PRE - IMPLANTATION GENETIC SCREENING

As newer technologies emerge in the field of assisted reproduction, it may soon boil down to a statement made by a single cell called the blastomere. The technique of embryo biopsy is not new and has been a tool for more than a decade to diagnose inheritable disorders (PGD) or chromosomal screening (PGS) by FISH techniques. But, the need to use this tool as a screening procedure for embryo viability in terms of chromosomal numbers and integrity is being promoted intensely. Recently made popular in the Indian ART scenario, by the IVI group of clinics (Spain) and spear headed by IVIOMICS (Delhi), this emerging tool, using the new array CGH technology, seems to be gaining momentum as one of the most logical steps towards transfer of chromosomally viable embryos, thereby reducing the number of embryos for transfer, curtailing multiple pregnancies, and also enhancing pregnancy rates.

It's almost given to understanding that if 100 grade-1 embryos were to be examined, almost 60 would be chromosomally incompetent which explains why success rates in ART stagnate or vary between a 50-65%, despite several private clinics claiming a startling 80-100% success rates or money back guaranteed schemes !

There are several factors controlling the journey of the gametes, right through extraction from its natural environment, through a laboratory process and thereafter into the womb. One of these is epigenetics, whereby there are changes in gene expressions which may not be related or do not share a cause-effect relationship with inherited genetic predispositions.

Embryo biopsy is done at different stages of embryo division, each giving its own piece of vital information on gametes. For example, polar body biopsy entails study of either first or second polar body or if effectively performed between 8-14 hours post fertilization, a study of both can be done (1). Now, studying only the first polar body may give information on the maternal oocyte but not the paternal contribution. Hence it is more suited for diagnosing monogenic disorders. In many others like recessive conditions a polar body biopsy may effectively rule out affection but may not rule out a carrier state thereby allowing for a bias in embryo selection. Also it has limited use in detecting post-meiotic aneuploidies by a conventional FISH or CGH array (2,3).

The cleavage stage biopsy is more informative but also more detrimental to embryo viability post biopsy. It is performed on day 3 embryos typically when there are 8-10 cells and not yet compacted. The concept behind timing a biopsy at a cleavage stage is that performing the procedure too early may lead to missing critical errors. Also the natural mechanism to self correct embryos occurs in the interim period and hence leads to an incorrect assigning of aneuploidy to actually viable embryos. Studies have shown that aneuploidies may not be limited to non dysjunction in meiosis 1 as speculated but in fact could occur in meiosis 2 and paternal meiosis.

To analyze the effect of epigenetics as an independent contributor to aberrations would be almost impossible and hence the use of PGS is almost justified in terms of screening. The current need is to enhance clinical pregnancy rates and thereby carry home baby rates by scrutinizing multiple factors that affect life in vitro namely the quality of gametes, culture medium and culture conditions.

Several techniques have been analyzed, updated or discarded to reach the stipulated current success rates for fresh cycles as opposed to a meager 10-15% when IVF was first established in practice . The variables that is amenable to research, modification, or upgradation have always been mainly the media and laboratory techniques.

The gametes are otherwise dependent on existing in vivo conditions which are intricately related to either genetic predisposing factors or acquired pathological conditions like anovulation with hormonal imbalance, endometriosis or severe pelvic inflammatory disease.

Age related aneuploidy is an independent risk and contributes to higher post transfer failure rates. Trending towards more number of women trying to conceive at an advanced age, these figures are likely to escalate and pose a dilemma for fertility experts. It then becomes essential to achieve a higher clinical pregnancy rate and include technical screening procedures in the form of embryo biopsies to rule out aneuploidies.

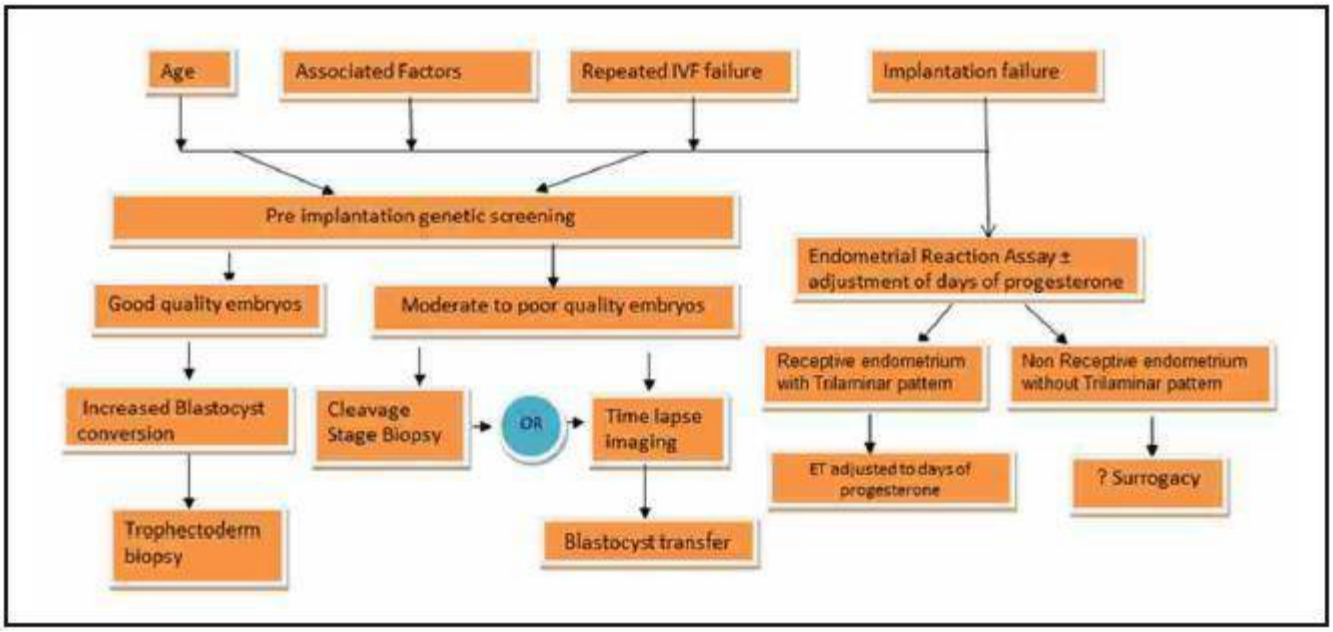
Hence it was inferred that biopsies performed at different stages of embryonic development could detect errors that occur at different timings. So this by itself is evidence that it's better to time a biopsy at a later stage like the blastocyst than limiting to polar body or cleavage stage (4,5,6).

