

## Abstracts from the Chettinad National Fertility Colloquium September 2013

1) Dr.Asha Benziger, Chettinad Health City, Kelambakkam, Tamil Nadu,India.

### **A PROSPECTIVE STUDY ON THE IMPACT OF RADIOFREQUENCY ELECTROMAGNETIC WAVES (RF - EMWs) EMITTED BY CELL PHONE DURING CALL ATTENDED MODE ON THE SEMEN SAMPLE**

**Aim:** To assess the motility of the spermatozoa after exposure to RADIO FREQUENCY ELECTROMAGNETIC WAVES (RF-EMWs) emitted by the cell phone during the call attended mode from different directions.

**Type of Research Study:** Prospective Single Blind Study.

**Study Place:** Central Animal facility, Department of Reproductive Medicine.

**Materials & Method:** 30 normozoospermic men were randomly selected, during January to May 2013. Semen samples were collected soon after ejaculation, sperm concentration and motility were noted. The remaining sample were taken in 4 vials. The samples were exposed to RF EMWs at 4 places {1st -incubator (the control), 2nd- front of the mobile, 3rd- back, 4th-antenna} 2.5 cm away from the mobile. During the call attended mode the mobile generated power density of an average of 63.57 - front side, 70.5 - back side, 103.5 - antenna side respectively which was measured by FIELD STRENGTH METER. After 1hr, the 4 samples were re-analyzed.

**Results:** There was statistically significant decline in percentage of progressively motile sperms in all the exposure groups compared to the control group.

**Conclusion:** Impact was highest in the group exposed from antenna, followed by the behind and front respectively. Awareness regarding the hazards of cell phones on the man's fertility has to be created among the public.

2) Dr.Indumathi, Institute of Reproductive Medicine, MMM, Chennai, Tamil Nadu, India.

### **A COMPARATIVE STUDY OF THE OUTCOME OF THE INDIVIDUALIZED GnRH ANTAGONIST STIMULATION PROTOCOL (EARLY INITIATION) WITH THE FIXED ANTAGONIST PROTOCOL IN IVF/ICSI - ET CYCLES**

**Objective:** To compare the outcome of the individualized (early initiation) GnRH antagonist stimulation protocol with the fixed antagonist stimulation protocol in IVF/ICSI- ET cycles.

**Design:** A prospective observational study.

**Setting:** Tertiary care Assisted Reproductive Unit.

**Patients:** All women who underwent a fresh embryo transfer following IVF/ICSI after controlled ovarian hyperstimulation (COH) using either an individualized (early initiation) antagonist protocol (Group - A) or a fixed antagonist protocol (Group-B). The number of patients included in the study were 144, out of which 84 were in group A and 60 in group B.

**Outcome Measures:** Clinical pregnancy rate (CPR), Ongoing pregnancy rate (OPR). No. of oocytes retrieved. No. of M2 oocytes. Fertilization Rate. Implantation Rate

**Results:** The clinical pregnancy rate was 41.7% and 40%, the ongoing pregnancy rate was 29.4% and 33.3% in group A and group B respectively which was statistically not significant. There was no significant difference in the number of oocytes retrieved, M2 oocytes and fertilization rate though the implantation rate was 19.3% and 18.8% in group A and group B respectively. 19 patients out of 25 in group A and 18 patients out of 24 in group B had delivered. Among the remaining number of the clinically pregnant patients, the pregnancies are ongoing.

**Conclusion:** Our present study showed differences in the clinical pregnancy rate, the ongoing pregnancy rate, fertilization rate and the implantation rate though not statically significant. Further randomized studies are required to study the effect of elevated LH levels in the follicular phase before planning early initiation of GnRH antagonist administration in antagonist cycles.

**Keywords:** Fixed protocol, individualized protocol, clinical pregnancy, ongoing pregnancy rate.

3) Dr.S.S.Gayathri Devi, , Chettinad Health City, Kelambakkam, Tamil Nadu,India

### **THE CORRELATION BETWEEN ENDOMETRIAL THICKNESS AND OUTCOME OF PREGNANCY IN AN ASSISTED REPRODUCTIVE TECHNOLOGY PROGRAMME - RETROSPECTIVE OBSERVATIONAL STUDY**

**Aim:** The aim of our study is to evaluate the endometrial thickness on the day of hCG administration during ART cycle and to assess the correlation between endometrial thickness and ART/ET outcome.

