

عنوان مقاله:

Lipid Desaturation in Normal Human Ovarian Surface Epithelium Cell Cultures

محل انتشار:

بیستمین کنگره بین‌المللی بیولوژی تولید مثل و پانزدهمین کنگره بین‌المللی سلول های بنیادی (سال: 1398)

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خلاصه مقاله:

Background: Latest investigations on ovarian germ-line stem cells (GSCs) have changed the idea of the existence of the fixed number of oocytes following the birth of the mammalian females. The origin of ovarian GSCs are claimed to be from the epithelium surface. These ovarian surface epithelium (OSE) cells display self-renewal capacity and identified by both specific stem cells and germ cell markers such as SSEA4 and VASA. Recently, we have assessed the stemness of the OSE isolated and cultured from normal human ovaries. In the current study, it is shown that, following the expansion, cells in the culture display lipid desaturation which is known as a metabolic marker of ovarian cancer stem cells (CSCs). Materials and Methods: The biopsies of the OSE were taken by scrapping from the patients undergoing operation; following obtained written informed consent from patients. Samples were transferred to the lab and human OSE cells were isolated and cultured after rinsing and centrifugation. The proliferating cells were undergone immunofluorescent (IF) staining with SSEA4 and VASA antibodies. Q-PCR was performed to assess the level of the expression of the VASA in different passage numbers. The level of the progesterone was detected using ELISA. Results: OSE derived cells from normal human ovaries expressed both VASA and SSEA4 while proliferating in early passages. However the level of the VASA expression was down regulated later as revealed by Q-PCR. Interestingly, cells in later cultures showed lipid desaturation which is known as metabolic markers of human ovarian cancer stem cells in recent publications. ELISA data showed no sign of progesterone secretion by the cells in their initial cultures. Conclusion: Our data confirms others reports for existence of stem cells from human OSE. Moreover, some of the cells in later cultures showed lipid desaturation. Recent articles reported that lipid desaturation is a metabolic marker of human ovarian CSCs. This finding indicates that ovarian CSCs and GSCs may have similar origin which is OSE.

کلمات کلیدی:

Germ-Line Stem Cells, Lipid Desaturation, Ovarian Cancer Stem Cells, Ovarian Surface Epithelium Cells