However, other authors like Dr. Pere Mir, have shown a highly accurate and reliable analysis in cleavage stage biopsies using array CGH technology. These results are comparable with D5 embryo biopsies. In fact, they are applying D3 embryo biopsies for PGS, improving pregnancy rates and decreasing miscarriage rates too (7).

Ofcourse no method is completely foolproof in detecting aneuploidies since mosaicism is another entity that occurs in 29% of all embryos (2). So although chromosomally normal embryos are transferred, the ensuing pregnancy needs to be screened as per norms by noninvasive testing for aneuploidy such as NACE (non-invasive test for chromosomal examination) and by level 2 anatomical survey of fetus by ultrasound. NACE test promises a 99.9% specificity thereby almost ruling out the need for amniocentesis or chorionic villous biopsy.

It is interesting to note that by and large cleavage stage biopsy has been regarded as more harmful to embryos demonstrating a lowered implantation rate as opposed to trophectoderm biopsy.

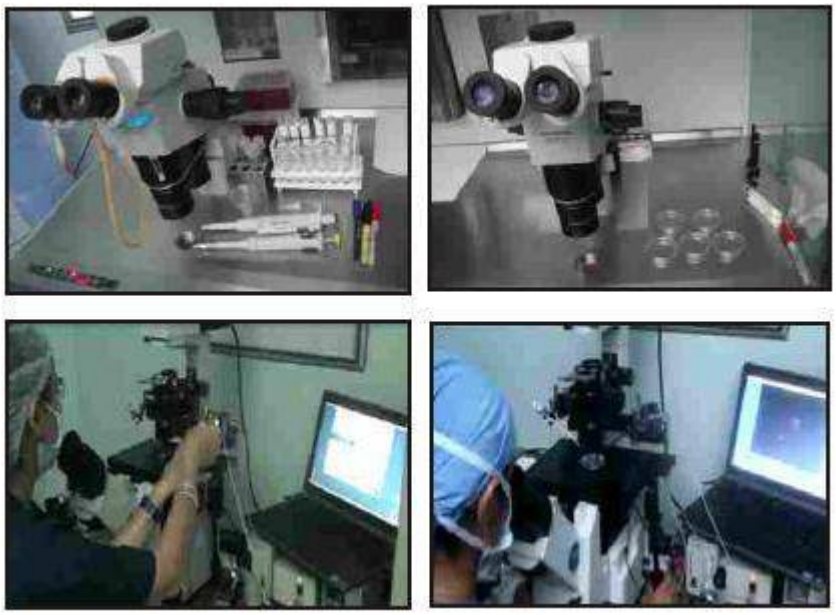
However it has been suggested that for PGD involving detection of balanced translocations it is more prudent to do a cleavage stage biopsy owing to better standards of fixation method for blastomeres for FISH in comparison to trophectoderm. The opposite is the case for detection of single gene defects which need a minimum of 5-7 cells that only a trophectoderm can provide. In conclusion, current studies have shed enough information to specifically assign advantages and disadvantages to timing of biopsy and what it may yield.



It is understood from all the above quoted studies that doing a trophectoderm biopsy and vitrifying the resultant biopsied blasts and transfer in a thawed cycle yields best results (4,8).

More studies are needed to elaborate on the application of the correct diagnostic technique for specific genetic conditions and also on the corresponding timing of biopsy.

Nevertheless, above all; one needs to have an understanding of the following before embarking on a biopsy trail:



- Choice of cases that may best benefit by this procedure

- An in depth knowledge of genetics and embryo dynamics in a laboratory environment
- A comprehensive knowledge of the diagnostic tools such as FISH, PCR and CGH
- The norms that need to be followed to have an in-house genetic lab or a referral lab

Dr.Marcos Meseguer, Senior Embryologist, IVI, Valencia, Spain shared his comments for our queries regarding PGS :

1. Do you think PGS is the next big leap in enhancing success rates in ART programmes?
May be, if it comes with cheaper and more successful procedures and also by a progressive enhancement in the expertise of the embryologist.

2. Do you think it works better in conjunction with an Embryoscope or are they independent of each other? This is important because clinics can't afford to have it all.
It seems like as if the time-lapse is able to distinguish embryos with lower risk of being chromosomally abnormal, then perhaps it could be a helpful tool to select only some embryos for biopsy and reduce the expenses of the overall treatment.

3. Do you think PGS may become a mandatory process in the future or it will still have its specific indications like it has now?
As I told you before, it looks like a very efficient tool for selection (PGS), but still it is expensive, and invasive and needs a very skilled embryologist.

4. Are there any specific differences between results from cleavage biopsy versus blastocyst biopsy?
In our case, D3 are very good and similar to those reported with blastocyst. Other groups do not see the same. What I believe is that D3 is logistically simple at this time.

5. Is there an issue with freezing embryos post biopsy?
None as far as our experience goes.

6. How about post thaw survival rates and further growth to blastocyst in the replacement cycle?
They are currently similar to those reported in non biopsed blast cycles.

7. Is it better not to subject embryos to biopsy when the cycle gets cancelled due to OHSS?
No, in many cases results are not available for D6 transfer and vitrification is now a standard procedure, So OHSS is not an exception. I don't see any problem in vitrifying the biopsied embryos, for the same reasons as above!

8. Any differences in pregnancy rates between hatching and fully hatched blasts, post biopsy?
I really don't know our recent data, but we prefer to avoid fully hatched for transfer. We prefer hatching ones for transfer.

9. Has PGS helped couples with robertsonian translocation in either partner?
Yes, helps with old FISH technique. More studies are needed to be demonstrated with recent CGH arrays.

10. What are your thoughts on epigenetics versus normally occurring chromosomal abnormalities in contributing to the large percentages of abnormal grade 1 embryos generated in ART?
This question is almost impossible to answer; currently very very limited information is available.

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DR. PRIYA SELVARAJ MD MNAMS MCE

DEEP VEIN THROMBOSIS AS A COMPLICATION OF SEVERE OVARIAN HYPERSTIMULATION SYNDROME

Thrombosis and thrombo-embolic phenomena are uncommon yet seem to present in a rapidly progressive clinical scenario following assisted reproduction. Deep vein thrombosis (DVT) is one of the rare consequences of ovarian hyperstimulation syndrome. It has been surmised that the underlying hyper coagulable state, probably due to the high serum levels of estrogen and haemoconcentration, contribute to the development of DVT (1).

