

Platelet Rich Plasma as Biological Therapy in Western Guatemala: Benefits, Safety, and Tolerability

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INTRODUCTION:

Osteoarthritis (OA) is a prevalent and complex musculoskeletal degenerative disease characterized by significant geographic and population differences. Even so, its common denominator is its adverse effects on the patient's quality of life physically, psychologically, and economically. Although the full spectrum of the disease is unknown, Guatemala's ethnic, cultural, and linguistic diversity results in differing pathological symptomatology of OA, mainly by age, gender, and ethnicity in the interior regions of the country.

There is no standard clinical guideline for the best non-surgical therapeutic approach for OA at the national level. Therapies with platelet-rich plasma (PRP) are developing in Guatemala. The objective of this study is to describe the main pre-and post-treatment clinical results to demonstrate the effects of PRP therapy in patients with OA.

METHODS:

A retrospective, descriptive study was carried out with primary data calculated from a total population of N=319 cases. A confidence level of 95% was used with values $Z=1.96$, $p=0.5$, $q=0.5$, and $E=0.05$, obtaining a sample of 175 individuals. However, 201 medical reports were evaluated by inclusion criteria to add greater representation.

Pre-and post-treatment joint evaluation data forms of patients 15 years of age and older with a follow-up time of more than two years who received intra-articular injection with platelet-rich plasma (PRP) were tabulated. The therapy was applied by an experienced medical specialist with full training in arthroscopy at the family medicine clinic of the National University of Guatemala, Quetzaltenango campus, Central America. Medical records from 2017 to 2021 were included and analyzed with the IBM SPSS software.

RESULTS: See graphs 1 and 2

DISCUSSION AND CONCLUSION:

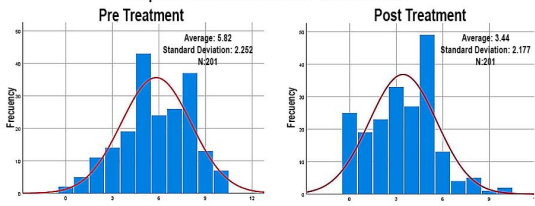
This is the first study in Guatemala reporting the beneficial therapeutic spectrum of PRP as an alternative therapy in the management of OA in patients from the western region for whom arthroplasty is not an affordable option, with the goal of improving their range of movement and decrease pain levels.

An educational protocol was developed for patients at the clinical level, in which therapeutic objectives and frequent monitoring were established. After PRP treatment, clinical progress was observed with decreased pain scale and increased mobility function. The most notable results in symptom improvement were in patients on the grades I and II Kellgren and Lawrence X-ray scale.

The patient was monitored at intervals of 5-, 10-, 15-, and 30-days post-infiltration. During the study period, no adverse or infectious effects were reported. In general, the procedure was well-tolerated with reports of minimal pain and inflammation, which were treated with local ice application and analgesics prescribed by the clinician.

The medium and long-term prognosis of the patient with OA depends upon biological and non-biological predisposing factors. Physiotherapy should be incorporated as a therapeutic complement in order to enhance results. Patient awareness of the PRP treatment option, with improved access, should be evaluated in the success criteria. Patient education is an essential tool to optimize OA management. In Guatemala, patients are more concerned with affordable therapies that reduce pain and improve mobility and function, as compared to undergoing surgical treatment.

Graph 1. Pain Scale Pre and Post-Treatment.



Graph 2. Mobility Function Percentages by Category Pre and Post-Treatment

