

Maintenance stem cells or mesenchymal stem cell: Decoding their role in osteoarthritis of knee

Ashok Kumar

Saudi German Hospital, United Arab Emirates



Abstract

Mesenchymal Stem Cell (MSC) therapy in osteoarthritis has generated great interest and is offered with the unlimited potential of healing and regeneration. Current literature regarding their proper name, optimal sources and mechanism of action, dosage, route of administration, efficacy, and safety is debatable. Maintenance Stem Cells (MSC) may be a more suitable term than mesenchymal stem cell or medicinal signaling cells. Only a small percentage of implanted MSC survive and rest undergo apoptosis after releasing growth factors/cytokines/extracellular vesicles. These surviving MSC become active due to conformation changes induced by anti-environment stimuli and undergo limited self-renewal and proliferation but might not differentiate and incorporate into the host chondrocytes or chondroblast; these cells generate and maintain a momentum of series of regenerative activities to improve the function of joint, stabilize or possibly enhance the cartilage quality. More randomized controlled studies with long term follow-up might reveal its true potential and will help to establish it as one of the preferred alternatives to surgical treatment in osteoarthritis of the knee.

Biography

Ashok Kumar did his MS Ortho from AIIMS & FRCS/Mch Ortho/Diploma in Sports Medicine from UK. He is Diplomat and Board certified from American Academy of Regenerative Medicine. He worked as an Assistant Professor at AIIMS, New Delhi; has published 31 international papers. Currently he is working as a Specialist Orthopaedic Surgeon at Saudi German Hospital, Dubai and Emirates Integra Dubai Health Care city; and Medical Director of My Doc Specialist Medical Centre, Dubai. He is an expert in treating degenerative and traumatic disorders of joints/ligaments/tendon by using stem cells/PRP/autologous Conditioned serum and by joint and ligament reconstructions.



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