Case Report

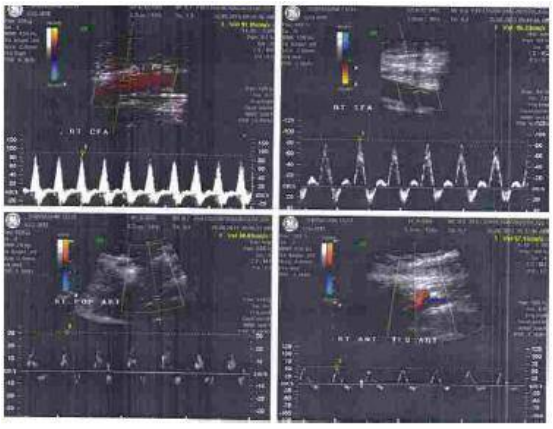
Mrs. SS, aged 24 years, married since 3.6 years, came to us for secondary infertility in February 2012. Her first conception through ovulation induction with Clomiphene Citrate resulted in an intrauterine fetal demise at 22 weeks of gestation in July 2011 due to oligohydraminos with severe placental dysfunction.

She then underwent diagnostic laparoscopy with hysteroscopy on 07/02/2012 which revealed normal uterus and appendages. Her husband's semen analysis was also normal. After a few unsuccessful attempts at IUI the couple finally opted for IVF in July 2013. She underwent long protocol with down regulation using GnRh analogue 3.6mg sc (Zoladex, Astrazeneca, UK Limited), and Controlled Ovari a n Hyperstimulation using Recombinant FSH, (Organon, USA) and Gonadotrophins (HP Gonadotrophins, LG, Korea). Injection HCG 10,000 IU (Unisankyo, Japan) was used for final follicular maturation on 3/08/2013. Fourteen oocytes were retrieved by Transvaginal aspiration. On 06/08/13, Day 3 of culture, 2 Embryos (8 cells, Grade I) were transferred using labotect embryo transfer catheter (Alpha & Omega, Germany).

During the next few days, she developed signs of moderate OHSS, which was managed and treated conservatively with IV fluids, IV Albumin, protein rich diet, micronized progesterone and careful monitoring of all vital parameters including abdomen girth, intake-output chart and weight chart. Ultrasound was performed every alternate day to monitor ovarian enlargement and to assess pelvic collection or ascites. All blood parameters including renal and hepatic were within normal limits. The one notable finding was the presence of haemoconcentration which is also common following OHSS.

On 13/08/13 she developed mild breathlessness and unilateral right limb edema. As per clinical, chest x-ray, and ultrasound findings she was diagnosed with ascites and left pleural effusion. Ascitic and pleural tapping were performed under aseptic precautions by the pulmonologist. On 15/08/2013 her serum ß-HCG was positive for pregnancy and she developed moderate ascites and right Pleural Effusion for the second time on 22/08/2013. Once again the tapping was done. She was also on restricted mobility owing to severe lower back ache and hence on 25/08/2013, her right limb edema worsened and she now presented with a positive Homan's sign.

An emergency doppler finding of both lower limbs revealed a thrombosis of right common femoral vein and right superficial femoral vein with diffuse subcutaneous edema of the calf and thigh. The long saphenous vein was also occluded at the junction. Suggestive of deep vein thrombosis of right limb.



The physician and vascular surgeon’s opinion was obtained and she was started on Inj. Clexane 0.8ml SC, twice daily. Anti-embolic stockings, nil ambulation and foot end elevation were instructed. Due to financial constraints, the patient was discharged against medical advice. She was followed up at another hospital closer to her home and it was known that the pregnancy ended up in a blighted ovum and she was continued on oral anticoagulation and is currently on regular follow up. This is one of the fortunate scenarios where an extensive thrombosis did not dislodge and lead to catastrophic events.

Discussion

Thrombo-embolic disease associated with ovarian stimulation is an uncommon yet potentially fatal complication of ART. Stewart et al (2) performed a review of cases of thromboembolic disease associated with ovulation induction and reported 54 cases between 1964 and 1997. The authors found that 66% of these cases were associated with OHSS and 84% were associated with pregnancy. In addition, 75% of cases were venous in origin while 15% were arterial thrombosis (mostly intra- cerebral). 60% of venous sites were located in the upper limbs, neck and head. While OHSS may be an important factor in the pathogenesis of thrombosis, it does not precede all cases. Severe OHSS is reported to account for 0.56-6.5% of all Ovarian hyperstimulation is responsible for the presence of haemo-concentration, elevated estrogen levels along with reduced venous return caused by enlarged ovaries that may in part explain the development of DVT. In review of literature, 74% of cases of thromboembolism following ovulation induction were associated with OHSS (3). However, it is interesting to note that the thrombosis often presents weeks after resolution of clinical syndrome. Venous thromboembolism in pregnancy is most commonly located in lower extremity with 70% occurring in the ileo femoral region. The majority of thrombosis following ovarian stimulation occurs in the upper extremity (4).

Not all cases of DVT following ovarian stimulation are associated with OHSS and not all patients with OHSS develop thromboembolism. Therefore investigators have proposed that other predisposing factors must exist that precipitate thrombus formation. All patients who do develop a thrombus in the above scenarios deserve a workup for the presence of thrombophilias. Hyperestrogenic states like polycystic ovarian syndrome are also prone. A history of previous episodes and adequate precautions like down regulating in a natural cycle or avoiding excessive use of hormones can be preventive.

Obesity and sedentary lifestyle during treatment cycles can also be addressed before initiation of therapy. Although low dose preventive treatment with heparin is of some theoretical value, rapid alleviation of haemoconcentration is far more important. In our case, we promptly treated this patient by measured hydration and paracentesis in an effort to combat a rapidly depleting intravascular while compartment at the same time preventing collection in the third space.

This case demonstrated the need for early diagnosis and treatment, being crucial for both maternal and fetal well-being. Patient with severe OHSS with lower limb pain and swelling should undergo a thorough and complete evaluation for DVT. Further clinical studies are required to elucidate the role of prophylactic anticoagulation in patients with OHSS following ovulation induction although consideration must be given to screening patients at risk for OHSS for thrombophilias as well as administering prophylactic heparin for well indicated situations.

Given the increased likelihood of thromboembolism, should patients with severe OHSS receive prophylactic anticoagulation regardless of thrombophilia testing? To our knowledge, there have been no randomized controlled studies to address these issues.