**Material & Methods:** From January 2010 to December 2011, 60 patients undergoing assisted reproduction cycles were taken retrospectively for pregnancy outcome in relation to endometrial thickness. The study was done in the Reproductive Medicine department. The protocol used for pituitary down regulation was short flare protocol. Division into four groups was made depending on the thickness: group 1  $\leq 8$  mm; group 2:  $>8$  to  $\leq 11$  mm; group 3:  $>11$  to  $\leq 14$  mm; group 4  $>14$  mm.

**Results:** A total of 60 patients were investigated in this study. The overall clinical pregnancy rate was 33.33%. The endometrial thickness on the day of hCG administration ranged from 7.1mm to 18mm. Most pregnancies were in the endometrial thickness range of 8-14 mm. (67.1%) All the pregnancies occurred with grade I embryos.

**Conclusion:** In conclusion, when a thinner endometrium ( $\leq 7$  mm) without triple-line endometrial pattern coexists in a couple undergoing ART/ICSI, cryopreservation is recommended. No case with endometrial thickness  $< 7$  mm was observed. A thicker endometrium ( $> 14$  mm) did not have an adverse effect on the clinical outcome. Endometrial thickness and pattern, when both are analysed, is more valuable than the separate analyses. All pregnancies in this study occurred with grade I embryos. Hence embryo quality plays an important role than endometrial thickness.

4) Dr. Mariano, Christian Medical College, Vellore, Tamil Nadu, India

**DOES SERUM PROGESTERONE LEVEL ON THE DAY OF HUMAN CHORIONIC GONADOTROPIN ADMINISTRATION AFFECT CLINICAL PREGNANCY RATES IN FRESH EMBRYO TRANSFER CYCLES? : A RETROSPECTIVE COHORT STUDY**

**Aim:** To determine whether serum progesterone level on the day of human chorionic gonadotropin administration affects clinical pregnancy rate in fresh embryo transfer cycles.

**Material & Methods:** Retrospective cohort study of all IVF cycles at the Reproductive Medicine unit from January 2011 to December 2012

**Results:** Patients were categorized in to high progesterone -  $> 1.5$  ng/ml, altered P<sub>4</sub>/E<sub>2</sub> ratio -  $> 1$  and results were analysed based on this.

| Protocol       | Total no. cycles | ET  | Overall clin. preg | P <sub>4</sub> $> 1.5$ ng/ml | P <sub>4</sub> $\leq 1.5$ ng/ml | P <sub>4</sub> /E <sub>2</sub> ratio $> 1$ | P <sub>4</sub> /E <sub>2</sub> $\leq 1$ | N=  |
|----------------|------------------|-----|--------------------|------------------------------|---------------------------------|--|---|-----|
| Antagonist     | 315              | 289 | 136/289<br>47%     | 3/17<br>17.6%                | 133/272<br>48.9%                | 5/24<br>20.8%                              | 131/265<br>49.4%                        | 289 |
| Long agonist   | 188              |     |                    | 2/7<br>28.5%                 | 80/181<br>44%                   | 6/20<br>30%                                | 74/168<br>44%                           | 188 |
| Ultra long     | 49               |     |                    | 2/7<br>28.5%                 | 10/42<br>23.8%                  | 5/18<br>27.7%                              | 12/31<br>27.7%                          | 49  |
| Short protocol | 43               |     |                    | 1/5<br>20%                   | 8/38<br>21%                     | 1/6<br>16.7%                               | 8/37<br>21.6%                           | 43  |

**Conclusion:** The clinical pregnancy rates are significantly lower in the fresh embryo transfer cycles in which the progesterone levels on the day of hCG trigger are  $> 1.5$  ng/ml, or the progesterone/estradiol ratio is  $> 1$ .

5) Dr. Ramesh Raja, Chettinad Health City, Kelambakkam, Tamil Nadu, India

**A PILOT STUDY : IMMOTILE SPERMATOZOA IN SEMEN SAMPLE – RESTING OR IMMOTILE?**

**Objective:** To observe the immotile spermatozoa over a period of time in semen samples to find out if they are immotile or resting. Type of study: Pilot study

**Study place:** Reproductive Medicine Department

**Materials & Methods:** Data collected during January 2012 to October 2012. After routine semen analysis was done according to WHO 2010 criteria, the immotile spermatozoa in the each semen sample was observed for about 5 minutes and recordings noted down at 2 minutes and 5 minutes.

