Abstract

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Pathogenic Role of Mesenchymal Stem cell during the Systemic Sclerosis

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Abstract

Systemic Sclerosis (SSc) is autoimmune disease, characterised by microangiopathy and fibrosis. Due to the heterogeneity, in terms of extent, severity, and rate of progression, the optimal therapeutic interventions for SSc is still lacking. One future therapeutic option may be the regenerative therapies, by using mesenchymal stem cells (MSCs), displaying immunomodulatory, angiogenic and antifibrotic capabilities and counteracting the three main pathogenic axes of SSc. Considering the therapeutic potential of these cells, we largely studied MSCs isolated from SSc patients (SSc-MSCs), reporting the evidence that SSc-MSCs may be primed toward a profibrotic profile, playing a pathogenetic role during SSc. In vitro results show that SSc-MSCs, although senescent, may display immunosuppressive and regulatory properties, such as the ability to induce functional Tregs as well as to inhibit the proliferation of peripheral blood mononuclear cells. Conflicting results have been reported concerning their angiogenic properties.

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Biography

Roberto Giacomelli is Professor of Rheumatology, Director of the Rheumatology Clinical Unit and Director of Department of Biotechnological and Applied Clinical Sciences, at University of L'Aquila, L'Aquila, Italy. He was recipient of grants supported by PRIN, Ministry of Health and Ministry of Research, for his research in the field of Scleroderma. He is also recipient of competitive grants in other inflammatory diseases (HORIZON 2020 and ASPIRE 2016). He participates in numerous international scientific groups including European Scleroderma Study Group (EU), Scleroderma Clinical Trial Consortium (USA), Eular Scleroderma Trial And Research group (EUSTAR) (EU), Autologous Stem cell Transplantation International Scleroderma Trial (ASTIS TRIAL) (EU).