general practitioner, 126 immunization campaign, 19 nurse, 9 rheumatologist, 4 pulmonologist, 1 infectious disease specialist, 1 family doctor and 1 internist. 260 (54%) reported having their immunization records. Only 37 had been vaccinated with influenza, 27 pneumococcus, 4 human papilloma virus and 2 Hepatitis B in the past. 372 (77%) accepted the invitation to be vaccinated on the day of their interview, but only 72 (19%) went to get the immunization; 41 of whom were given anti-influenza vaccines and 34 Pneumococcus (PPSV 23). The main causes for which the patient considers not to be vaccinated are: 85% "Because *my* treating doctor has not recommended me to go get vaccinated", 36% "They often do not have the vaccine to apply", 36% "I forget to get the vaccine on time", 31% "I think the application of the vaccine can make me sick", 14% "A vaccination center is not accessible", 7% "I think it is not useful to get vaccinated", and 5% "My doctor recommended me not to get vaccinated". These patients presented a total of 172 recurrent infections that included: upper airway infection 55, pneumonia 4 and others; 90 hospitalizations were required due to infection of which the main were due to: pneumonia 29, pulmonary tuberculosis 4, kidney 3, bone 1 and meningitis 1.

Conclusions: Immunization in this group of patients is low and rarely accepted mainly because their rheumatologist does not provide them with this information and due in general to a lack of information. This action is extremely important as it might reduce some serious infectious processes that lead to hospitalizations and increase the mortality in these immunosuppressed patients.

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OP0159 THE INITIATION, BUT NOT THE PERSISTENCE, OF EXPERIMENTAL SPONDYLOARTHRITIS IN HLA-B27/HUβ2M TRANSGENIC RATS IS CRUCIALLY DEPENDENT ON THE IL-23 AXIS

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Background: The pro-inflammatory cytokine IL-17A is a central driver of pathology in human spondyloarthritis (SpA). IL-17A production was originally proposed to be dependent on the upstream cytokine, IL-23. Emerging preclinical and clinical evidence from SpA-related diseases suggest, however, that IL-17A and IL-23 have a partially overlapping but distinct biology.

Objectives: Here, we aimed to assess to what extend pathogenic IL-17A is dependent on IL-23 in SpA by selectively targeting the IL-23R in the HLA-B27/Huβ2m transgenic rat model of SpA, which we showed previously to be IL-17A-dependent.

Methods: HLA-B27/Huβ2m tg rats were immunized with low dose heat-inactivated *M. tuberculosis*/IFA. Rats were treated with a depleting anti-mouse/rat chimeric IL-23R antibody or PBS in a prophylactic (treatment initiation after immunization, before disease onset) or therapeutic (treatment initiation after disease onset) experiment. Clinical measurements included spondylitis and arthritis scores and hind paw swelling (plethysmometry). At the end of the study spleen and lymph nodes were used to assess cytokine expression, serum samples were analyzed for exposure to anti-IL23R.

Results: In the prophylactic treatment strategy, 58% and 67% of the rats in the control group developed spondylitis and arthritis, respectively. The average arthritis score at the end of the study was 3.9±1.1 and the average hind paw swelling was 0.35±0.09 cm^3. Prophylactic treatment with anti-IL-23R completely protected the rats against the development of spondylitis as well as arthritis. In the therapeutic treatment strategy, however, anti-IL23R treatment failed to reduce the incidence or decrease the severity of experimental SpA (fig. 1). With an average increase in arthritis score after the start of treatment of 1.6±2.8 versus 2.1±2.5 and an increase in paw swelling of 0.6±0.7 versus 0.3±0.6 cm^3in anti-IL23R treated versus control animals. The differential effect of IL-23R targeting in the initiation phase versus established disease could not be explained by pharmacokinetic differences as serum analyses revealed similar exposure levels. Mechanistically, the expression of presumably downstream effector cytokines such as IL-17A ($p<0.05$) and IL-22 ($p<0.01$) was reduced in the popliteal lymph nodes of rats treated prophylactically with anti-IL23R versus controls, with a similar trend in spleen. Accordingly, IL-17A production upon ex vivo re-stimulation was reduced in samples from prophylactically treated rats. In contrast, similar popliteal lymph node expression data in samples from the therapeutic experiment indicate a twofold increase in IL-17A expression and no difference in IL-22 expression in the anti-IL23R treated rats compared to controls.