**Results:** In 111 patients, 498 immotile spermatozoa were observed continuously for 5 minutes and found 1. At 2 minutes (7% became Progressively motile and 8% became Non progressively motile). 2. At 5 minutes (3% became progressively motile and 7% became non progressively motile).

**Conclusion:** We observed that some immotile spermatozoa at a point of time may become motile later on. These spermatozoa may be resting spermatozoa which may resume motility later on. This is a pilot study and we are looking at more samples to see if spermatozoa regain motility after some time.

**Key Words:** Immotile Spermatozoa, Resting Spermatozoa, Spermatozoa Motility.

6) Dr. Ranjani, Chettinad Health City, Kelambakkam, Tamil Nadu, India

**LEUCOCYTOSPERMIA – DOES IT MEAN ANYTHING?**

**Objective:** To find out the significance of leucocytospermia in patients with round cells  $> 5$  mill/ml in routine semen analysis attending infertility clinic.

**Type of study:** Retrospective study

**Setting:** Dept of Reproductive Medicine.

**Data collection:** Data of patients who came for routine semen analysis and had round cells > 5 mill /ml from August 2009 - July 2011 was taken. The data of patients leucocytes >1 mill/ml was checked for semen culture reports and intervention with antibiotic treatment, if any was noted and analysed.

**Results:** Among the 2447 patients who came for semen analysis 196 had round cells >5 mill/ml. After leucoscreen test 39 had leucocytes >1 million/ml. Among them 23 had semen culture done. Only seven had culture positive. 16 had no growth of any pathogens out of which 1 had significant growth, and 2 had moderate growth and was put on antibiotics. 4 of the patients had very low growth and were not treated with antibiotics. Patients who were put on antibiotics were asymptomatic except for one patient who complained of burning micturition. His urine culture was also positive for the same organism.

**Conclusion:** According to this observational study leucocytospermia was not associated with clinical symptom or bacteriospermia as the culture yielded no growth or insignificant growth of any organisms in majority of the patients. Larger study is required to see if leucocytospermia is an indicator of infection in the male and whether leucocytospermia does mean anything to us in male infertility.

7) Dr.Sumi Thomas, Christian Medical College, Vellore, Tamil Nadu, India

**CHROMOSOMAL ABERRATIONS IN COUPLES WITH RECURRENT MISCARRIAGES – AN EXPERIENCE OF 479 COUPLES AT A TERTIARY CARE CENTRE IN INDIA**

**Aim:** To evaluate the contribution of chromosomal abnormalities in causing recurrent miscarriages.

**Materials & Methods:** Retrospective study of 479 couples who attended the Reproductive Medicine unit with history of recurrent miscarriage from 2002 to May 2013.

**Results:** There were totally 479 couples (958 individuals) out of whom 69 (7.2%) individuals were detected to have chromosomal aberrations. 21 (2.1%) individuals had translocations, 34 (3.9%) had numerical abnormalities, 4 (0.4%) with inversions and 6 (0.6%) with other chromosomal abnormalities

**Conclusion:** Cytogenetic analysis is an important investigation in the workup of couples with recurrent miscarriages.

**Mental Decline and Proteinuria in T2 DM**

There is compelling evidence that people with type 2 diabetes are at increased risk of developing cognitive impairment in comparison with the general population. But until now there was no marker to predict the risk. Now in a study conducted on more than 3000 patients with type 2 diabetes (average age of 62 years), researchers from the Emory School of Medicine, found that those with persistent proteinuria for over four to five years had greater declines in their cognitive abilities than those without proteinuria. The results suggest that persistent proteinuria may be the earliest warning sign of a future mental decline. However, the changes initially are subtle and clinically evident mental impairment requires 10-15 years to manifest. Since diabetics are 50 to 60% more likely develop mental deterioration compared to general population, these findings are considered significant. However, there is no obvious causal relationship. (CJASN CJN.11321112; published ahead of print August 29, 2013, doi:10.2215/CJN.11321112)

- Dr. K. Ramesh Rao