

Use of innovative technologies in the treatment of osteoarthritis: combined action of high frequency neuromodulation and intra-articular SARC infiltration

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Abstract

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Abstract

Introduction. Osteoarthritis is one of the most common rheumatic diseases characterized mainly by pain and reduced joint mobility. Patients with knee, hip and shoulder osteoarthritis who are refractory to conventional therapies (anesthetic and corticosteroid infiltrations, PRP infiltrations, etc.) and who are not candidates for prosthesis have few therapeutic options. PHF, determining an approximately constant electric field, produces a more effective neuromodulatory effect with an alteration of gene expression (c-fos) and an inhibition of the cascade mechanism of proliferation of pro-inflammatory cytokines (c-fos, interleukins, etc.). PHF is implemented by the commercial PHF generator system KROMED.

SARC (Autologous Cytokine-Rich Serum) is an autologous derivative of platelets, white blood cells and plasma, through a closed and automatic system, which is administered with intra-articular infiltration.

SARC is a serum devoid of cellular component (platelets, fibrinogen) with a high concentration of anti-inflammatory cytokines and growth factors. SARC is obtained using the commercial Qrem Cytokine system.

Purpose. To determine the percentage of patients undergoing combined PHF and SARC treatment who achieved an improvement in pain and joint mobility 1 month after treatment.

Methods. Data collected on 18 patients with knee, hip and shoulder osteoarthritis refractory to conventional treatments in the last 6 months (Table 1). Data relating to pain (VAS) and joint mobility of patients were collected during the first visit and subsequent follow-ups. The results obtained were compared and the percentage of decrease in VAS compared to the initial values was calculated. For summary purposes, only the results at 6 months after treatment are shown.

Results. Of the 21 patients initially included, 3 did not reach the follow-up at 6 months after treatment. In the pain assessment (VAS) patients who received a combined PHF+SARC treatment showed a significant improvement up to 6 months after treatment. In the joint mobility assessment the improvement was maintained up to 6 months. 70% of patients had a pain reduction of at least 50% with a single treatment for the knee, 100% of patients for the hip and 67% of patients for the shoulder. 70% of patients had a pain reduction of at least 70% with a single treatment for the knee, 40% of patients for the hip and 67% of patients for the shoulder. (Table 2)

Conclusions. It has been observed that patients undergoing high frequency neuromodulation treatment PHF and SARC infiltration, to varying degrees, have benefit. About 80% of treated patients have some degree of improvement at 1 month not less than 50%.