

# The 2<sup>nd</sup> International Neuroinflammation Congress and 2<sup>nd</sup> Student Festival of Neuroscience



Shefa Neuroscience Research Center, Tehran, Iran, 17-19 April, 2018

*The Neuroscience Journal of Shefaye Khatam*

Volume 6, No. 2, Suppl 1

## Poster Presentation

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

Abolfazl Nosrati Tirkani\*

Department of Medical Biochemistry, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran

*Published: 17 April, 2018*

#### 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 cm<sup>2</sup> cell culture flask (Biofil) in the DMEM, 12% FBS and penicillin-streptomycin antibiotic incubated in 80% humidity, 5% CO<sub>2</sub> for 72 hours. These cell released the special macromolecules modulate the inflammatory pathways so the 2×10<sup>5</sup> cells were expanded in the 25 cm<sup>2</sup> 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 IL1 $\alpha$  and  $\beta$  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 IL1 $\alpha$  and  $\beta$  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

**\*Corresponding Author:** Abolfazl Nosrati Tirkani

**E-mail:** nosratia9@mums.ac.ir