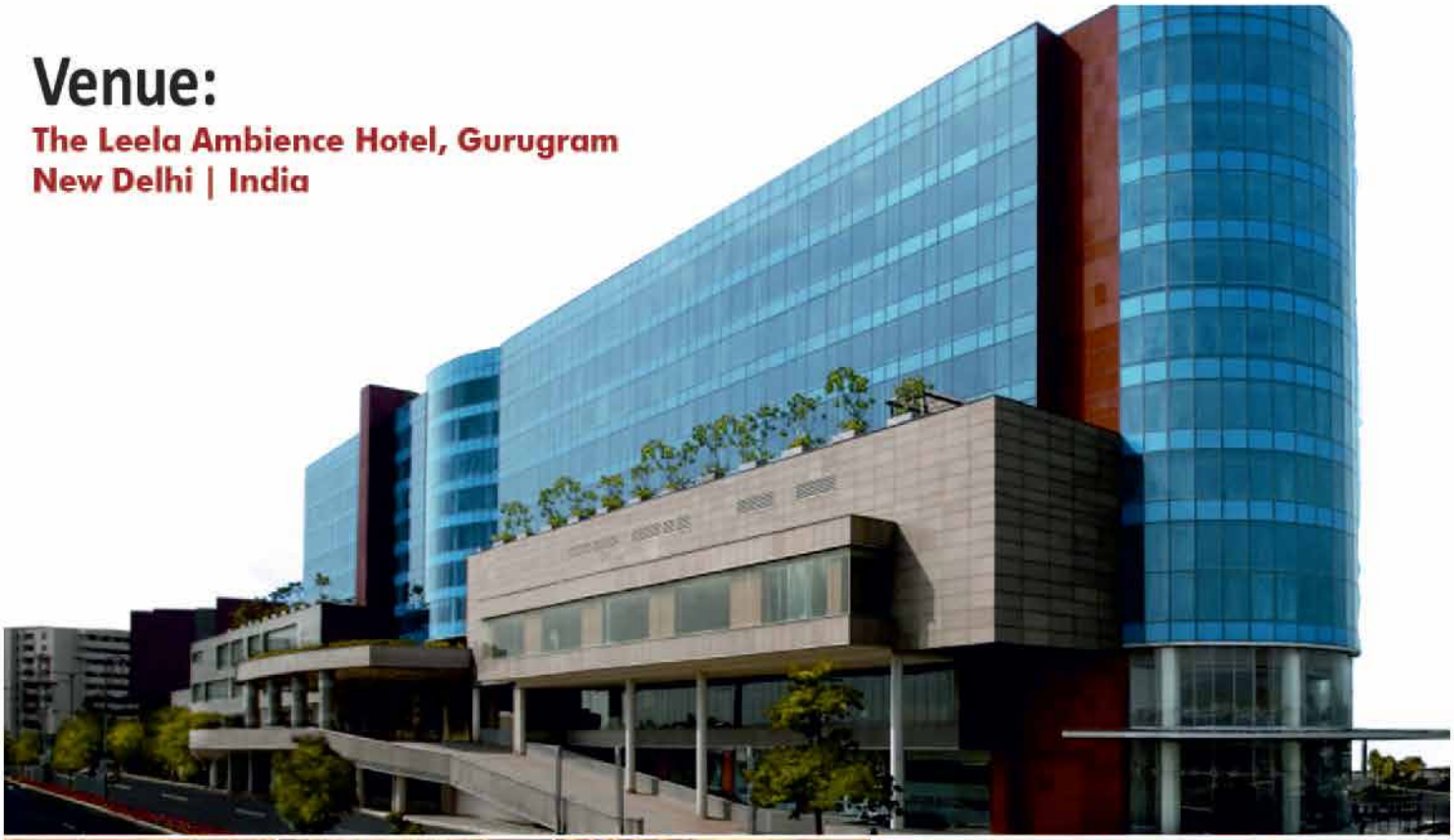
Category	Early Bird Fees Till 1st September 2019		Regular Fees Till 15th October 2019		Onspot	
IFS Member	INR 10500		INR 12500		INR 14500	
Non IFS Member	INR 12500		INR 14500		INR 16500	
Conference Registration plus Life Time IFS Membership	Embryologist	INR 14500	Embryologist	INR 16500	Embryologist	INR 18500
	Gynaecologist	INR 15500	Gynaecologist	INR 17500	Gynaecologist	INR 19500
PG Students (No Dinner)	INR 6000		INR 7000		INR 8000	
Accompanying Person	INR 10500		INR 11500		INR 12500	
Foreign Delegates	$ 350		$ 400		$ 500	

Inclusive of 18% GST

Register at www.fertivision2019.com

Venue:

The Leela Ambience Hotel, Gurugram
New Delhi | India



The Leela Ambience Hotel & Residences is located on the fringe of the Gurgaon Central Business District, fifteen minutes from Delhi's International Airport and thirty minutes from Central Delhi.