Conclusions: IL-17A expression and production is dependent on the IL-23 axis in the initiation phase of experimental SpA but not in established disease. Accordingly, targeting of this axis with an anti-IL23R antibody completely prevented the onset of arthritis and spondylitis in HLA-B27/Huβ2m transgenic rats, but failed to reduce axial and peripheral joint inflammation in established disease. The cellular origin of IL-23-independent IL-17A production in established disease and the relevance to human SpA remains to be further investigated.

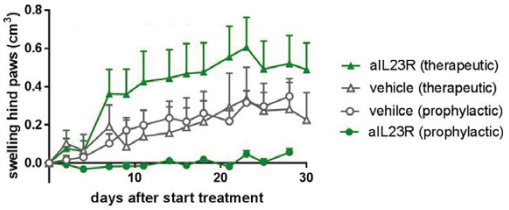

Figure 1: Swelling of the hind paws during follow up in prophylactic versus therapeutic treatment with anti-IL-23R or vehicle control (data are means +/- SEM)

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OP0160 GUT-DERIVED TNF AS RISK FACTOR FOR THE DEVELOPMENT OF SACROILIAC INFLAMMATION

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Background: An intruiging link exists between gut and joint inflammation in spondyloarthritis (SpA). About 50% of patients has subclinical (eg. microscopic) gut inflammation, which represents a risk factor for development of Crohn's disease, sacroiliac inflammation and evolution in to Ankylosing Spondylitis. However, the underlying mechanisms are still relatively poorly understood.

Objectives: Our goal was to examine the relationship between TNF, microscopic gut inflammation and axial inflammation using human samples and a novel mouse model. We speculated that TNF in the gut represents an important risk factor for disease severity and progression in SpA.

Methods: We examined in situ expression of TNF, TNFR1 and TNFR2 using triple in situ hybridisation in gut biopsies of human SpA patients. Furthermore, we generated intestinal specific human TNF transgenic mice, in which hTNF is under control of a rat iFABP (fatty acid binding protein) promoter, generating a mouse-model over-expressing human TNF in the ileum. These mice, together with wild type littermates, were evaluated for the development of arthritis up until the age of 13 weeks after which they were euthanized and ankle and sacroiliac joints as well as ileum were processed for histology.

Results: There was a marked upregulation of TNF in inflamed versus non-inflamed gut biopsies of human SpA patients. We also noted a predominant upregulation of TNFR1 on intestinal epithelium and TNFR2 in lamina propria respectively. Of interest, IL-17 and IL-23 were also markedly increased while IL-22 was most abundant in chronically inflamed samples. In line with this, we found that patients with gut inflammation had a higher need for anti-TNF therapy and their degree of clinical response after anti-TNF was also markedly higher.

Our transgenic mice exhibited a runt phenotype and hallmarks of inflammatory bowel disease, including increased intestinal permeability and inflammation compared to their wild-type littermates. While in peripheral joints no clear signs of arthritis were observed, the sacroiliac joints in transgenic mice, by contrast, showed marked signs of inflammation as well as bone erosion and destruction.

Conclusions: These data propose a new paradigm that gut-derived TNF is sufficient to trigger sacroiliitis and provide an alternate explanation on the relationship between gut inflammation, evolution to inflammatory bowel disease and axial inflammation in SpA.

