

Cost-effectiveness of Platelet-Rich Plasma for Diabetic Foot Ulcer in Spain

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Abstract

This study evaluated the cost-effectiveness of platelet-rich plasma (PRP) added to usual care versus usual care alone in elderly patients with chronic diabetic foot ulcer (DFU) from the Spanish health care system perspective. A 6-state Markov model with 3-month cycles was used to estimate costs and outcomes of wound healing and risk of recurrences, infections, and amputations over 5 years. Three treatment strategies were compared: (a) usual care plus PRP obtained with a commercial kit, (b) usual care plus PRP obtained manually, and (c) usual care. Data on effectiveness were taken from a recent meta-analysis. Outcomes and costs were discounted at 3% and resources were valued in 2018 euro. Compared with usual care, the PRP treatment with the manual method was more effective and less costly (dominant option), whereas the PRP treatment with the commercial kit was more effective but also more costly, with the incremental ratio being above the cost-effectiveness threshold (€57 916 per quality-adjusted life year). These results are sensitive to the price of PRP kits (a 20% discount would make the PRP treatment a cost-effective option) and effectiveness data, due to the heterogeneity of primary studies. In conclusion, PRP treatment for DFUs could be considered a cost-effective or even cost-saving alternative in Spain, depending on the method of obtaining the PRP. Despite the dominance of the manual method, its general use is limited to hospitals and specialized centers, whereas PRP kits could be used in primary care settings, but their prices should be negotiated by health authorities.

Keywords

diabetic foot ulcers, health-related quality-of-life assessments, wound care/dressings/NPWT or TNP, cost-effectiveness, platelet-rich plasma

One of the most serious long-term complications of diabetes mellitus is the development of foot ulcers as a consequence of the sustained effect of peripheral neuropathy and vascular insufficiency.¹ Diabetic foot ulcer (DFU) is the result of the combined effect of angiopathy, neuropathy, and the increased risk of infections, together with injuries to pressure points, leading to anatomical bone deformities of the feet.

The diabetic foot is prone to ulceration, and the prevalence ranges between 4% and 10% of the diabetic population. It is estimated that 15% to 25% of patients with diabetes will develop ulcers throughout their lives, with high rates of recurrence and amputations.² As a result, there is an increase in disability and a significant decrease in the quality of life of these patients.³

In addition, DFU represents an enormous economic burden. The EURO DIALE study analyzed the direct and indirect annual costs in several European countries, including

Spain, in a total of 821 patients with DFU. The mean annual cost per patient was €10 091, hospitalization being the most

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