

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

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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- β 1, PDGF-AB, VEGF-A; HGF and IGF-I) 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.

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