Fabregues et al (5) suggested that thrombophilia screening in general IVF population is not cost effective and also reported that the prevalence of thrombophilia is not increased in women with severe OHSS. However, since the co-existence of thrombophilia and OHSS could have catastrophic sequence, consideration should be given to screening patients with severe OHSS.

All of our IVF patients however start on tablet Aspirin 75mg at the onset of ovarian stimulation. Although it is possible that anticoagulation with LMWH may be beneficial in cases of severe OHSS, it is not uniformly established practice to give it to all women with OHSS.

Most authors reserve treatment by heparin for special circumstances in which thromboembolic events have already occurred, or there is abnormal clotting, often owing to congenital coagulopathy.

To surmise it is important to :-

1.Identify high risk factors:

- Presence of blood dyscrasias
- Obesity
- Polycystic ovarian syndrome
- Previous episodes with use of OC pills
- Use of anti epileptics
- Varicose veins
- Antiphospholipid antibody syndrome

2. Do a coagulation work up when needed 3. Opine with a hematologist as well as a vascular surgeon 4. Institute therapy either as prophylaxis or be on high alert to identify a case for timely intervention

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SUCCESSFUL MANAGEMENT OF A POST SALPINGECTOMY RIGHT CORNUAL HETEROTROPIC PREGNANCY

Introduction

A heterotopic pregnancy is a rare complication which has recently found a rising incidence in ART. It is one in which both extra-uterine (ectopic pregnancy) and intra-uterine pregnancy occurs simultaneously. It may also be referred to as a combined ectopic pregnancy, multiple-sited pregnancy, or coincident pregnancy. The prevalence of heterotopic pregnancy is estimated at 0.6-2.5:10,000 pregnancies (1). Cornual heterotopic pregnancy is a very rare condition. Its occurrence rate ranges from 1/2500 to 1/5000 live births and represents 1% of ectopic pregnancies (2).

Case Report

A 34 year old lady, married for 9 years presented to us for primary infertility. Menstrual history and general physical and pelvic examinations were normal. She had a previous history of treatment for ANA positive connective tissue disorder and had subsequently undergone aspiration of bilateral endometriotic cysts in 2004 followed by an adenomyotic nodule excision in 2009 by laparoscopic intervention. She underwent first cycle of IVF at our centre on 29/07/13 which ended in a left tubal ectopic for which a salphingectomy was performed on 18/02/13.

Intra operatively, as is the norm, the right tube was also examined and it was found to be deformed with severe hydrosalphinx for which a right salphingectomy was also performed after obtaining informed consent from her husband. After 6 months, she underwent a second cycle of ICSI-ET on 01/08/2013 and she tested positive for pregnancy.

An intrauterine gestational sac was confirmed by the transvaginal ultrasound on the 37th day of pregnancy on 21/08/2013. She was subsequently admitted for threatened miscarriage on the 39th day with a hemorrhagic area of 1.1x 0.6 cm seen near the cervix by ultrasound. She was managed conservatively with bed rest, styptics and hormonal support. The pregnancy was progressing well until she returned on the 47th day with complaints of brown discharge and an ultrasound performed at that time revealed the viable intrauterine pregnancy complete with a yolk sac, fetal pole and fetal heart pulsation along with another sac seen near the right adnexa / cornua.

Following the diagnosis of a heterotopic pregnancy an emergency laparoscopy was performed and its presence was confirmed in the right cornua, at the site of the previous salphingectomy. Cauterization of the base of the ectopic sac was performed using bipolar coagulation and sac contents were evacuated. The resultant defect was repaired using 1-0 vicryl suture. Patient was stable post procedure. USG was done on 49th day, which showed viable intrauterine pregnancy. Patient is now 16-18 weeks into her pregnancy and is doing well on follow up.

Discussion

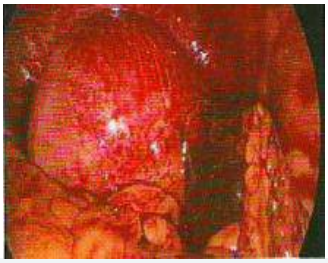
In the general population, the major risk factors for heterotopic pregnancy are the same as those for ectopic pregnancy. For women in an ART program, there are additional factors: a higher incidence of ovarian hyperstimulation, a higher incidence of tubal malformation and/or tubal damage, and technical factors in embryo transfer which may increase the risk for ectopic and heterotopic pregnancy.

Diagnosis of this condition is difficult due to the existence of the intrauterine gestational sac. The most frequent danger lies in the non-recognition of the condition and subsequent uterine rupture at a more advanced gestation. Cornual rupture in the context of cornual heterotopic pregnancy occurs in approximately 48.6% of cases (3), and usually results in brisk hemorrhage due to the fact that the gestational sac lies next to an extensive vascular area and the uterine artery.

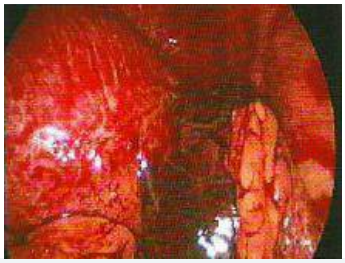
Maternal mortality is estimated to occur in 2% to 2.5% of cases. The treatment option for a heterotopic pregnancy with a viable intrauterine pregnancy is almost always surgical intervention with adequate precautions such as need for emergency transfusion and also an informed high risk consent from the patient and guardian about risk of losing the viable pregnancy itself. There have been case reports of expectant management only in the advent of an empty non viable extra- uterine sac (4).

There is no place for methotrexate administration. However in an inoperable scenario where a surgical intervention is impossible due to dense adhesions and in the presence of a viable intrauterine pregnancy, one could administer, with the help of an interventional sonologist, Potassium chloride (KCL) under ultrasound guidance into the viable extra uterine sac to render it non viable and follow up stringently.

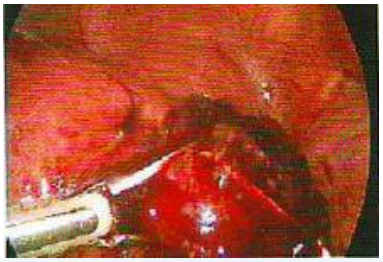
Expectant management does not seem adequate, since the risk of rupture is considerable in the case of viability and further growth. Laparoscopic delivery of methotrexate could be an option in this case, in preference to an ultrasound guided procedure, to avoid the risk of bleeding or even rupture at the site of the needle puncture (5).



