J Allergy Ther 2018, Volume 9
DOI: 10.4172/2155-6121-C2-010

Immunomodulatory function of treg-derived exosomes is impaired in patients with relapsing remitting multiple sclerosis

Maryam Azimi
Tehran University of Medical Sciences, Iran

Multiple sclerosis (MS) is an autoimmune disease, in which due to defective functions of CD4+ CD25+ regulatory T cells, autoreactive T lymphocytes promotes neuroaxonal degeneration in central nervous system. Tregs are able to release nano-sized vesicles called exosomes, which contain a substantial amount of protein and RNA. Exosomes are capable of transporting their content to other cells and be functional in the new site. Exosomes could modulate the immune cells responses. Hence, the aim of present study was to evaluate whether Treg-derived exosomes could contribute to regulate the proliferation or survival of T CD4+ cells of relapsing-remitting multiple sclerosis (RRMS) patients. In this study, purified regulatory T cells were cultured for 3 days, and exosomes were extracted from cell culture supernatant. The Treg-derived exosomes were co-cultured with conventional T cells of MS patients. Finally, the percentages of Tconv proliferation and apoptosis were measured. Our findings showed that Treg-derived exosomes of MS patients suppressed the proliferation and induced apoptosis in conventional T cells less than healthy controls (p-value<0.05); this result may lead to open up a new way to distinguish an alternative Treg inhibitory mechanism in multiple sclerosis immunopathogenesis.

azimibiostem@gmail.com

Notes: