currently conducted. Other outcomes, of which health resource use and sick leave, will be assessed at the end of the program.

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Personalised medicine in rheumatic disease

OP0104

THE PRESENCE OF BLOOD IN THE JOINT AND THE IMMEDIATE MOLECULAR RESPONSE IN SYNOVIAL FLUID ARE INDEPENDENTLY ASSOCIATED WITH WORSE CLINICAL OUTCOMES AT 2 YEARS AFTER HUMAN KNEE INJURY

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Background: Knee injury increases the risk of knee osteoarthritis at least 7 fold. We have shown an immediate inflammatory response to acute knee injury which is measurable both in mouse joint tissues and also in human synovial fluid (SF).

Objectives: We set out to test whether the measured immediate inflammatory protein response in SF or plasma/serum was associated with knee symptoms at 2 years after knee injury.

Methods: 150 individuals were recruited within 8 weeks of a significant acute knee injury to the Knee Injury Cohort at the Kennedy (KICK; REC 10/H0805/39; NCT02667756) from 2011-2014. The primary outcome was the Knee Injury and Osteoarthritis Outcome Score (KOOS)-4 at 2 years (a composite measure of 4 KOOS domains, where 100 is normal knee health). Baseline covariates were sex, age, body mass index (BMI), clinical effusion, SF blood staining, radiographic Kellgren/Lawrence (KL) Grade. 14 SF and 4 plasma/serum biomarkers were defined based on our prior translational studies. Regression models assessed association of biomarkers with 2 year KOOS4, adjusting for significant covariates.

Results: 123/150 (82%) were male, mean age (SD) 27(8) years and BMI 26(4) kg/m². Mean KOOS4 increased from 38(18) at baseline to 70(18) at 2 years. 64 (43%) had KL 0/1, 24 (16%) KL 2 and 11 (7%) KL 3, 75 (50%) medium/large effusion and 50 (39%) moderate/severe SF blood staining.

Medium/large knee effusion (-7.2(-13.5,-0.9)P=0.025) and moderate/severe SF blood staining (-10.1(-18.6,-1.6)P=0.02) were significant. Significant biomarkers adjusted for these covariates are shown in Table. MCP-1 and IL-6 were each significantly associated with 2 year KOOS4 independently in the fully adjusted model and in the multivariable model.

SF biomarker (pg/ml)	Adjusted simple linear model (by baseline KOOS4)		Fully adjusted model (by baseline KOOS4, blood staining and effusion)	
	coef (95% CI)	P	coef (95% CI)	P
MCP-1	-0.020 (-0.029, -0.011)	0.00005	-0.015 (-0.027, -0.004)	0.01
FGF-2	-0.047 (-0.087, -0.007)	0.02	-0.021 (-0.059, -0.017)	0.28
IL-6	-0.0006 (-0.0010, -0.0003)	0.001	-0.0005 (-0.0009, -0.0001)	0.02
TGFβ	-0.0028 (-0.0053, -0.0003)	0.03	-0.0018 (-0.0042, 0.0006)	0.14
IL-18	-0.078 (-0.147, -0.008)	0.03	-0.02 (-0.11, 0.08)	0.75

Conclusion: Those with higher levels of SF MCP-1 and IL-6 at the time of injury had a significantly worse outcome at 2 years. The presence of haemarthrosis, clinical effusion and impairment/pain at the time of injury were also independent predictors of outcome. In contrast, no baseline plasma/serum markers were associated with outcome. Stratifying individuals at high risk of persistent symptoms after knee injury may enable clinical trials of interventions to prevent or treat PTOA.

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The riddle of adherence

OP0105-HPR

DO MOBILE APPS IMPROVE SHARED DECISION MAKING AND DISEASE MANAGEMENT IN THE RHEUMATIC DISEASES? AN EVALUATION OF APPS IN A SWISS RHEUMATOLOGY REGISTRY

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Background: From 2015 to 2018, the Swiss Clinical Quality Management in Rheumatic Diseases registry (SCQM) offered two mobile apps, iDialog and COMPASS, allowing patients to track disease and health status between rheumatology visits. Both apps are linked to the registry database, providing patients and physicians extra information to guide disease management decisions.

Objectives: To investigate the effect of SCQM app use on shared decision making (SDM) and disease management.

Methods: Patients were administered a cross sectional survey about satisfaction with SDM [1], disease management, and app use (February-December 2018). Patients' demographic data and longitudinal data on disease status, health status, and medication use was extracted from the SCQM database.

Analyses included patients diagnosed with rheumatoid arthritis (RA), psoriatic arthritis (PsA), or axial spondyloarthritis (axSpA) who had 1) used an SCQM app for at least 6 months and discussed app data with their physician (app + discussion group), 2) used an SCQM app for at least 6 months and did not discuss app data with their physician (app only group), or 3) did not use any SCQM app (non-app users).

We compared the 3 groups by conducting logistic regressions for the following dichotomized outcomes: maximum satisfaction with SDM and physician following the evolution of the disease, low disease activity at the most recent SCQM visit, disease activity improvement in the last year of followup, and treatment intensification (adding/increasing the dose of a disease-modifying antirheumatic drug) in the last 6 months of followup. Regressions were weighted using multinomial propensity scores to balance differences in baseline characteristics between the 3 groups.

Results: 1924 patients were included in the analyses. App users were younger than non-app users (Table 1). In adjusted analyses (Table 2), satisfaction rates were higher in the app + discussion group (p<0.05) compared to non-app users, but not for the app only group. The app only group had higher rates of treatment intensification in the last 6 months of followup (p=0.02) compared to non-app users. Although the app only and app + discussion groups had higher adjusted rates of other disease management outcomes compared to non-app users, the effects were not statistically significant.

Conclusion: App users who communicated with their rheumatologist about their app data were more satisfied with their physicians than app users who did not communicate about their app data and non-app users. Provision of apps that increase the frequency of disease monitoring may have limited impact on patient satisfaction with care and disease management processes without integration of app use into existing care processes.