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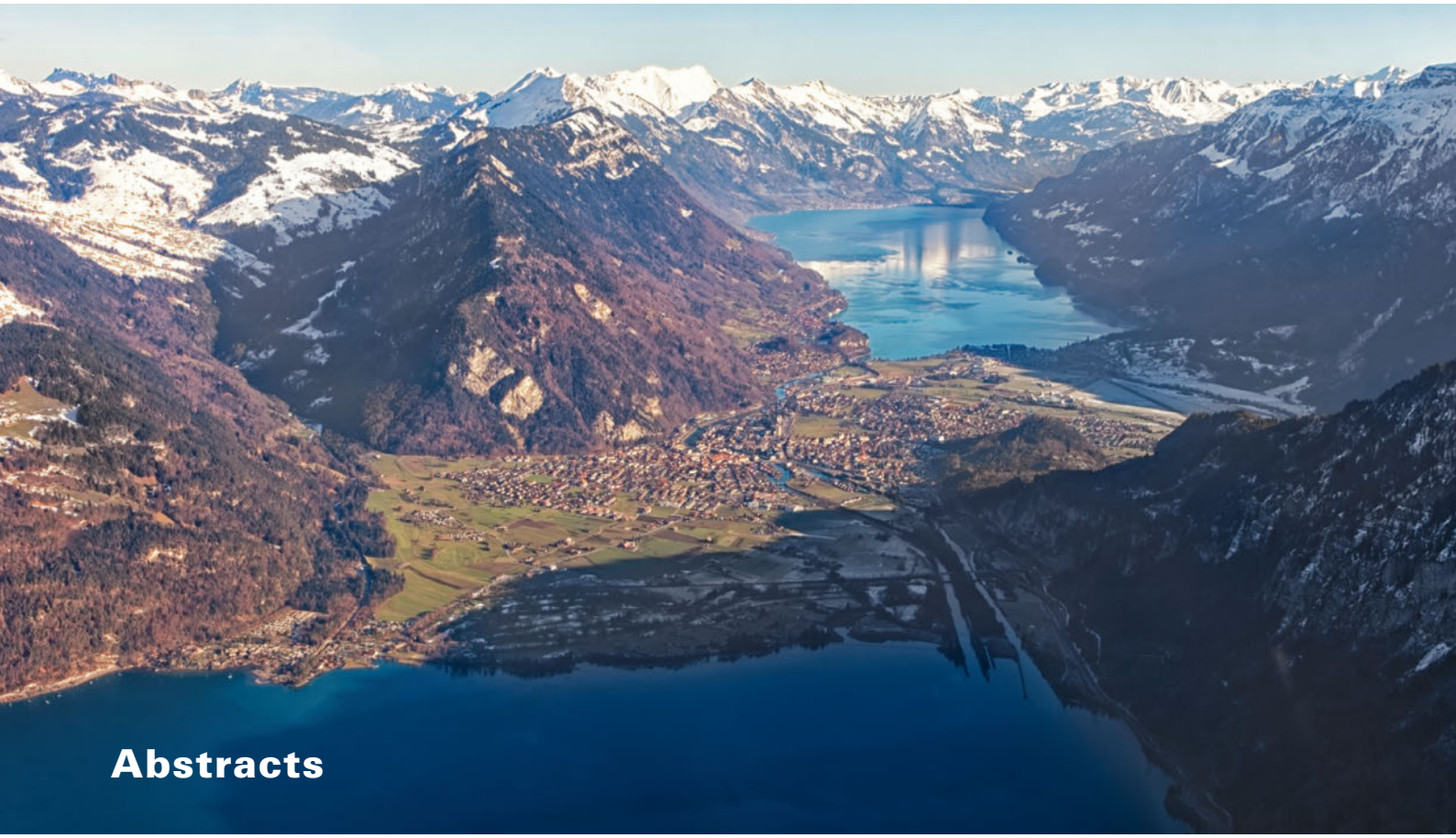

Abstracts

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FC 1

Does seropositivity influence differentially drug discontinuation of biologic antirheumatic agents with non-anti-TNF mode of action?

