

Appendix E

Supplementary material of “*Osteoarthritis Endotype Discovery via Clustering of Biochemical Marker Data*” by F. Angelini, P. Widera, A. Mobasheri, J. Blair, A. Struglics, M. Uebelhoer, Y. Henrotin, Anne C. Marijnissen, M. Kloppenburg, F.J. Blanco, I.K. Haugen, F. Berenbaum, C. Ladel, J. Larkin, A. C. Bay-Jensen and J. Bacardit.

1. Definition of progression

We used one non-progressive category (N) and three progressive categories related to pain (P), structure (S), and combined pain and structure (P+S). The progression was analysed between baseline and 2-year follow-up.

Structural progression was measured using radiographic readings of minimum joint space width (JSW) across the entire joint, performed with KIDA [1]. A patient was assigned to the S category if the minimum JSW decreased by at least 0.6mm.

Pain was measured using the pain subscale from the WOMAC questionnaire [2]. A patient was assigned to the P category if:

- the pain increased by at least minimal clinically important difference (10 WOMAC points on a 0–100 scale), and was substantial at the follow-up visit (at least 40 WOMAC points),
- the pain increased rapidly by at least 20 WOMAC points, and was at least 35 WOMAC points at follow-up),
- substantial pain (at least 40 WOMAC points) was sustained both at baseline and follow-up.

A patient was assigned to the P+S category if criteria for both P and S were satisfied, and to the remaining N category if neither of them was satisfied.

For 76 patients, the progression could not be assessed because of the missing follow-up data (due to withdrawal from the study or issues with X-ray image acquisition/quality).

[1] Marijnissen A, Vincken K, Vos P, et al. Knee Images Digital Analysis (KIDA): a novel method to quantify individual radiographic features of knee osteoarthritis in detail, *Osteoarthr Cartil.* 2008;16(2):234–243. doi:10.1016/j.joca.2007.06.009

[2] Bellamy N. WOMAC: a 20-year experiential review of a patient-centered self-reported health status questionnaire *The J Rheumatol.* 2002;29(12):2473–2476. URL: <http://www.jrheum.org/content/29/12/2473>