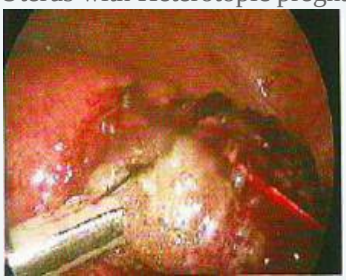
Uterus with Heterotopic pregnancy



Rt Cornual Rupture Ectopic



Cauterization



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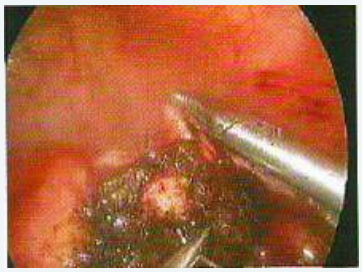
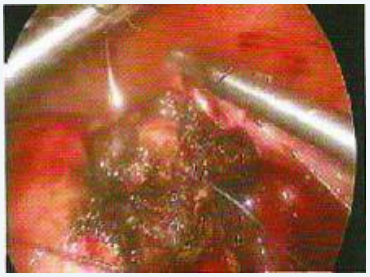


Cornual Cauterization and Repair



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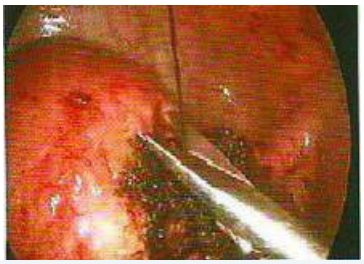
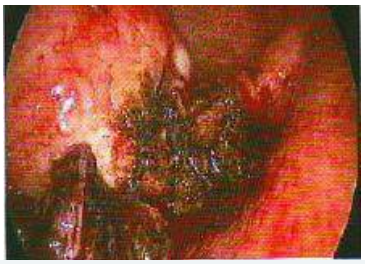
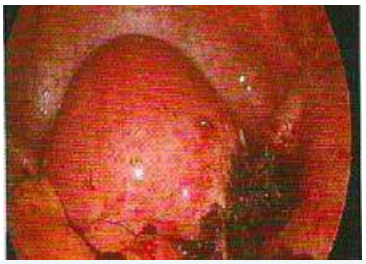


Cornual Cauterization and Repair



Cornual Cauterization and Repair Done



Final Picture

From the surgical point of view, laparoscopic procedures are more common than laparotomy, although conversion to laparotomy occurs in approximately 27% of cases due to Hemoperitoneum or technical difficulties. The different laparoscopic options are resection of cornua, vicryl loop placement, and methotrexate and/or potassium chloride injection into the amniotic sac.

When performing these procedures two risks have to be taken into account, firstly wedge resection and complete extraction of the pregnancy increase the risk of a large amount of blood loss during the procedure, with the potential risk of hysterectomy. Secondly, cornual resection may weaken the uterine musculature, increasing the risk of rupture during the current or a subsequent pregnancy. It may, however, negate the complications of medically treated cornual pregnancy including the need for serial follow-up and the risks of delayed hemorrhage or rupture.

Habana et al (3) studied the outcomes of women undergoing surgery versus medical treatment, and demonstrated the benefits of surgery in terms of miscarriage (13% versus 50%, $p < 0.05$) and live birth rate (60.9% versus 50%). The incidence of recurrent cornual ectopic pregnancies is unknown; nevertheless, this finding has already been reported (6,7). As suggested by Van der Weiden et al., assisted reproductive techniques and conservative methods of management may increase the incidence of recurrence (6).

Conclusion

Heterotopic pregnancies are not a rarity at our centre since we perform numerous ART procedures. But the co-existing cornual ectopic gestation especially one which is viable still remains a challenging situation. It's always dealt with great caution and the management is carefully planned so as to not lose the intra-uterine pregnancy as well.

The ultimate intervention that has made management a lot more simple and safe is the use of high resolution transvaginal ultrasound and operative laparoscopy. If not for these two tools, one could miss an early lifesaving diagnosis and also result in a prolonged open surgery. In this particular case, both assisted in early diagnosis as well as minimal invasive surgical technique that allowed the pregnancy to proceed uneventfully till date.

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CASE REPORT: CAFFEY DISEASE

Caffey disease or infantile cortical hyperostosis is a self limiting and rare inflammatory bone disorder affecting young infants.Here we report a case of caffey disease in a preterm baby of 29 weeks on day 1 of neonatal life

Case Report

A 29 weeks preterm girl baby weighing 1.18 kg was born by emergency LSCS on 5/2/2013 at 2:20pm. The baby did not cry at birth so resuscitated and intubated in the operation theater. The baby was born to a 36 years old woman following 2nd cycle of ICSI and ET.

X-ray chest taken on day 1 of life showed features suggestive of caffey disease (infantile cortical hyperostosis). There were periosteal new bone formations and increased density of all bones. There were irregular, tender seedlings over the bones. The baby developed seizures in delivery room followed by chronic refractory seizures requiring multiple anticonvulsants. The baby was ventilated for 45 days and 3 doses of Survanta (Beractant) were given for treatment of respiratory distress syndrome (RDS).

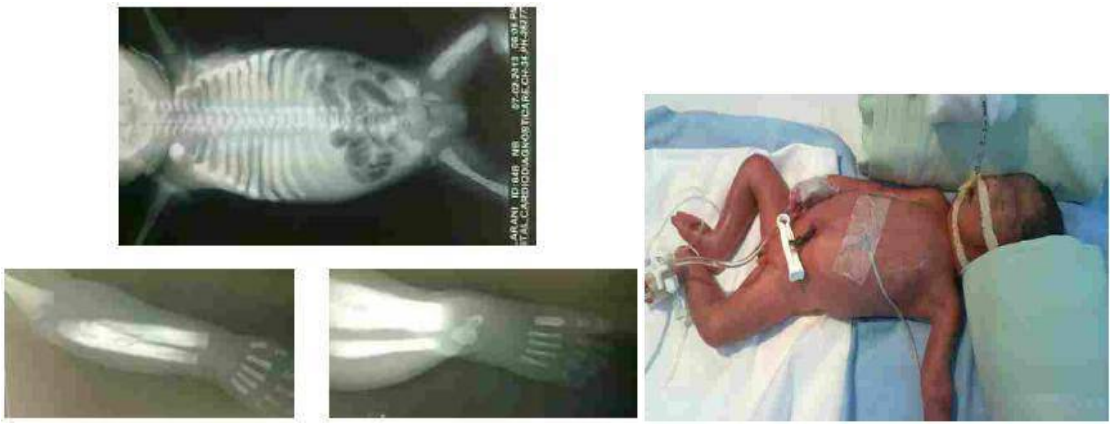
The EEG showed bilateral epileptic activity while the Echo cardiogram and Neurosonogram were both normal. The baby was treated with IV fluids, antibiotics, anticonvulsants and received packed red blood cells (PRBC) transfusion for anemia. The baby was discharged after 2 months. At present the baby is on follow up. There was no significant retinopathy of prematurity (ROP). Tone, activity and feeding were normal on discharge. At 6 months of age, X-ray showed remodeling of bones and improvement in hyperostosis.