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Background: Rheumatoid factor (RF) and anti-citrulinated protein antibodies (ACPA) are used as diagnostic tools, but may also be used as prognostic factors or as predictors of response to therapy, as these biomarkers have been associated with better clinical responses to some bDMARDs.
Objectives: To examine whether seropositivity has a similar impact on drug discontinuation of different bDMARDs with a non-anti-TNF mode of action (non-aTNF bDMARDs).
Methods: This is a pooled analysis of 10 observational European RA registries (FR, CZ, DK, NO, PT, RO, ES, SE, CH, NL). Inclusion criteria were a diagnosis of RA, initiation of treatment with abatacept (ABA), rituximab (RTX) or tocilizumab (TCZ) and available information on RF and/or ACPA status. The exposure of interest was seropositivity, which was defined as positive if RF or ACPA was positive, and negative if both were negative. The primary endpoint was overall drug discontinuation, defined as the period between treatment initiation and treatment discontinuation. Drug discontinuation was analyzed using a Cox proportional hazard model, including drug, seropositivity, and their interaction, adjusting for age, gender, disease duration, baseline DAS28, concomitant synthetic DMARD (sDMARDs), number of previous sDMARDs and bDMARDs, and stratifying by country and calendar year.
Results: We could analyze data from 12040 patients. In crude analyses, seropositivity was associated with a lower drug discontinuation with all 3 bDMARD (p-value interaction 0.22), with a hazard ratio for seropositive vs. seronegative (HR) 0.89 (95% CI: 0.82–0.97). In adjusted analyses, seropositivity remained associated with a lower drug discontinuation, but the effect differed by drug (p interaction 0.01): ABA: HR for seropositive vs. seronegative: 0.76 (95%CI 0.66–0.88), RTX: 0.88, (95%CI: 0.70–1.10), and TCZ: 1.08, (95%CI: 0.89–1.31). Two-by-two drug to drug comparisons showed that the effect of seropositivity differed between ABA and TCZ (p = 0.004), but not between ABA and RTX (p = 0.29), or between TCZ and RTX (p = 0.16).
Conclusions: Data from this pooled european registry analysis suggests that seropositivity is associated with lower drug discontinuation of non-aTNF bDMARDs. This effect differed between drugs and was significant for ABA, but not for TCZ or RTX. The impact of seropositivity on other measures of effectiveness will be presented.

FC 2

TNF blockers inhibit spinal radiographic progression in ankylosing spondylitis by reducing disease activity: results from the Swiss Clinical Quality Management (SCQM) cohort

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Objectives: To analyze the impact of tumour necrosis factor inhibitors (TNFi) on spinal radiographic progression in ankylosing spondylitis (AS).
Methods: AS patients in the Swiss Clinical Quality Management Cohort with up to 10 years of follow-up and radiographic assessments every 2 years were included. Radiographs were scored by two readers according to the modified Stoke Ankylosing Spondylitis Spine Score (mSASSS) with known chronology. The relationship between TNFi use before a 2-year radiographic interval and progression within the interval was investigated using binomial generalized estimating equation models with adjustment for potential confounding. Ankylosing Spondylitis Disease Activity Score (ASDAS) was regarded as a mediator of the effect of TNFi on progression and added to the model in a sensitivity analysis.
Results: A total of 432 AS patients contributed to data for 616 radiographic intervals (mean (SD) intervals per patient 1.4 (0.7), range 1–5). Mean (SD) mSASSS increase in 2 years was 0.9 (2.6) units. Radiographic progression was defined as an increase in ≥2 mSASSS units in 2 years. Prior use of TNFi reduced the odds of progression by 48% (odds ratio (OR) 0.52, 95% confidence interval (CI) 0.30–0.91) in the multivariable analysis. Adding ASDAS to the model decreased the estimated effect of TNFi: OR 0.63, 95% CI 0.36–1.11. In this model, an increase in ASDAS by one unit would increase the odds for progression by 1.4 (p = 0.02).
Conclusion: TNFi reduce spinal radiographic progression in patients with AS and this effect seems mediated through the inhibiting effect of TNFi on disease activity.

