Efficiency of PRP (Platelets-rich Plasma) Compared to Ozone Infiltrations

Efficiency of Platelet-rich Plasma (PRP) Compared to Ozone Infiltrations on Patellofemoral Pain Syndrome and Chondromalacia: A Non-Randomized Parallel Controlled Trial

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Objective: 1) to determine the efficiency of PRP compared to Ozone Infiltrations on pain, function and quality of life (QoL) in patients with Patellofemoral Pain Syndrome (PFPS)

and Chondromalacia.

Material and methods: Prospective non-randomized controlled-trial, comparing two treatment protocols in parallel design, on 48 patients (24 in each group), with PFPS

and Chondromalacia , who were treated at Santa Cristina's University Hospital, from January 2014 to May 2017. The PRP-protocol consisted of 3 sessions (1 session/week) of

platelet-rich plasma (PRP), by an intra-articular infiltration of 3 ml. To obtain PRP, a kit device from EXACTECH (Accelerate Concentration System Device and Drucker Centrifuge was

used.

The Ozone-protocol consisted of 4 sessions (1 per week) of a medical mixture of Oxygen-Ozone (95%-5%) 20 ml, at a 20 ug/ml concentration, infiltrated intra-articularly.

Pain, function, stiffness and Quality of Life were measured by Western Ontario and Mc Master Universities Index for Osteoarthritis (WOMAC) and Visual Analogical Scale (VAS)

at baseline/end of treatment.

Results: At baseline, age, sex, ratio male to female, clinical chondromalacia grades and symptom severity such as pain, stiffness and function were similar between groups

of treatment. In both groups, the most common grade of chondromalacia was 2º grade (41.8% in PRP, 50% in Ozone), followed by 3º (37.6% in PRP, 33.4% in Ozone) and 4º

(16.6% in both PRP and Ozone). When treatment protocols are analyzed separately, both PRP and Ozone were capable to produce pain relief (measured by VAS and WOMAC pain

subscale), and improvement in function and rigidity (measured by WOMAC subscales), with a significant statistical level ($p<0.05$). In the case of pain, Ozone is even more effective than

PRP (1.46 points on VAS scale and 2.95 points on WOMAC pain subscale) ($p<0.05$).

Conclusion: PRP and ozone produce pain relief, function recovery and quality of life improvement in PFPS and chondromalacia, measured by WOMAC and VAS scores. In

the case of pain severity, ozone produces even greater pain relief. PRP and Ozone are safe and effective modalities for the management of PFPS and chondromalacia.

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