

DOES PLATELET RICH PLASMA COMPOSITION MATHERS IN HIP OSTEOARTHRITIS?



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BACKGROUND

Analgesic and antiinflammatory (AA) activity of autologous Platelet rich plasma (PRP) yields in its concentration on blood-cell counts and certain growth factors. Although, clinical correlation is poor described.

PURPOSE

We sought to analyze clinical outcomes and its with growth factors and blood cell concentration of PRP.

MATERIAL AND METHODS

Cohort study of adult patients with Hip Osteoarthritis who had failed previous conservative treatment and received a single intraarticular injection of autologous Platelet Rich Plasma (PRP) for pain management.

Follow-up period: 1 year with clinical evaluations at baseline (day of PRP administration) and at 1, 4, 24, 48 weeks . Primary outcome: measure was a change in Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) and secondary outcomes: Harris Hip Score (HHS), Visual Analog Scale (VAS), responders' rate (OARSI Criteria), analgesic treatment, Cell counts and the contents of vascular endothelial growth factor (VEGF), platelet-derived growth factor AB (PDGF-AB), transforming growth factor beta 1 (TGF- β 1), Interleukin beta 1 (IL- β 1) and Insulin growth factor (IGF) concentration of growth factors in PRP. Uni and multivariate analyses were performed using SPSS v.18.

RESULTS

38 patients were Included. A better response to treatment was observed in those patients with a baseline grade 1 -2 of Kellgren Larwrence (11.51 OR, IC 95% 2.34-50.65, $p < 0.03$). Significant high correlation was found between white cells concentration-VAS score ($r = 0.748$, $p < 0.013$) and white cells concentracion-WOMAC stiffness ($r = 0.748$, $p < 0.013$). Moreover, moderate correlation was found between IL β 1-HHS ($r = -0.38$, $p < 0.042$), IL β 1-VAS score ($r = 0.452$, $p < 0.018$) and IL β 1 and WOMAC score ($r = 0.441$, $p < 0.021$). In responders, we found a moderate negative correlation between PDGF and VAS score ($r = -0.446$, $p < 0.012$) and PDGF and WOMAC score ($r = -0.39$, $p < 0.037$).



CONCLUSIONS

Results indicated an unique intra-articular PRP injection offers a clinical improvement in patients with hip OA with correlation between growth factors and cell concentration and clinical results.

