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Poster Presentation

The Anti-Inflammatory Effects of Human Amniotic Membrane Epithelial Cells-Derived Condition Media

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Abstract

The human amniotic membrane known as the innermost single epithelial-covered layer provides many applications such as applicable anti-inflammatory and anti-cancer effects. These immunomodulatory effects belongs to the epithelial cells, a type of epiblast-derived fetal stem cells which currently used for regenerative medicine and transplantation. These cells are collected by author-prepared facilities and expanded in 75 cm2 cell culture flask (Biofil) in the DMEM, 12% FBS and penicillin-streptomycin antibiotic incubated in 80% humidity, 5% CO2 for 72 hours. These cell released the special macromolecules modulate the inflammatory pathways so the 2×105 cells were expanded in the 25 cm2 flask and incubated in the standard incubation condition. After 72 hours, the media changed and after 5 days, the cellular supernatant were collected as the conditioned media. The U937 cell line were treated with 50% condition media and standard medium (RPMI 1640, 5% GlutaMax and 10% FBS) for one week. The level of mRNA expression of IL1α and β and IL 8 were evaluated in the U937 cells after 1 week treatment with conditioned media. The obtained results illustrated the significant reduction in the IL1α and β and IL 8 cellular expression in the treated cells ($p<0.001$). The conditioned medium obtained from expanded human amniotic membrane epithelial cells has the anti-inflammatory effects based on obtained results on U937 cell line. This properties may provide the promising way in regenerative medicine.

Keywords: Human Amniotic Membrane, Regenerative Medicine, Anti-Inflammatory, Conditioned Media

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