Disclosure of Interest: None declared

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OP0161 THE JAK1 SELECTIVE INHIBITOR FILGOTINIB REGULATES BOTH ENTHESIS AND COLON INFLAMMATION IN A MOUSE MODEL OF PSORIATIC ARTHRITIS

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Background: Psoriatic arthritis (PsA) is a heterogeneous chronic inflammatory disease characterized by the association of musculoskeletal involvement and extra-skeletal symptoms such as psoriasis and Inflammatory Bowel Disease

(IBD) with a variable clinical course. Common findings include enthesitis and dactylitis. Current treatments include anti-TNFa and anti-IL-12/IL-23 antibodies with varying success rates but the involvement of several pro-inflammatory cytokines suggests that other targeted therapies may be effective. Notably, the JAKs (a family of 4 non-receptor tyrosine kinases) are crucial for the signaling of many pro-inflammatory cytokines. In this regard, the JAK1-selective inhibitor filgotinib (GLPG0634, GS-6034) demonstrated clinical efficacy in patients with rheumatoid arthritis, a disease that shares some hallmarks with PsA and Crohn's disease, making this molecule a potential therapeutic tool for the treatment of PsA.

Objectives: Filgotinib was evaluated at the dose of 30 mg/kg/d (*per os*) in a mouse model of PsA induced by overexpression of IL-23.

Methods: Overexpression of IL-23 was induced by hydrodynamic delivery of mIL-23 enhanced Episomal Expression Vector (SBI) to male B10.RIII mice[1]. Evolution of inflammation of the paws and fingers was assessed by clinical scoring as well as *in vivo* molecular imaging (Bruker In-Vivo Xtreme imaging system). Enthesis and fingers were collected for expression analysis of inflammatory genes and target-related biomarkers. Neutrophil infiltrate, as well as pSTAT3 positive cells, were analyzed using immunohistochemistry in Achilles' enthesis and subcutaneous area, respectively. Colon was collected for lesion score determination as well as inflammatory and target-related biomarker gene expression.

Results: High levels of IL-23 were maintained during the time-course of the study and were correlated with severity of finger and paw swelling. Localization of the fluorescent signal using ProSense^{TM} imaging was asscociated with inflammation of enthesis and finger reported in PsA. Moderate inflammation of the colon was also observed. Filgotinib significantly improved clinical scoring and tended to prevent neutrophil/granulocyte infiltrate in paw (with significant effect being showed at earlier time point). Filgotinib reversed some up-regulated inflammatory genes in enthesis and/or fingers (CCL20, CXCL1, IL-22, MMP9 and TNFa) and reduced the target-related gene Mx2. Filgotinib significantly counteracted pSTAT3 induction in the subcutaneous area further demonstrating target engagement in the diseased tissue. Finally in line with previous findings[2], Mx2 expression in colon was slightly reversed by filgotinib.

Conclusions: In a mouse model of PsA, filgotinib improved global clinical score and decreased signs of inflammation in hindlimbs. Target engagement both in hindlimbs and colon was also demonstrated. These data support the evaluation of filgotinib in patients with PsA.

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Disclosure of Interest: C. Robin-Jagerschmidt Employee of: Galapagos SASU, S. Lavazais Employee of: Galapagos SASU, F. Marsais Employee of: Galapagos SASU, A. Monjardet Employee of: Galapagos SASU, A. Cauvin Employee of: Galapagos SASU, C. Saccomani Employee of: Galapagos SASU, I. Parent Employee of: Galapagos SASU, D. Merciris Employee of: Galapagos SASU, E. Chanudet Employee of: Galapagos SASU, M. Borgonovi Employee of: Galapagos SASU, L. Lepescheux Employee of: Galapagos SASU, M. Auberval Employee of: Galapagos SASU, S. Dupont Employee of: Galapagos SASU, P. Clement-Lacroix Employee of: Galapagos SASU, R. Galien Employee of: Galapagos SASU

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THURSDAY, 15 JUNE 2017

Bringing rheumatology research to the next level: addressing the main challenges of patient partnerships in research and health care service design

OP0162-PARE AN EXPLORATION OF LIVED EXPERIENCES AMONGST ADULTS WITH RHEUMATOID ARTHRITIS USING AN ONLINE RESEARCH COMMUNITY PLATFORM: A PILOT STUDY

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Background: Online technology has revolutionised the way in which people connect and share their experiences. It also brings new opportunities to engage patients in health and social care research through the use of an online research community platform (ORCP). For example, it can improve the accuracy and usefulness of information gathered about research priorities, and it can be used to understand behaviours and preferences. Given an increasing prevalence of long-term conditions including rheumatoid arthritis, online technology represents a novel route for participation and engagement in research.

