



## Letter to the Editor

**Letter to the Editor on “Treatment of lateral ankle sprain with platelet-rich plasma: A randomized clinical study”**


To the Editor,

We congratulate the team of Dr. Blanco-Rivera for completing their randomized clinical study on the effect of platelet-rich plasma (PRP) in patients with acute lateral ankle sprains [1]. Their work raised some thought-provoking issues. Through the present Letter to the Editor, we wish to take the opportunity to respectfully comment on these.

Firstly, neither the patients nor the observer(s) or clinicians were blinded to the PRP injections and patient reported outcome measures (PROMs), thereby potentially introducing observer bias [2,3]. As the majority of the outcome scores were PROMs, the subjective outcome measures are particularly susceptible to a placebo effect. A previously published double-blind, randomized, placebo-controlled study evaluating the use of PRP for acute ankle sprains showed no superior effect regarding pain control or function [4]. Secondly, no clear definition or description of a primary or secondary outcome measure was described, which increases the risk of false-positive errors resulting from the statistical testing of many (secondary) outcomes. Additionally, a robust power analysis is absent. Thirdly, no clear protocol on (supervised) physiotherapy or medication administration for the post-immobilization period was provided which could have skewed the outcome scores as this could have induced performance bias [2,3,5–10].

The Visual Analogue Scale (VAS), the American Orthopaedic Foot and Ankle Score (AOFAS) and the Foot and Ankle Disability Index (FADI) show statistically significant superior results for PRP at some time points [5,6]. It is questionable whether the reported differences in VAS (0–10) scores ranging from 0.1 to 1.9 are clinically relevant, as the minimal clinically important differences (MCID) reported for this outcome score range from 2 to 3 (0–10) in acute sprains [11–14]. The MCID for the AOFAS for hallux valgus surgery range from 17 to 31. Although there is no MCID known for AOFAS concerning lateral ankle sprains, it is highly unlikely the statistical significant differences are clinically relevant [15,16]. For the FADI score no MCID has been reported in the literature. However, we argue that it is very unlikely that the reported small differences of 0.1 to 5.0 points exceed the MCID. In summary, none of the statistical significant results can be regarded as clinically relevant.

Based on the aforementioned (methodological) shortcomings there is a substantial risk that these small clinical irrelevant differences in favor of PRP are skewed by a placebo effect and the potential introduction of observer and performance bias [2,3]. We therefore advocate for interpreting the authors' overall results with caution and

can not support their conclusion “that the use of PRP therapy as an adjuvant for the treatment of lateral ankle sprains allows the patient to report less pain during his recovery time and a better functionality outcome when compared with immobilization only.”

**Conflict of interest**

None reported for any of the authors.

**Author involvement and publication**

All authors were fully involved in the study and preparation of the manuscript. The material within the present letter to the editor has not been and will not be submitted for publication elsewhere.

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