CELEBRATING 1418 BABIES DELIVERED BY ART

It was indeed a proud moment for the directors and staff of GG Hospital at a recently conducted press conference on 11/04/2007 at The Park Hotel, Chennai, to announce our record feat of delivering over 1,000 ART babies by an indigenous dedicated team.

The Hospital which celebrated its silver jubilee this year has been a pioneer in Assisted Reproductive Technology (ART) with a well equipped IVF laboratory in service for the past 16 years. A wide range of procedures are offered, details of which are posted on our website.

The afternoon commenced with a welcome address by Dr. Priya Selvaraj followed by an inspiring presentation by Dr.Kamala Selvaraj of her “struggle to success” story.

The gathering comprised of eminent press and media personnel, South India's first test tube baby Ms. Kamala Ratnam and the 1000th babies (twins) delivered by ART.

The event ended successfully with an interactive session between the media and the Doctors and a lavish lunch.

CME PROGRAMME

GG Hospital in collaboration with Abbott India Pvt Ltd conducted a CME programme on interesting topics in ART at Hotel GRT, Chennai on 17th March 2007. The Chairperson for the evening was senior obstetrician and Gynaecologist Dr. Vidya Naik. Dr. Priya Selvaraj welcomed the gathering and the meeting took off with the following interesting topics: - Antagonist Vs Agonist in ARTLiterature Vs Experience, Prognosis for fertility in Adenomyosis and Current management of Ectopic pregnancy. The invited speakers consisted of eminent infertologists such as Dr. Mirudhubashini Govindarajan (Coimbatore), Dr. Geetha Haripriya (Chennai) and Dr. Rekha Kurien (Chennai). Last, but not the least, Dr. Kamala Selvaraj shared her own experience on interesting cases of Ectopic pregnancy. This was then followed by informative audience interaction with the Speakers. The vote of thanks was delivered by Ms. Vijaya Chamundeeswari (Fitness consultant) followed by a sumptuous dinner.

Who Training Programme

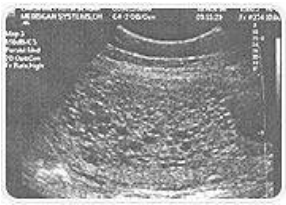
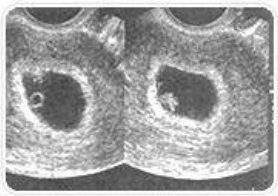
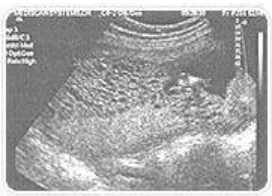
GG Hospital successfully completed its training programme for 7 Korean doctors under the sponsorship of the World Health Organization (WHO) between January and March 2007. During their training period, the doctors were on rotation through various departments like Out Patient (OPD), Ultrasonogram, General OT and the ART Lab. They were provided with informative lectures on various topics of their choice like Basic approach to infertility, STI / RTI and Laboratory procedures in ART. They enjoyed themselves immensely by participating in our CME programme and also perfomed on our Hospital annual day. The doctors were also given an elaborate IUI and IVF manual, lecture notes and a course completion certificate.

INTERESTING CASES AND THEIR MANAGEMENT

CASE - 1

Mrs. LPS, aged 31 years, married for 4 ½ years came to us on 11/7/2005 for primary infertility. She was a known case of poly cystic ovarian syndrome with menstrual cycles only on induction. Her ultrasound and diagnostic hysterolaparoscopy revealed a normal uterus with enlarged sclero cystic ovaries and bilateral patent tubes. The husband's semen analysis was also normal.

The patient conceived in the first cycle of clomiphene citrate therapy with IUI. Her b-HCG level on the 32nd day was 3026.4mIU/ml (4/9/2006). The first transvaginal sonographic examination on the 40th day revealed triplet pregnancy. This underwent a natural reduction to twins at 7-8 weeks of gestation. During her routine antenatal scan with us at 11-12 weeks of gestation, there was a suspicion of a coexistent molar pregnancy with bilateral enlarged theca lutein cysts and she was referred to Mediscan (centre for sonology and fetal therapy) for a second opinion. They confirmed the presence of twin viable fetuses with molar pregnancy (Trichorionic Triamniotic triplets) in the third sac.


Due to a unfortunate previous experience with termination of ICSI twin pregnancy owing to complications, published in our newsletter earlier, we were anxious not to lose the otherwise normal appearing and viable twin pregnancy.

Her initial blood investigations were all normal and she did not have any history of hyperemesis or bleeding per vaginum as was with our previous case. At a follow up scan at 16 weeks it was noted that a separate cleavage plane existed between the placenta of fetus A and the mole and so it was confirmed to be a molar degeneration of the Fetus C. Thus we opted to continue the pregnancy until any expected complications arose. She then underwent stringent monitoring and regular antenatal check up.