Discussion

Caffey disease, infantile cortical hyperostosis was first described by Dr. John Caffey in 1945 (1). It is a self limiting disorder that affects infants, causing, bony changes, soft tissue swelling and irritability. The exact etiology is unknown. Most cases are sporadic but autosomal dominant and recessive inheritance have also been reported.

Two forms of the disease have been reported, a classical mild infantile form and a severe form with prenatal onset which is found to be associated with Collagen type 1, alpha 1 (COL1A1)(2). Affected infants have triad of signs and symptoms, soft tissue swelling, bone lesions and irritability, soft and tender lesions affecting several parts of body. Affected bones include mandible, tibia, ulna, clavicle, scapula, ribs, femur, fibula, and skull.

Differential diagnosis includes osteomyelitis, child abuse, hyperphosphatemia, prostaglandin E1, scurvy, ewings sarcoma and metastatic neuroblastoma. Biopsy shows inflammation of periosteum and adjacent soft tissues followed by thickening and subperiosteal immature lamellar bone formation and vascular fibrous tissue in bone marrow spaces followed by hyperplasia of lamellar cortical bone.



Radio graph shows periosteal new bone with cortical thickening. It covers diaphysis and cause increase in diameter of the bone becoming homogenous with the underlying cortex; eventually the bone remodels and resumes normal appearance.

It's a self limiting disease, the disease resolves on its own without treatment, most of them asymptomatic after 2 years of age. Long term deformities like limb length inequalities are possible but rare.

REFERENCES

1. Caffey J. Infantile cortical hyperostosis. J Pediatr. 1946: 29:541-59

2. Kamoun-Goldrat A, Matrinovic J, Saada J et al., Prenatal cortical hyperostosis with COL1A1 gene mutation. Am. J. Med Genet A. 2008: 146A(14):1820-4.

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EVERYBODY, SOMEBODY, ANYBODY AND NOBODY

EVERYBODY, SOMEBODY, ANYBODY AND NOBODY & QUOTES FOR LIFE

EVERYBODY, SOMEBODY, ANYBODY AND NOBODY

- **This is a little story about four people named Everybody, Somebody, Anybody, and Nobody.**
- **There was an important job to be done and Everybody was sure that Somebody would do it.**
- **Anybody could have done it, but Nobody did it.**
- **Somebody got angry about that because it was Everybody's job.**
- **Everybody thought that Anybody could do it, but Nobody realized that Everybody wouldn't do it.**
- **It ended up that Everybody blamed Somebody when Nobody did what Anybody could have done**

QUOTES FOR LIFE

- **Our greatest weakness lies in giving up. The most certain way to succeed is always to try just one more time.**

Thomas A. Edison

- **The will to win, the desire to succeed, the urge to reach your full potential... these are the keys that will unlock the door to personal excellence.**

Confucius

- **A creative man is motivated by the desire to achieve, not by the desire to beat others.**

Ayn Rand

- **I don't believe you have to be better than everybody else. I believe you have to be better than you ever thought you could be.**

Ken Venturi

- **Learn from the past, set vivid, detailed goals for the future, and live in the only moment of time over which you have any control: NOW**

Denis Waitley

TO END WITHOUT ENDING

TO END WITHOUT ENDING

"Leaving an organization gracefully means being able to talk about your period in that organization with pride. If you can't, it will affect your career progress. Leaving behind a lingering fragrance in an organization is done by completing unfinished tasks by offering to train the successor, by resolving issues and most importantly by appreciating the organization for the opportunities given to grow and learn. Saying "ADIOS" with a handshake and a smile will always boost the morale of both parties".

A resume was lying on the desk of a Senior Manager. A passing colleague instantly recognized the name and photograph on the resume and smiled. When the manager asked why, she said that the person whose resume it was had worked with her in an organization earlier and had left the job abruptly causing a lot of hardship for the rest. The resume was put away in the "rejected" file instantly.

The way one leaves an organization is just as important as the way one goes about finding a job. Exiting gracefully leaves not only a favorable impression among colleagues but also paves people's opinions for further reference. The world is a small place. People talk and others remember what they say, and what they remember matters. It pays, literally and figuratively, to quit in the right way, because your reputation is at sake, if nothing else.

Expressing gratitude is a cleansing experience.

OUR ART BABES

- **NAME : R. BALASUBRAMANIAN**
- DOB & AGE : 12/08/1992 & 20 YRS
- CONCEPTION : Pronuclear Stage Tubal Transfer (PROST)
- CLASS : B. TECH MECHATRONICS, SASTRA UNIVERSITY
- ACHIEVEMENTS : RASHTRAPATI AWARDEE, (PRESIDENT AWARD IN SCOUTING), DEPT TOPPER (CGPA 9.5025), WON VARIOUS PRIZES IN ROBOTIC, COMPETITION IN TECH FESTS
- AREA OF INTEREST : ROBOTICS

- HOBBIES : COIN COLLECTION , DESIGNING ROBOTS

- TWIN1 : A.J. SIVA GANESHAA
- TWIN2 : A.K. SIVAPRIYANKAA
- DOB & AGE : 19/06/2007 & 6 YRS
- CONCEPTION : IVF ET
- CLASS : IST STD

- HOBBIES : WATCHING TV, PLAYING GAMES

- NAME : R.S.ARAVIND
- DOB & AGE : 06/05/2009 & 4 YRS
- CONCEPTION : IVF ET
- CLASS : KG
- HOBBIES : RECITING NURSERY

- RHYMES

- **NAME : FREYA MALZAHN**
- DOB & AGE : 10/12/2007 , 5 YRS
- CONCEPTION : IVF ET
- CLASS : KG
- HOBBIES : SINGING / DANCING / ACTING

- AMBITION TO BECOME A PILOT

SHE HAS BEEN SELECTED TO ACT IN A SINGHALS MOVIE PRODUCTION TITLED DHONI

DISTINGUISHED VISITORS

Dr. Lars Johansson, a leading embryologist and Scientific consultant to many renowned ART centres paid a visit to our IVF lab on 15/12/2012. Currently associated with ORIGIO, Denmark, his interest to share ideas, evaluate clinics and improve fertility practices was greatly appreciated.