Objectives: To explore the benefits and limitations of an ORCP through understanding lived experiences of adults with rheumatoid arthritis.

Methods: We used a purposive sampling approach to ensure variation of key attributes amongst people with rheumatoid arthritis. A total of eight individuals used the ORCP during the pilot study. Qualitative data were collected through online focus groups, conducted as semi-structured interviews and asynchronous threaded discussions. The study was conducted in line with fieldwork guidelines, and written informed consent was obtained.

Results: The closed ORCP enabled a physically disconnected group to share their experiences of living with rheumatoid arthritis, describing the symptoms, diagnostic experience and support they received. In addition, participants shared their experiences and opinions about treatment delivery and adherence, the impact of rheumatoid arthritis, and the experiences of transitional care from paediatric to adult health services, where appropriate. Reasons and feeling about research participants and drug development processes were also discussed.

Conclusions: Our pilot study provided important accounts from people living with rheumatoid arthritis, highlighting the substantial impact of the disease on their daily lives. The ORCP removed physical contact between the researcher and participants, the absence of which may enable a richer data collection. However, it also has its limitations, primarily because the researcher is less able to gauge participants' attitudes and concerns. ORCPs represent a novel route of data collection, enabling researchers to immerse themselves into a community of individuals, whether they be patients, carers or professionals.

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OP0163-PARE INVIGORATING THE PRINCIPLE OF PARTICIPATORY RESEARCH IN GERMANY - SETUP OF A TRAINING COURSE FOR PATIENT REPRESENTATIVES

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Background: Patient participation in research projects is important because it enhances the legitimacy of research projects and facilitates the implementation of research results after completion of the respective projects. Since 2009, patient representatives have been actively involved in EULAR projects, and the first EULAR training course for patient representatives was conducted in 2010.

Objectives: The aim of the project was to create a training course for German-speaking patient representatives and thereby to invigorate the principle of participatory research in Germany. The training course is supposed to enable patients to make valuable contributions in research projects. In addition the training course aimed at lowering barriers and strengthening the patients' self-confidence, in order to facilitate their integration in the unfamiliar environment among researchers.

Methods: Participants were trained during a two-day interactive training course. For evaluation of the course, each participant anonymously answered 14 questions in a questionnaire.

Results: The training course consists of seven modules. In the first module (I), the history of the EULAR "patient research partners" is described and the tasks of the future German patient research partners are outlined. In the following modules, various types of research and study designs (II), the generation of research questions and hypotheses (III), various scientific tools (IV), the detailed sequence of steps in a typical research project (V), literature research in scientific databases (VI) and the process of reviewing grant applications (VII) are explained. Each module is subdivided in an explanatory section, an exercise section (where the participants have to apply the newly achieved skills) and a final discussion section.

So far, two courses have been conducted. The training course was rated either "very good" or "good" by 77% and 23% of the participants, respectively. Those patients, already actively involved in research projects, acclaim participatory research as interesting and enriching.

Conclusions: The training course was perceived very well by the participants. In future follow-up meetings, the usefulness of the various modules and any missing items will be discussed and the training course adapted accordingly.

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Osteoarthritis: new horizons for treatment

OP0164 OPTIMIZING RECRUITMENT CRITERIA FOR AN OSTEOARTHRITIS STRUCTURE MODIFICATION TRIAL: DATA FROM THE OAI

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Background: The design of clinical trials for osteoarthritis is challenging; structural changes in tissues are quantitatively small and proceed very slowly. No clear guidance exists on how to optimise recruitment. KL grade is a poor recruitment criterion as centres interpret KL differently. Quantitative measures should be