Gnaneshwer Jadav, J Clin Cell Immunol 2017, 8:6(Suppl)
DOI: 10.4172/2155-9899-C1-042

Role of the human *cytomegalovirus* in systemic sclerosis

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Systemic sclerosis (SSc) is a chronic systemic inflammatory disease, characterized by vascular dysfunction, immune alteration and tissue fibrosis. Recent data suggests that patients with other autoimmune diseases have shown an expansion of unusual T-Cell population identified as CD4+/CD8+CD28- T-cells. CD4+/CD8+CD28- T-cells represent an aggressive T-Cell subset that differs from conventional CD4+/CD8+CD28 T-helpers in both phenotype and function. CD4+/CD8+CD28- T-Cell have pro-inflammatory functions and releases high number of cytotoxic enzymes. Chronic antigenic stimulation results into the aggregation of late differentiated, antigenic specific, oligoclonal T-Cell, particularly within the CD4+/CD8+ T-Cells compartments. They are characterized by loss of CD28 co-stimulatory receptors and /or gain of CD57 expression. It is interesting to see how this T cell subsets are expanded during the infection of human *cytomegalovirus* (HCMV). Regulatory T (Treg) believed to be converted into pathogenic cells and produces higher number of inflammatory cytokines thought to be a crucial step in the progression of many autoimmune diseases but whether loss of normal Treg cell function contributes to SSc is unknown. By considering the role of the different T cell subsets, we have aimed to evaluate the percentage of the CD4+/CD8+CD28- T-cell, Treg cells and CD57+ CD4+/CD8+CD28- T-cell to understand whether the percentage of these T-cell subpopulations correlates with anti-HCMV antibodies and with treatment. In other autoimmune pathologies these cells are responsible for the production of proinflammatory cytokines and cytotoxic enzymes, so it would be interesting to clarify their role in scleroderma and to evaluate possible correlation with the presence of previous HCMV infection. The percentage of Treg cells does not seem to be different between patients and healthy controls.

Biography

Jadav Gnaneshwer is a Ph.D. Student at the University of Verona. In Ph.D. his research topic is the role of HCMV in the pathogenesis of Systemic Sclerosis.

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