At 30 weeks of gestation both fetuses were found to have asymmetric growth restriction with normal doppler study and a gradual increase in the volume of molar pregnancy as well. She was already on prophylactic therapy of antioxidants and amino acid infusion to combat it. She underwent an elective caesarean section on 19/03/2007 at 34 weeks of pregnancy owing to increasing volume of mole and fetal doppler changes, and delivered a boy and girl weighing 1.36kg and 1.24kg respectively. Intraoperatively there was no complication with regards to bleeding or evacuation of the molar products. Both mother and babies did well on discharge. The patient was followed up after delivery and her b-HCG values consistently reduced and was less than 1.0mIU/ml after 3 months of child birth.

In this case we did not have to perform any genetic testing of the coexisting viable fetuses as the mole was a separate entity by itself (trichorionic triamniotic). Literature review reports several cases of multiple gestation with molar pregnancies and varied outcomes. The dilemma with regards to termination may be overcome by careful analysis of the patient's physical condition, presence of known complications such as hyperemesis, thyrotoxicosis, hemorrhage and development of pregnancy induced hypertension. Serial ultrasound monitoring itself not only clinches diagnosis but also gives a volume of information on disease progression.

CASE - ||

The second case is one which is heart rending for all of us, as the couple were victims of the Tsunami and had lost 3 healthy children (2 girls and 1 boy) aged 9years, 7years and 6years respectively. Since she had been sterilized, tubal recanalization was attempted at an other Hospital in March 2005 and failed. Subsequently the couple were referred to our centre for ART on 18/5/2005. Her menstrual cycles were regular and her ultrasound examination revealed normal uterus and ovaries. A diagnostic hysteroscopy was done which showed a patulous os with normal uterine cavity and tubal ostia. The husband's semen analysis was also normal.

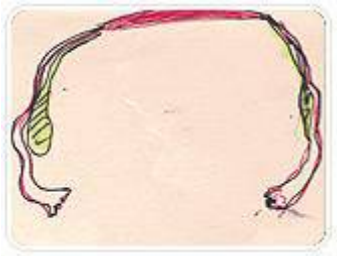
She then underwent an ART cycle with conventional long protocol down regulation by GnRh analogue followed by controlled ovarian hyperstimulation. Her ovum pickup yielded 9 oocytes of which 7 fertilized. Of these, 3 four cells grade I-II embryos were transferred while four PN embryos were frozen.

Of course since the whole procedure went without any problems, it did not come as a surprise that she conceived in the same cycle. It is just that the whole team was elated that a second lease of life had been given to this couple, who until this moment had led a meaningless one!

She underwent prophylactic cervical cerclage at 16 weeks of pregnancy since she had patulous os. The rest of the pregnancy went by uneventfully. She delivered a healthy female baby on 29/06/2006 at 4.39pm weighing 2.47 Kg. We have since then treated 3 other tsunami victims of whom one has conceived and is currently 10 weeks pregnant. The others are still undergoing treatment. As a policy the ART treatment given to tsunami victims is entirely free of cost. We hope to enlighten the lives of more of these victims as and when they seek our help.

CASE - |||

Mrs. PB, aged 34 years first came to us on 9/2/1989 with complaints of primary amenorrhea. Her height, weight and vitals were normal. Her secondary sexual characteristics were tanner's stage II. Her ultrasound examination report came as Mullerian agenesis with non visualization of a midline uterus or ovaries and with normal appearing kidneys. Her Karyotyping revealed a mosaic turner (46XX/45XO) with the normal cell line in higher percentage than the abnormal cell line. Her hormonal profile showed a hypogonadotrophic state. She had her diagnostic laparoscopy later that month during which it was observed that the uterus was only like a thick fleshy fold in the midline with hypoplastic tubes and streak ovaries. The cervix was felt as a small nodule in the vault. She was then started on cyclical hormone replacement therapy with estradiol valerate and norgestrel (progyluton) for 6 cycles and progressive uterine growth was observed up to 6.2x2.8cms.



She had a second look laparoscopy one year prior to her marriage which revealed a normal sized uterus with patent fallopian tubes and hypoplastic ovaries. She subsequently got married in 1993 at the age of 20 years and came to us for infertility treatment in 1996.