FC 3

Biomarkers formed through extracellular matrix turnover predict progression of fibrosis in systemic sclerosis

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Background: Systemic sclerosis (SSc) is a complex autoimmune disease with extensive fibrosis of the skin and internal organs. Imbalance in the formation and degradation of collagens results in fibrosis. Quantifying the tissue turnover in a highly fibrotic disease such as SSc is very important for the prediction of disease progression and therapeutic efficacy.
Objectives: To evaluate the potential of selected ECM–derived serological biomarkers for prediction of clinical outcomes and disease progression in SSc.
Methods: Healthy controls (HC; n = 29), stable SSc (n = 149), and progressive SSc patients (n = 23, progression defined either as 10% decrease in FVC% predicted or increase in mRSS ≥25% and 5 points in one year clinical follow up), meeting the 2013 ACR/EULAR classification criteria were analyzed. Data and sera collection were done according to EUSTAR standards. Measurement of ECM-degradation (C3M, VICM, C4M2, BGM) and ECM-formation biomarkers (P1NP, P4NP7S, Pro-C3, Pro-C5, Pro-C6) in sera using ELISA-based assays was performed by Nordic Bioscience. Statistical analysis was done by Man-Whitney U, Kruskal-Wallis, Spearman tests and by multivariate regression analysis. Biomarkers' sensitivity and specificity was examined by ROC analysis.
Results: The expression of C4M2, Pro-C3, BGM and C3M was significantly increased in SSc patients compared to HC (p <0.0001, AUC = 0.93; p <0.0001, AUC = 0.74; p = 0.003, AUC = 0.67; p <0.0001; AUC = 0.94, respectively), whereas P1NP was significantly lower (p <0.0001, AUC = 0.78). Furthermore, Pro-C3, VICM and Pro-C6 levels were significantly higher in SSc progressors vs. HC (p <0.0001, AUC = 0.86; p = 0.003, AUC = 0.75; p = 0.0005, AUC = 0.81, respectively). The ECM-degradation markers C4M2, BGM, C3M were significantly lower in SSc progressors versus stable SSc patients at follow up (p <0.0001; p <0.008; p <0.0001, respectively). Consistently, the formation marker Pro-C6 was significantly increased (p = 0.001, AUC = 0.71) indicating a profound imbalance of ECM turnover in SSc progressors. The strongest difference between progressive and stable SSc patients was seen for the ratio between the formation and degradation biomarkers Pro-C3/C3M (p <0.0001 AUC = 0.86).
Conclusions: This data suggest that ECM-derived biomarkers have prognostic value in identifying patients at risk of fibrosis' progression at one year follow up. The ratio of Pro-C3/C3M is as a new potential predictive index for differentiation of stable vs. progressive patients.

P 1

Two refractory recurrent scleroderma cases treated with tocilizumab

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Scleroderma is a rare autoimmune disease causing high morbidity and mortality with scarcity of disease-modifying treatment. Inflammation usually happens in the early stage and flare is rarely seen in scleroderma. The recently published faSScinate phase 2 trial showed tocilizumab, an IL-6R inhibitor, had potential beneficial effect on the skin and lung fibrosis of dcSSc. We report here two dcSSc cases treated with tocilizumab. A 42-year-old female patient diagnosed as dcSSc with active polyarthritis, digital ulcers, lung fibrosis, and elevated ESR/CRP came to our clinic in May 2012. Initial treatment of steroid and MTX failed to improve the symptoms. Tocilizumab started in November 2012. Arthralgia alleviated quickly. Steroid and DMARDs were withdrawn 6 months later. Both skin and lung fibrosis improved in January 2014. Then tocilizumab was discontinued according to patient's wish. However, the recurrence of arthritis, deterioration of skin and lung fibrosis with elevated ESR/CRP were found in January 2015. Monthly tocilizumab infusion was restarted. ESR/CRP normalised, the lung function stabilised and no other internal organ got involved until February 2017. The other 41-year-old female patient was diagnosed as dcSSc overlapping with RA in January 2013. Symptoms included progressive skin thickening, severe digital ulcers, polyarthritis, and lung fibrosis. Skin fibrosis was getting worse and inflammatory markers kept rising in spite of MTX initial treatment. Low-dose prednisone and tocilizumab combined therapy started in November 2013. Inflammation was suppressed and skin/lung fibrosis stabilised during the following 1-year period. Then the patient decided to terminate tocilizumab treatment. Unfortunately, she suffered from new-onset congestive heart failure, acute renal failure with elevated CRP and died in July 2015. The subsequent pathological-anatomical report confirmed pronounced myocardial fibrosis and renal thrombotic microangiopathy attributed to scleroderma. Both patients positively responded to tocilizumab on systemic inflammation and organ fibrosis. They suffered from inflammation flare and deterioration of disease activity after discontinuation of tocilizumab. The one who restarted tocilizumab regained disease remission, while the other died from multiorgan failure. An on-going phase 3 trial will provide further data to evaluate the efficacy and safety of tocilizumab, which might be the first efficient molecular-targeted treatment for scleroderma.

