Intra-articular injection of an autologous preparation rich in growth factors for the treatment of knee OA: a retrospective cohort study

M. Sánchez¹, E. Anitua², J. Azofra¹, J.J. Aguirre², I. Andia²

¹Unidad de Cirugía Artroscópica “Mikel Sanchez”, Vitoria, Spain; ²Biotechnology Institute, BTI IMASD, Vitoria, Spain.

Abstract
Objective
To obtain preliminary information about the effectiveness of intra-articular injections of an autologous preparation rich in growth factors (PRGF) for knee OA treatment to be explored further in future studies.

Methods
We have characterized PRGF treatment by platelet count and concentration of relevant growth factors (TGF-β¹, PDGF-AB, VEGF-A; HGF and IGF-1) involved in healing mechanisms. We have performed an observational retrospective cohort study using hyaluronan injections as a control. Each group included 30 patients with OA of the knee, matched according to age, sex, body mass index and radiographic severity. Both treatments were based on three weekly injections. Clinical outcome was examined using the WOMAC questionnaires prior to treatment and at 5 weeks after treatment.

Results
The observed success rates by week 5 for the pain subscale reached 33.4% for the PRGF group and 10% for the hyaluronan group. The difference was attributed exclusively to the treatment modality, p=0.004. The percent reductions in the physical function subscale and overall WOMAC at 5 weeks were also associated solely with treatment modality in favour of PRGF, p=0.043 and p=0.010 respectively.

Conclusions
Although these preliminary results need to be evaluated in a randomized clinical trial, they provide useful information about the safety of PRGF and open new perspectives on autologous treatments for joint diseases.

Key words
Osteoarthritis, platelets, growth factors, hyaluronan, WOMAC.

Please address correspondence and reprint requests to: Dr. Isabel Andia, Biotechnology Institute, c/ Leonardo Da Vinci 14, 01510 Miñano (Alava), Spain.
E-mail. isabel.andia@bti-imasd.com

Clin Exp Rheumatol 2008; 26: 910-913
© CLINICAL AND EXPERIMENTAL RHEUMATOLOGY 2008.