Therapeutic Advances in Musculoskeletal Disease (2016) Review
DOI: 10.1177/1759720X16642405

How does surgery compare with advanced intra-articular therapies in knee osteoarthritis: current thoughts

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Abstract

The objectives of osteoarthritis (OA) management are to reduce pain and inflammation, slow cartilage degradation, improve function and reduce disability. Current strategies for managing knee OA include nonpharmacological interventions, oral pharmacological treatments, localized intra-articular injections, and surgery. It has become evident that the inflammatory response is a key contributor to the development and progression of knee OA. Signaling pathways involving growth factors and cytokines are being investigated for the development of new therapies that target the underlying biological processes causing the disease. This concept of 'molecular orthopedics' enables more patient-centered diagnostic and treatment strategies. In contrast to other conservative therapies, which ultimately only address OA symptoms, intra-articular injections, in particular autologous conditioned serum (ACS), provide benefits that have the potential to outweigh those of established pharmacological treatments and surgery. Surgery has historically been considered the final solution for treatment of knee OA, both by treating physicians and by patients; however, there are increasing concerns regarding the lack of randomized clinical trials providing evidence to support this opinion. Intra-articular injection of ACS has demonstrated efficacy as a treatment for knee OA in a number of studies, with a very low rate of adverse events and side effects, compared with surgery. Treatment with ACS utilizes the release of anti-inflammatory cytokines and regenerative growth factors to support the natural healing processes in the knee, and has the potential to provide a valuable alternative to surgical intervention.

Keywords: autologous conditioned serum, intra-articular injections, knee, orthopedic surgery, osteoarthritis, pain management