

Efficacy of Intraarticular Knee Injection of PRP (Platelet Rich Plasma) vs Steroid (Triamcinolone Acetate) for the Treatment of Primary Knee Osteoarthritis Grade I and II

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Abstract : Objective: This study assesses the effectiveness of PRP (Platelet Rich Plasma) and compares it with Triamcinolone 40mg (Steroid) on functional activity, stiffness and pain in Grade I & II Knee osteoarthritis (OA). Method: A randomized experimental trial was conducted at the outdoor departments of Advanced Pain Relief Center, Lifeline Hospital Lahore (Pakistan) from January 2022 to December 2022. The present study included a total of 235 participants, out of whom 190 individuals were deemed eligible for inclusion based on predetermined criteria. The remaining 45 participants were excluded from the study due to non-adherence to eligibility criteria and lack of approval from the institutional ethical committee. Out of a total of 190 subjects enrolled in the study, 64 (33%) were characterized as male, while 126 (67%) were classified as female. The participants' mean age was 53.5 ± 6.4 years. Alternative patients were treated with intra-articular injections of either triamcinolone 40mg or PRP. Patients randomized in the Steroid group (n=95) were given intraarticular 40mg Triamcinolone acetate (1ml) along with 2ml of Local anesthetic Lignocaine 1%, whereas patients randomized in PRP group (n=95) were injected 5ml PRP. 'The Western Ontario and McMaster Universities Arthritis Index' (WOMAC) Scale was used for functional disability and pain before and after the therapy for the targeted knee joint at the baseline 1 week, 5 weeks, 8 weeks and 20 weeks follow-ups. Visual Analogue Scale (VAS) scores were also recorded for pain. Data analysis was done by using SPSS version 20. Results: There wasn't any serious adverse effect observed during the study and follow-ups. 25 WOMAC functional activity scale showed statistically significant improvement with Intraarticular knee injection of PRP compared to steroids (40.64 ± 1.87 vs. 27.17 ± 6.01) ($p = 0.000$). WOMAC pain scale results also demonstrated that intraarticular knee injection of PRP was more effective in reducing knee pain than steroids ($p = 0.000$) at 20 weeks follow-up. Conclusions: On the basis of the results of our study, we concluded that platelet-rich plasma is more effective than intra-articular steroids in terms of improvement in functional activity and reduction of pain in patients with Grade I & II knee osteoarthritis. Both PRP and steroid intraarticular injections are safe.

Keywords : platelet rich plasma, osteoarthritis, visual analogue scale, WOMAC, Western Ontario and McMaster Universities osteoarthritis index

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