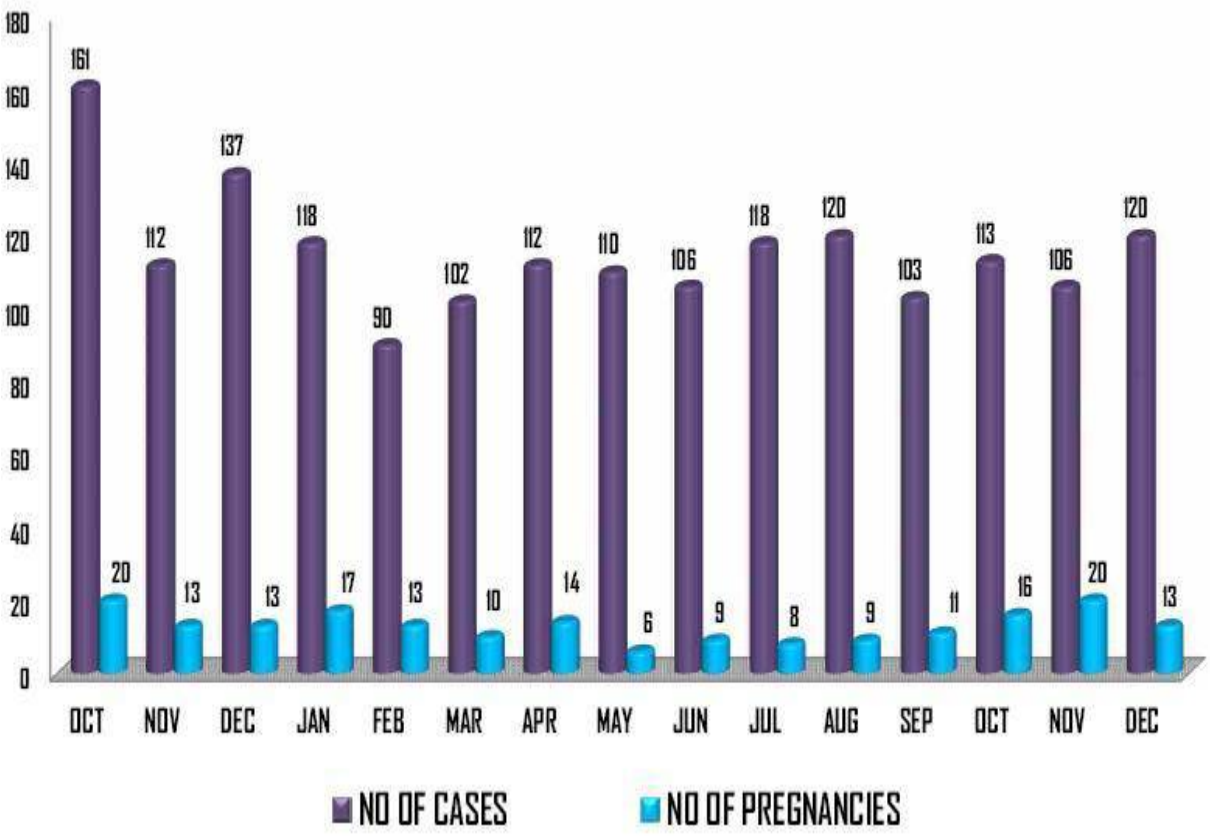
Dr. Maria Eugenia Poo-Llanillo, a Senior Clinical Embryologist, Iviomics, Valencia, Spain visited our centre from 01/10/2013 - 03/10/2013 to impart training in PGS techniques. Iviomics is now offering their services for PGS, PGD, NACE, ERA and POC having established their base in Delhi.

INDIA’S THIRD & SOUTH INDIA’S FIRST TEST TUBE BABY MS.KAMALA RATHNAM BORN ON AUGUST 1ST 1990 GOT MARRIED IN SEPTEMBER 2013. SHE HAS NOW CONCEIVED NATURALLY

INDIA’S FIRST AND SOUTH EAST ASIA’S FIRST MRKH TWINS BORN THROUGH SURROGACY IN 2001 SARATH VARSHAN AND SARAN VISHNU (8TH STD) WITH MR & MRS. SHANTHI RAJA

MONTHLY IUI PREGNANCIES (OCT 2012 - DEC 2013)

MONTHLY IUI PREGNANCIES (OCT 2012 – DEC 2013)