In addition to 322 contemporary and world class five star deluxe rooms and suites, The Leela Ambience Gurgaon also features 90 residencies (with one, two and three bedroom) fully serviced luxury Residences.

Multi Award winning restaurants include; Multi-cuisine all day dining– Spectra, Italian – Zanotta, cuicina Italiana, North Indian – Diya and whisky bar- Rubicon. The "Royal Club" is located on the 6th floor of the Hotel. The Royal Club features are 24 hour butler service, with evening cocktails and a Boardroom.

The 27,000 square feet, beautifully finished convention facilities, meeting and boardrooms were recently awarded the prestigious 5-Star deluxe "Best Luxury Hotel and Conference Centre – India".

This venue has been chosen with a lot of care and thought keeping in mind the comfort and also enjoyment of the delegates when visiting Delhi.

Conference Secretariat

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15th Annual Congress of Indian Fertility Society

FERTIVISION 2019

6-8 December The Leela Ambience Hotel Gurugram, New Delhi, NCR | India

Organised by IFS Indian Fertility Society

Registration Form

Title Prof/ Dr/ Mr/ Ms _____ Gender : Male ☐ Female ☐

First Name _____ Last Name _____

Institution _____ IFS Member No. _____

Correspondence Address _____

_____

City _____ Pin Code _____ State _____

Mobile No. _____ Email _____

(All the above fields are mandatory)

Limited Seats

Choose from 9 Pre Conference Workshops | 6 December

Choose Any 1 Workshop

1)	☐ *IFFS Workshop on Do's and Don'ts in Ovarian Stimulation*	7)	☐ *Total Quality Management*
2)	☐ *Reproductive Surgery*		*Pre Lunch Workshop (0900 - 1300 Hrs)*
3)	☐ *Ultrasonography Imaging In Infertility*	8 A)	☐ *Holistic Medicine and Patient Counselling*
4)	☐ *Andrology & Semenology*		*Post Lunch Workshop (1400 - 1700 Hrs)*
5)	☐ *Ovum Pickup and Embryo Transfer (With Simulators)*	8 B)	☐ *Publish or Perish*
6)	☐ *Cryobiology*	9)	☐ *PGT and Genomics*

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Inclusive of 18% GST

Please tick the appropriate checkbox

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Accompanying Person	INR 10500	☐	INR 11500	☐	INR 12500	☐
Foreign Delegates	$ 350	☐	$ 400	☐	$ 500	☐

Inclusive of 18% GST

Conference Registration Fees Includes

- 18 Hrs of World Class Academic Program with Access to Best & Brightest International & National Faculty
- 3 Lunches and 6 Tea / Coffee Served During the Conference on 6, 7 & 8 December
- Banquet Dinner on 7 December
- Conference Kit (Including Bag, Badge, Notepad, Certificate & Pen)
- 1 Pre Conference Workshop
- Accompanying Person is Entitled for Food Coupons Only

Mode of Payment

1. **Bank Draft/Cheque - To be made in favor of "INDIAN FERTILITY SOCIETY"**
2. **Bank Transfer Details**
   IFS Account Name : Indian Fertility Society
   Account Number: 50562010067180
   IFSC Code : ORBC0100179
   Bank Name: Oriental Bank of Commerce
   Branch: Connaught place, New Delhi- 110001

Cancellation Policy

- Cancellation till 31st October, 2019 – 50% Refund.
- Cancellation from 1st November, 2019 – No Refund.
- All refunds will be made after the congress.

Cheque / Draft No. _____ **Total Amount** _____

Note: Kindly email us bank deposit slip / UTR number once you made the payment for our record. Payment confirmation will take 7-10 working days post deposit of cheque, DD or RTGS

3. To Register online log on to www.fertivision2019.com

Congress Manager's

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Please send Registration Form along with cheque / draft at the following address

www.fertivision2019.com