All the while she was on cyclical hormone therapy to regularize her cycles and maintain optimum size of uterus. She underwent three cycles of donor oocyte programme between1996 and 1999 with no success. She then discontinued her treatment with us. A very interesting, but unfortunate incident happened in 2004. She had a freak ovulation and conceived, but underwent an emergency laparotomy with right salpingectomy for a ruptured ectopic in February 2004 at another hospital. Following this, the patient resumed treatment with us from November 2005. She underwent her fourth cycle of donor oocyte programme on 16/2/2006 with transfer of three 4 cells, grade I-II embryos during which she conceived with twins. Owing to her previous history of hypoplastic uterus with short cervix she underwent prophylactic cervical cerclage at 15-16 weeks of pregnancy. The rest of her antenatal period was uneventful and hospitalized till delivery. An elective cesarean section was performed on 4/10/2006 and twin girls were delivered weighing 2.07 and 1.97kgs respectively. Both mother and baby did well on discharge. This is one of those interesting cases of ovarian dysgenesis with a miraculous response to cyclical hormone replacement therapy. The uterus had been grown from a thick fleshy midline structure to a normal sized one measuring 6.0x3.0cms. Freak ovulation does occur in extremely rare circumstances. While another patient of ours with premature ovarian failure (POF) delivered her own second child owing to a freak ovulation while on HRT (She had already delivered her first child through donor oocyte programme). It was just unfortunate that that our present patient had the luck of freak ovulation but it ended in an ectopic pregnancy.

STATISTICS -NOV 2006 - MAY 2007

procedures	no. of cases	pregnancies	preg.rate (%)
IUI (OWN /DONOR)	1048	94	9
GENERAL			
IVF ET	13	6	46
ICSI ET	162	53	33
IVF & ICSI et	19	5	26
DUAL			
GIFT + ET	29	16	55
GIFT + ICSI et	87	39	44
GIFT + Ivf + icsi et	1	1	100
FROZEN EMBRYOS			
FROZEN ET	16	2	12
FROZEN ICSI et	43	10	23

SEQUENTIAL TRANSFER(OWN/DONOR) DAY 2 & BT	**5**	**2**	**40**
DONOR OOCYTE PROGRAMME (DOP)			
IVF ET	**38**	**18**	**47**
ICSI ET	**41**	**14**	**34**
IVF & ICSI et	**2**	**1**	**50**
DUAL			
GIFT + ET	**32**	**19**	**59**
GIFT + ICSI et	**21**	**9**	**43**
GIFT + frozen et	**2**	**1**	**50**
DONOR EMBRYO PROGRAMME			
IVF ET	**15**	**7**	**47**
Frozen (icsi) det	**10**	**3**	**30**
IVF & ICSI	**2**	**1**	**50**
DUAL			
GIFT+ET	**13**	**8**	**62**
GIFT+deT	**1**	**1**	**100**
OWN + DOP			
ICSI	**4**	**2**	**50**
GIFT/PROST & ET (DUAL)	**5**	**4**	**80**

Total Number of pregnancies achieved : 2307
Total Number of patients delivered by ART : 1107
Total Number of Babies delivered by ART : 1418
Total Number of Ongoing Pregnancies : 180
Total Number of Fetal Wastages : 1020

NICU UPDATE

GG Hospital has a state-of-the-art, 8-bedded, level III Neonatal Intensive Care Unit. This year from January to May, there were 216 deliveries. Nine babies were born before 30 weeks of gestation and 71 babies were born between 30 and 34 weeks of gestation.

All preterm infants had received antenatal betamethasone therapy. Only 8 babies required ventilatory support for Respiratoty Distress Syndrome (RDS). We begin ventilatory support or continuous positive airway pressure (CPAP) early in infants with RDS. This coupled with prophylactic surfactant replacement therapy definitely improves outcomes. A second (repeat) dose of surfactant is given if the infant needs more than 40% oxygen at 12 hours of age. Prophylactic surfactant therapy in synergy with antenatal steroids promotes early lung recruitment and avoidance of hyperventilation by reducing need for ventilatory support. This reduces incidence of chronic lung disease. We had no deaths from RDS.

Extremely low birth weight infants in GG Hospital are fed expressed breastmilk by continuous nasogastric infusion. In addition to stringent asepsis and use of probiotics, this method of feeding promotes feed tolerance even in the tiniest of babies. We had no cases of necrotizing enterocolitis this year. When babies are on full feeds, we routinely use human milk fortifiers in all infants with birth weight less than1 kg.

Routine tertiary level anomaly scan and triple screen are done on the mothers. We had only 5 infants with major congenital anomalies. One infant presented with bilious emesis, and was operated successfully for malrotation.

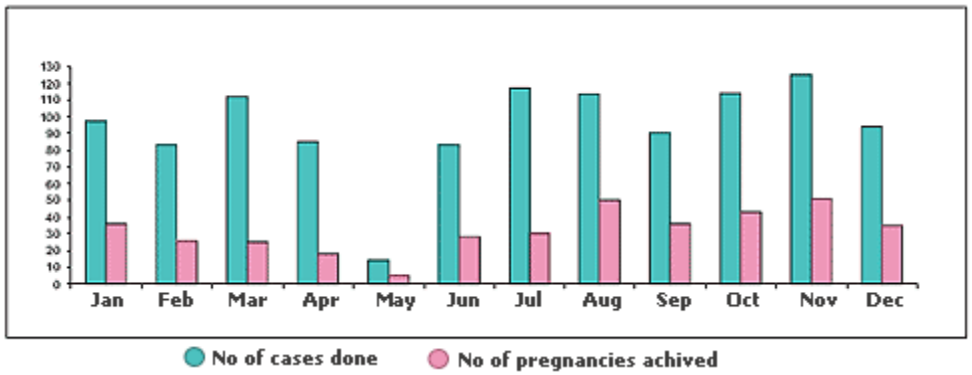
The other anomalies were posterior urethral valve and tracheo-esophageal fistula, which presented with oligohydramnios and polyhydramnios respectively.