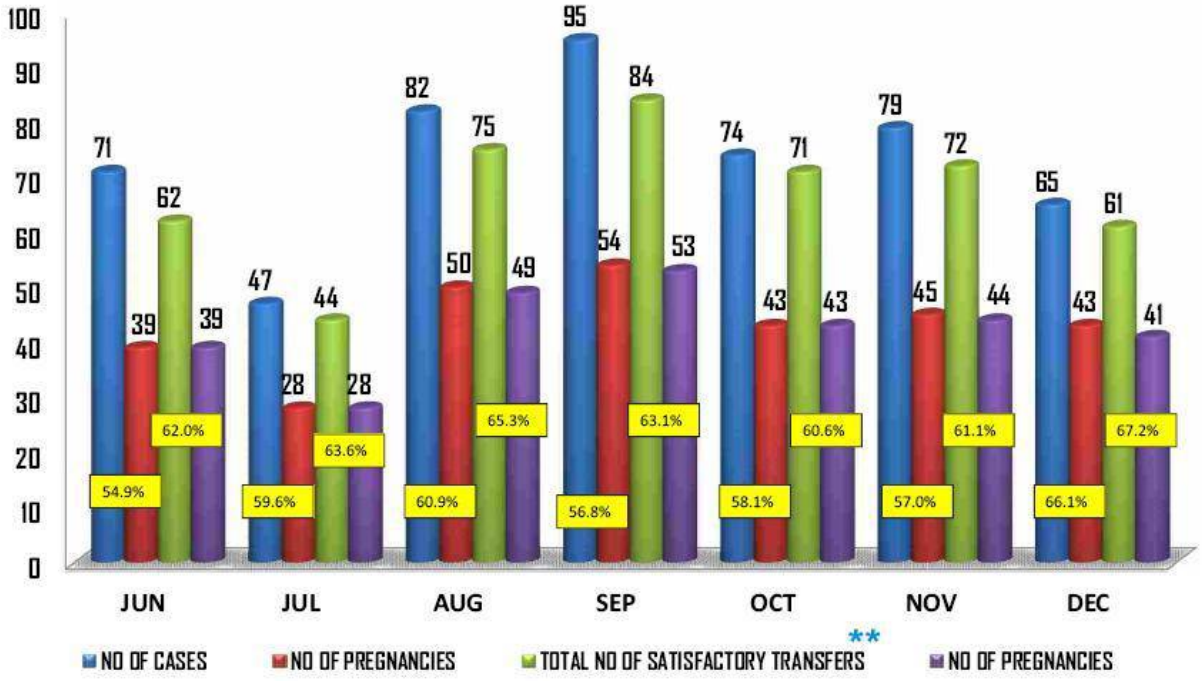


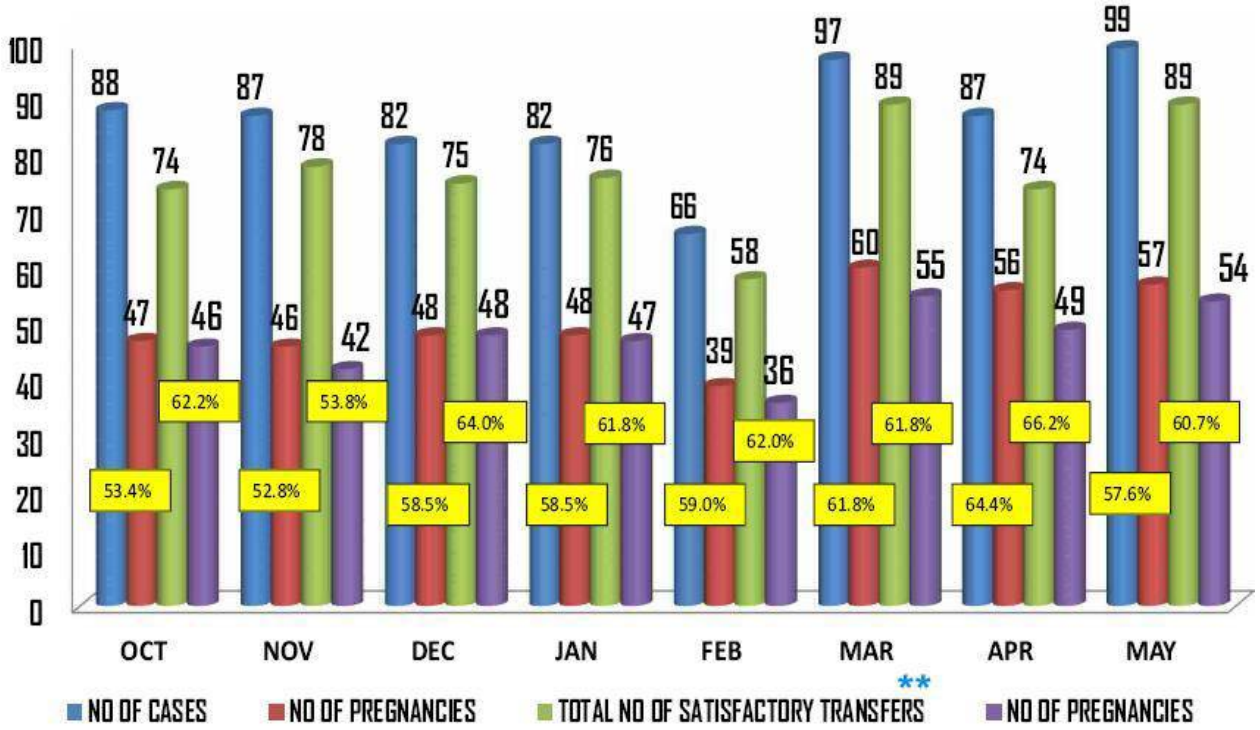
OVERALL MONTHLY PREGNANCIES (OCT 2012 – DEC 2013)

MONTHS	ART	IUI	NATURAL(*)	TOTAL
OCTOBER	47	20	12	79
NOVEMBER	46	13	9	68
DECEMBER	48	13	6	67
JANUARY	48	17	4	69
FEBRUARY	39	13	10	62
MARCH	60	10	7	77
ARRIL	56	14	17	87
MAY	57	6	11	74
JUNE	39	9	5	53
JULY	28	8	3	39
AUGUST	50	9	9	68
SEPTEMBER	54	11	10	75
OCTOBER	43	16	11	70
NOVEMBER	45	15	3	63
DECEMBER	43	13	10	66
TOTAL	703	187	127	1017

* Following Medical and Surgical Management

MONTHLY VARIATIONS IN ART PREGNANCIES (OCT 2012 – DEC 2013)





ART STATISTICS (OCT 2012 - DEC 2013)

PROCEDURES	NO.OF.CASES	PREGNANCIES	PREG.RATE (%)
IUI(Own/Donor)	1728	188	10.87
GENERAL ICSI ET IMSI ET RI ICSI ET/IVF ET BT SEQUENTIAL TRANSFER ICSI /IMSI ET+BT	 204 7 2 8398	 81 4 1 1275	 39.7 57.1 50 12.569
FROZEN EMBRYOS /BT (Slow Freeze /Vit) FROZEN ICSI ET VIT BT SEQ FROZEN ICSI ET+BT	 60 53	 30 22	 50 4066.6
DONOR OOCYTE PROGRAMME ICSI / IMSI ET IVF ET BT SEQUENTIAL TRANSFER HRT ICSI/IMSI ET + BT IVF ET + BT DET+ DBT HRT ICSI ET + BT	 108 2 44236 11 28 3	 47 1 26166 5 18 3	 43.5 50 59.170.3 45.4 64.3 100
FROZEN EMBRYOS (Slow Freeze Vit) FROZEN DET FROZEN ICSI DET + DBT	 17 6	 7 2	 41.1 33.3
OWN+DOP ICSI ET ICSI ET+BT ICSI ET + BT	 6 19 4	 3 12 3	 50 63.1 75
FROZEN ICSI ET + DBT	2	1	50

Total Number of pregnancies achieved by ART : 5983
Total Number of patients delivered by ART : 3163
Total Number of Babies delivered by ART : 4547
Total Number of Ongoing Pregnancies : 588
Total Number of Fetal Wastages : 2075
Lost in follow up : 157