

Efficacy of Platelet-Rich Plasma versus Hyaluronic Acid for treatment of Knee Osteoarthritis: A systematic review and meta-analysis

Introduction

Knee osteoarthritis is a very common chronic degenerative disease that could impose significant costs to the health system. Although osteoarthritis can affect all joints, knee osteoarthritis is the most common type among adolescents. Non-surgical treatments include corticosteroids injection, hyaluronic acid, and platelet-rich plasma. The aim of this study was to investigate the efficiency of platelet-rich plasma versus hyaluronic acid for the treatment of knee osteoarthritis.

Methods

Pubmed, Cochran library, Scopus and Ovid databases were investigated to identify related studies from 2000 through August 2015. To study the efficiency, Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) outcome using the Standard Mean Difference (SMD) index was calculated using a random model and a confidence interval of 95%. In addition, sensitivity and cumulative analysis were conducted. The data were analyzed using RevMan 5.3.5 and Stata 12 software.

Results

Seven studies with 722 subjects (364 participants in PRP and 358 participants in the HA group) were analyzed. The WOMAC PRP compared to HA, SMD = -0.75 (95% CI: -1.33 to -0.18 , $I^2 = 92.6\%$) in treatment of knee osteoarthritis was statistically significant and PRP was more effective.

Conclusion

The results of this meta-analysis two years after PRP injection showed the efficacy of PRP versus HA. However, further studies are required to determine the longer-term effects.