P 2

Molecular targeted imaging biomarkers for personalized medicine strategies in systemic sclerosis-related interstitial lung disease

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Background: Interstitial lung disease (ILD) is a life-threatening complication in systemic sclerosis (SSc). Substantial research progress has identified genomic and molecular subtypes in SSc-ILD and brought targeted therapies within reach. However, personalized medicine approaches are still lacking since clinical tools for individualized patient stratification are not yet available.
Objectives: To assess the possibility of imaging molecular targets as a biomarker for stage-dependent assessment of ILD in the model of bleomycin (BLM)-induced lung fibrosis.
Methods: Integrin $\alpha v\beta 3$ and folate receptor β (FR-β) expression was analyzed in lungs from patients with idiopathic pulmonary fibrosis (IPF), SSc-ILD, and healthy controls as well as from BLM-treated mice and saline treated controls using immunohistochemistry (n = 4–10). SPECT or PET/CT was performed at days 3, 7, and 14 after BLM instillation using the integrin $\alpha v\beta 3$-specific 177Lu-RGD and the FR-β-specific 18F-Azafol. Additionally, 18F-FDG-PET and HRCT scans were performed. The pulmonary radiotracer uptake over time was assessed by ex vivo SPECT or PET/CT scans and biodistribution studies.
Results: In lung sections of SSc-ILD and IPF patients expression of integrin $\alpha v\beta 3$ was significantly increased compared to healthy controls ($p < 0.05$). In contrast, FR-β expression was only upregulated in SSc-ILD ($p < 0.07$), but not in IPF patients. Similarly, in lungs of BLM-treated mice, but not of controls, FR-β expression was increased time-dependently with highest expression at day 7, the peak of inflammation in BLM-induced lung fibrosis ($p < 0.01$). In contrast, expression of integrin $\alpha v\beta 3$ was most upregulated at days 7 and 14 in BLM-treated mice, and thus in the inflammatory and fibrotic stages ($p < 0.01$). 18F-FDG-PET and HRCT detected changes of metabolic activity and ILD morphology in BLM-treated mice. However, compared with these routinely employed yet unspecific imaging techniques, molecular targeted imaging of integrin $\alpha v\beta 3$ and FR-β specifically detected ILD time-dependently and in correspondence with the expression changes at the tissue level. The specific lung uptakes of 177Lu-RGD and 18F-Azafol and the unspecific uptake of 18F-FDG over time was shown by biodistribution studies and ex vivo lung scans.
Conclusion: Our data suggest that stage-dependent assessment of ILD with radiotracers that specifically target key markers of lung inflammation and/or fibrosis could be the first step towards precision medicine in SSc-ILD.

P 3

Outcomes in systemic lupus erythematous (SLE) patients treated with belimumab in clinical practice settings: results from the observe study in switzerland

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Background: This study examined the clinical outcomes associated with belimumab in clinical practice settings in Switzerland.
Methods: OBSErve (GSK 201232) was a multi-center retrospective medical chart review study. Adult SLE patients meeting the ACR criteria who received belimumab (10 mg/kg) as part of their usual care in 3 experienced sites in Switzerland were selected for chart abstraction. Index date was the date of belimumab initiation. Primary outcome measures were the physician's assessment of change in SLE manifestations from baseline to six months after belimumab initiation and the overall clinical response. Reasons for premature treatment discontinuation and corticosteroid use/dosage were collected.
Results: 53 eligible patient charts were abstracted. Mean patient age was 46.7y, 81% were female; 45.3% were diagnosed with SLE ≤5 years ago; 56.6% had low C3 or C4 and 56.6% high anti-dsDNA at baseline. Based on physicians' evaluations, 43.4%, 43.4% and 13.2% had mild, moderate and severe SLE at baseline. The top-3 reasons for initiating belimumab were an ineffective previous treatment (66.0%), the intent to decrease steroids (47.2%) and worsening condition (28.3%). Based on physicians' evaluations, among patients treated with belimumab, 58.4%, 22.6%, and 11.3% had an overall clinical improvement of ≥20%, ≥50%, and ≥80%. For the most frequent SLE manifestations, arthritis, high anti-dsDNA, fatigue, low complement and rash, physicians observed a ≥50% improvement in 38.5%, 16.0%, 15.8%, 11.8%, and 37.5% of the patients, respectively. The mean SELENA-SLEDAI score decreased from 8.0 (SD: 5.0, n = 27) to 3.6 (SD: 3.0, n = 27), with 81.5% of patients achieving a score reduction. 79% of SLE patients received oral corticosteroids concomitantly. A mean reduction in steroid dose of 5.7 mg/day (n = 42) from 11.6 mg/day (SD: 6.8) to 5.9 mg/day (SD: 3.3) was observed. Steroid dose was stable in 9 (average dose 5.8 mg/day, SD: 1.8), reduced in 30 (mean reduction 8.3 mg/day, SD: 6.8) and increased in 3 patients (mean increase 3.2 mg/day, SD: 1.6). Within the 6 months, no patient had discontinued therapy with belimumab.
Conclusion: Among SLE patients routinely treated with belimumab in Switzerland, clinical improvements, including steroid sparing effects, were observed in the majority of the patients. Belimumab was well-tolerated; no patient discontinued the treatment within the first six months.

