PP-034
Pregnancies generated in novel synthetic protein-free embryo culture medium
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Objective: The objective of this study is to elucidate and determine the impact of absence of serum proteins in embryo culture medium (ECM) on quality of cleavage stage embryos generated and on pregnancies.

Materials and Methods: Retrospective analysis of laboratory data undertaken on the quality of sibling embryos and pregnancies generated in the synthetic chemically defined protein-free medium (PFM) from Cellcura, Norway and the control Sage® Medium (SM) from Cooper Surgical, USA. The parameters investigated were: fertilization rate (FR), zygote arrest rate (ZAR), mean blastomere number (MBN), mean embryo grade (MEG). [Embryos graded 4 = excellent, 3 = good, 2 = average, 1 = poor].

Results: Day 2 sibling embryo MBN and MEG for PFM and SM was 4.4 vs 3.9, p=0.4691; 3.2 vs 3.0, p=0.0405 respectively. On day 3 the mean blastomere numbers and embryo grades for PFM and SM were 6.6 vs 6.1, p=0.2247; 3.2 vs 2.9, p=0.4318, respectively. Clinical pregnancy rate (SAC& FHB) for the PFM and SM were 6.6 vs 6.1, p=0.2247; 3.2 vs 2.9, p=0.4318, respectively. On day 2/3 the mean blastomere numbers and embryo grades for PFM and SM were 6.6 vs 6.1, p=0.2247; 3.2 vs 2.9, p=0.4318, respectively. Clinical pregnancy rate (SAC& FHB) for the PFM and SM were 6.6 vs 6.1, p=0.2247; 3.2 vs 2.9, p=0.4318, respectively.

Discussion and Conclusion: Sibling embryo study in this small study in a newly established fertility center comparing outcome of sibling human embryo development in PFM and SM suggest the efficacy of both media to be similar in generating quality embryos. The pregnancy rate for the PFM appears excellent. The PFM is the only synthetic ECM available that is also certified Halal. It eliminates risk of disease transmission, is safe, completely chemically defined, offering the most advanced lot to lot functional consistency in ART.

Keywords: Synthetic; Protein-free; Embryo; Culture; Media

PP-035
Is Assisted Hatching a useful technique in warmed embryo transfers?
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Assisted Hatching (AH) is still a controversial technique. It is used to ease embryo hatching after freezing as it seems that freezing process could harden Zona Pellucida (ZP) affecting embryo expansion. In our clinic we performed AH in those fresh or vitrified embryos with thick or dense ZP. The aim of this study is to analyze the effect of AH in those embryos. This prospective, randomized study included 130 patients with vitrified surplus D3 embryos using Cryotop method (Kitazato).

Warming was done between March 2011 and October 2013. AH was performed using inverted microscope equipped with laser on those embryos from randomized selected patients (n=64) one hour before embryo transfer. AH patient group pregnancy rate was 40.6% (26/64) whereas non-AH patient group pregnancy rate was 31.8% (21/66). This result did not show any statistical difference (p=0.2862, Chi-square test).

These results show that AH does not increase pregnancy rate in those patients with vitrified D3 embryos. Our recommendation is to avoid the use of this technique as a routine in Embryo Cryopreservation Programs.

Keywords: Assisted hatching; Cryopreservation; Embryo warmed

PP-036
Impact of ultra-low volume of culture media on embryo development
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Objective: To communicate observations on the development of early human embryos and maturation of oocytes in continuous ultra-micro-drop culture system (cUMD).

Materials and Methods: The two culture systems employed CookTM cleavage medium are the cUMD and the open culture system (OCS) that utilized 1.5–2.0 µl and 700–800 µl of culture medium, respectively.

Results: The day 2/3 average blastomere number (ABN) was: 4.0 and 4.8 (p=0.0082); and the average embryo grade was 3.0 and 3.6 (p=0.0043) for the OCS (n=31) and cUMD (n=36) culture systems respectively. 53.8% (n=21) of apparently good quality expanded blastocysts developed in the cUMD culture system in non-sequential cleavage medium from leftover embryos of poor quality that normally will neither be transferred nor cryopreserved. A high level of maturity of metaphase I oocytes (37/41; 90.2%) were obtained in cUMD culture within 24 hours and by 48 hrs (38/41; 92.7%). GV oocytes that matured were low at 24 hours (41.9%, 18/43) but improved marginally by 48 hours of IVM (44.2%, 19/43). Pregnancy rate during this period was above 50%.

Discussion and Conclusion: The cUMD protocol resulted in significantly superior quality embryos. It is speculated from the present and previous findings that the extreme low volume of medium employed (1.5–2.0 µl) allowed the concentration of autocrine and paracrine factors released into the culture milieu by the oocytes, embryo and adhering autologous corona-cumulus cells that helped improve culture characteristics. This study suggest it worthwhile to culture poor quality cleavage stage embryos to blastocyst stage and performing IVM on immature oocytes.

Keywords: Ultra-micro; Droplet; cUMD; Continuous; Culture

PP-037
Empty Follicle Syndrome (EFS) prevalence and management
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EFS is defined as the failure to recover cumulus oocyte complexes despite an adequate follicular development; cases of EFS have been reported both with hCG and GnRH agonist triggering. No etiology of EFS has been identified so far. We aim to identify the prevalence of EFS among oocyte donors, and to assess the effectiveness of a second trigger and delayed ovum