Two infants had cyanosis without respiratory distress. Of these, one baby had hypoplastic right heart syhdrome detected antenatally. This resulted in early initiation of prostaglandin therapy and safe transfer to a cardiac centre for surgery. The other infant had hypoplastic left heart syndrome, a condition more difficult to diagnose antenatally, as right ventricle is the dominant ventricle in utero.

Overall, this year we have been very busy and worked very hard, but the satisfaction in seeing so many high-risk babies go home healthy with happy parents has been a great reward.

MONTHLY VARIATIONS- 2006

Monthly Variations- 2006



MONTHLY PREGNANCY RATES (NOV 2006 - MAY 2007)

Months	art	iui	Others	total
November	53	20	14	87
December	35	13	22	70
January	27	16	16	59
February	33	9	12	54
march	19	11	17	47
april	32	11	15	58
may	23	14	26	63
Total	222	94	122	438

OOCYTE FREEZING-WHERE ARE WE?

Cryopreservation of human sperms and embryos have been in existence for longalmost since 18th century! And is yet another milestone in ART. Now it is the turn of oocytes to be successfully frozen and retrieved and also retain their genetic integrity to be able to undergo fertilization and further division and culminate in a healthy offspring. Why do this? The primary advantages of this technique would be preservation of fertility in women with reproductive disorders such as premature ovarian failure,endometriosis and pelvic inflammatory disease or for that matter those who wish to resume childbearing functions following intensive chemo/radiotherapy for neoplasms.

It is also an advantage for single working women without partners or those who wish to delay childbearing owing to career options. There would be no need for a synchronized cycle in a donor programme and last but not the least it would circumvent all those legal, ethical, moral and religious issues shrouding embryo freezing. In comparison to embryo or sperm freezing, oocytes have been eluding very good results owing to certain gamete related variables that influence their overall survival rates. What are these? For instance there could be possible damages to the following structures like meiotic spindle, cytoskeleton, cortical granules and the zona.

The stage at which freezing is done also influences results however conflicting data have been published with few studies supporting prophase I and others in favor of metaphase II oocytes. The advantages for the former being absence of a spindle formation, lack of a defined zona pellucida and also being metabolically quiescent-hence theoretically not prone for " cold shock".

The only problem is the need for in vitro maturation of these thawed oocytes prior to achieving fertilization. Any differences in protocols of freezing and thawing such as seeding temperatures and use of sucrose as a cryoprotectant did not seem to influence the survival and fertilization rates. The entry of vitrification as a novel method of rapid freezing has also been endorsed with favorable results. However a learning curve for all these techniques is still at large with only few centers around the world producing results on a consistent basis. Closer home, we are comparing the outcomes between slow freezing and vitrification and yet to offer it on a regular basis to our clients for oocyte freezing.

While we perfect our techniques, our Kudos to the wonderful "ART" of sperm and embryo freezing without which we would be "frozen" in progress.

References

1. Text book of Assisted Reproductive Technology (ART). Laboratory and clinical perspectives. "Slow freezing of oocytes". David K Gardner, Ariel Weissman, Colin M Howles and Zeev Shoham. 2nd Edition. Pg No - 245-255.

2. Text book - Life in the Frozen State Barry Fuller, Nick Lane, Erica E. Benson.

WONDERS OF ABC

Avoid negative sources, people, places, things and habits.

Believe in yourself.

Consider things from every angle.

Don't give up and don't give in.

Enjoy life today, yesterday is gone, tomorrow may never come.

Family and friends are hidden treasures; enjoy their riches.

Give more than you planned to.

Hang on to your dreams.

Ignore those who try to discourage you.

Just do it.

Keep trying no matter how hard it seems, it will get easier.

Love yourself first and most.

Make it happen.

Never lie, cheat or steal, always strike a fair deal.

Open your eyes and see things as they really are.

Practice makes perfect.

Quitters never win and winners never quit.

Read, study and learn about everything important in your life.

Stop procrastinating.

Take control of your own destiny.

Understand yourself in order to better understand others.

Visualize it.

Want it more than anything.

Xcelerate' your efforts.

You are unique of all God's creations, nothing can replace YOU.

Zero in on your target and go for it!