

## REFERENCES AND/OR ACKNOWLEDGEMENTS

We acknowledge the receipt of study funding by the Medical Research Center.

No conflict of interest.

### 6ER-014 PLATELET-RICH PLASMA: WHAT ARE WE REALLY ADMINISTERING TO OUR PATIENTS?

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10.1136/ejhpharm-2019-eahpconf.611

**Background** Platelet-rich plasma (PRP) has been shown to clinically accelerate the healing of both soft and hard tissues, although its analgesic and anti-inflammatory (AA) activity yields in its concentration on blood-cell counts and certain growth factors. In 2013 PRP changed its condition and aquired the classification of 'medicine' by the drug authorities. Preparation in an open manner is allowed under certain conditions, although techniques are not standarised for its composition.

**Purpose** We sought to describe and analyse our PRP prepared in our facilities.

**Material and methods** Following GMP practice guidelines, PRP was manufactured under an open technique. 100 g for 10 min conditions were applied. For each patient, 70 ml of peripheral blood were extracted and 14 ml of PRP was obtained. Cell counts and the contents of vascular endothelial growth factor (VEGF), platelet-derived growth factor AB (PDGF-AB), transforming growth factor beta 1 (TGF-β1), interleukin beta 1 (IL-1B) and insulin growth factor (IGF) concentration of growth factors in PRP were analysed.

**Results** Seventy-four patients were included. In table 1, peripheral blood sample and PRP composition are shown. Concentration and percentage recovery were 2.28 (2.15–2.36) and 45.6 (43.15–47.14) for platelets; 0.45 (0.39–0.6) and 9.17 (7.83–11.93) for white cells; and 0.01 (0.01–0.01) and 0.22 (0.18–0.29) for red cells, respectively.

Abstract 6ER-014 Table 1 Peripheral blood

	Median	Desv. tip
Hematies (x 10 <sup>6</sup> /μl)	4.67	0.46
Haemoglobina (g/dl)	13.81	1.41
Hematocrito (%)	42.57	3.93
Leucocitos (x 10 <sup>3</sup> /μl)	7.33	1.68
Plaquetas (x 10 <sup>3</sup> /μl)	261.53	78.97
Platelet-rich plasma		
Hematies (x 10 <sup>6</sup> /μl)	0.053	0.02
Haemoglobina (g/dl)	0.059	0.11
Haematocrito (%)	0.289	0.15
Leucocitos (x 10 <sup>3</sup> /μl)	3.870	2.11
Plaquetas (x 10 <sup>3</sup> μl)	586.216	153.20
IGF (ng/ml)	75.031	32.48
PDGF AB (pg/ml)	17888.097	7475.56
TGFβ-1 (pg/ml)	33484.448	20595.47
VEGF (pg/ml)	553.417	2052.27
IL1B (pg/ml)	230.000	1884.55

**Conclusion** We obtained high concentration and percentage recovery rates of platelets and poorer rates for the rest of the blood cells (optimal effect) and a significant amount of the pre-selected growth factors proved to be involved in the AA effect of PRP.

## REFERENCES AND/OR ACKNOWLEDGEMENTS

None.

No conflict of interest.

### 6ER-015 IMPACT ON PAIN MANAGEMENT AFTER A SINGLE VISCOSUPPLEMENTATION INTRAARTICULAR INJECTION IN PATIENTS WITH HIP OSTEOARTHRITIS WHO FAILED CONVENTIONAL TREATMENT

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10.1136/ejhpharm-2019-eahpconf.612

**Background** Viscosupplementation intraarticular injection with hyaluronic acid (HA) and platelet-rich plasma (PRP) has been shown to improve pain management in osteoarthritis.

**Purpose** We sought to describe the impact on analgesic consumption and VAS score after a single viscosupplementation intraarticular injection in patients with hip osteoarthritis.

**Material and methods** Randomised controlled trial to compare the clinical efficacy and safety of a single ultrasound-guided intraarticular injection with autologous PRP versus HA in hip osteoarthritis was performed with a 1 year follow-up (four visits: baseline, 1, 4, 24, 48 weeks). Variables studied included the reduction in: VAS score, analgesic drugs' consumption in doses (defined as total daily-defined-doses and type categorised according to OMS scale: type I, II and III for opioids).

**Results** A total of 74 patients were randomly assigned to two groups and received one single injection, PRP (38 patients), HA (36 patients). Table 1 shows reduction in analgesic drugs' consumption per group of treatment.

Within the first month, a significant reduction was shown in VAS score for both treatment arms in respect to last visit: 4 (2–6) vs. 7 (5–8) in PRP and 4.5 (2–7) vs. 7 (5–8) in HA; p<0.01. The 42.8% and 35.7% improvement in the PRP and HA groups, respectively, decrease to 28.5% in visit 3 for both arms. Pain management decrease although safer a year of follow-up baseline levels were not achieved and only 3/74 (4%) patients decided to go for surgery during the follow-up period. No adverse events were observed in any of the treatment groups.

**Conclusion** Viscosupplementation with a single intraarticular injection with HA and PRP seem to be a safe and effective treatment option in improving pain management in hip osteoarthritis, ensuring a delay in surgery. Although the PRP cohort presented better profiles, no significant differences were found with the HA cohort.

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None.

No conflict of interest.