

17th World Congress of the Academy of Human Reproduction

15–18 March 2017
Rome, Italy

TITLE

PRELIMINAR CHARACTERIZATION OF MESENCHYMAL STEM CELLS FROM AMNIOTIC MEMBRANE (HAMSCS): EFFECT OF AGE AND PRE-ECLAMPSIA

AUTHOR/S

Carpagnano F A (IT) [1], Carlucci S (IT) [2], Carrubba R M (IT) [3], Romeo F (IT) [4], Carolla C (IT) [5], Urbano M (IT) [6], D'Anella E (IT) [7], Beccia E (IT) [8], Carbone A (IT) [9], Conese M (IT) [10], Matteo M (IT) [11]

ABSTRACT

CONTEXT: Institute of Obstetrics and Gynaecology and General Pathology Laboratory of the University of Foggia.

OBJECTIVE: The aim of the study was to evaluate some characteristics of mesenchymal stem cells from amniotic membrane (hAMSCs) and to compare differences among three different groups of patients.

PATIENTS: 7 women aged 25-30 (group1), 5 women over 40 years old with physiological course of pregnancy (group2), 3 women affected by preeclampsia (group3) were enrolled.

INTERVENTIONS: Placentae were collected immediately after delivery, either by spontaneous or Caesarean birth.

METHODS: All samples were processed through five steps: isolation of hAMSCs from placentae; culture and storage of isolated hAMSCs; analysis of morphology and growth of hAMSCs; phenotypic characterization of hAMSCs.

MAIN OUTCOME MEASURES: For each sample we measured the number of cells and their viability (% of viable cells within 10µl of suspension put in a Burker's chamber and trypan blue exclusion test), phenotype (surface markers by cytofluorimetry) and doubling time (starting from a concentration of 105 cells at T0 and using the algorithm provided by <http://www.doubling-time.com>). Statistical analysis was performed by ANOVA and Tukey's Multiple Comparison Test.

RESULTS: A significant ($p < 0.05$) reduction of viable cells was observed in Group 2 and 3 compared with Group 1. A significant ($p < 0.01$) increase of doubling time was also observed in Group 2 compared with Group 1 and not significant changes were observed in Group 3. Not significant differences between groups were observed about the yield of cells obtained at the isolation.

CONCLUSIONS: Preliminary data show that there are significant differences in terms of viability and doubling time of hAMSCs between young and older women as well as between physiological and preeclamptic pregnancies.

INSTITUTE

[1] University of Foggia, [2] University of Foggia, [3] University of Foggia, [4] University of Foggia, [5] University of Foggia, [6] University of Foggia, [7] University of Foggia, [8] University of Foggia, [9] University of Foggia, [10] University of Foggia, [11] University of Foggia