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P 4

Impact of physical activity on the musculoskeletal health evaluated with bone density, bone texture and body composition: the OsteoLaus Study

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Osteoporosis is a systemic disease leading to an increased risk of fragility fractures. According to the mechanostat theory of Frost, bones and muscles are considered as a common functional unit. The bone marrow mesenchymal stem cells differentiate into osteoblasts if they receive appropriate stimulus, like mechanical stress. BMD rapidly decreases if no charge is applied to the bones. In this study, we aimed

to evaluate the impact of the sedentary on the BMD, on the bone microarchitecture (assessed indirectly by the TBS), on the body composition (fat mass, lean mass, VFAT). OsteoLaus is a population-based cohort of 1500 randomly selected Caucasian women, aged between 50 to 80 and living in Lausanne. For this study, all the participants replied to the PAFQ (Physical Activity Frequency Questionnaire) and to the FRAX® questionnaire, had a BMD, TBS and body composition measurement. Exclusion criteria are: on corticosteroids, antidepressants, anticancer drugs or immunosuppressive treatments, Cushing disease, hyperparathyroidism, respiratory or cardiac insufficiency and malabsorption. Sedentary is defined by: ≤10% physical activity in 4+BMR (Basal Metabolic Rate, definition of the "Bus santé" study from Geneva). 1026 women were included in our study. All results were adjusted for alcohol, tobacco, age and BMI. 63.7% of the subjects were considered as sedentary. Between the 2 groups the following results were all statistically significant ($p < 0.05$): active women are younger (63.30 vs 65.03 yo) have a lower BMI (24.71 vs 25.99 kg/m^2). BMD at the femoral neck and at the total hip (0.732 vs 0.723 g/cm^2, and 0.858 vs 0.848 g/cm^2 respectively) is higher. They have a better spine TBS (1.366 vs 1.357) and a lower FRAX TBS (10.31 vs 11.15%). They had less fat mass (34.0 vs 36.3%) and VFAT (82.20 vs 99.34 cm2). BMD at the spine, lean mass and ALMI showed no significant difference. In conclusion the active postmenopausal women in the OsteoLaus cohort have a better bone health. They have less fat mass and less VFAT, in the range associated with a normal cardiovascular risk. We did not see differences in term of lean mass and ALMI. Prevention, including physical activity, could have a positive influence on chronic diseases: by reducing the BMI and visceral fat mass which are deleterious for cardiovascular health, and by delaying the emergence of osteoporosis.

P 5

Evolution of turnover bone markers after denosumab discontinuation: a preliminary study

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Introduction: The subcutaneous administration of denosumab (Dmab) twice yearly reduces bone turnover and increases bone mineral density. Dmab discontinuation is associated with bone turnover rebound and increased risk of vertebral fracture. However this risk of fracture may depend of other osteoporotic substances given. The aim of our study was to evaluate the evolution of this turnover rebound if a bisphosphonate (BP) was prescribed before and/or at the end of the biological effect of Dmab.
Method: We randomly selected a subset of women from our daily practice who had received subcutaneous Dmab treatment (60 mg subcutaneously every 6 months) for osteoporosis for at least one year (2 injections) between 2010 and 2016. We separated them in four groups. A: No BP neither before nor after Dmab, B: No BP before but BP 6 months after the last Dmab, C: BP before but no BP after Dmab, D: BP before and 6 months after the last Dmab injection. We retrospectively analyzed the evolution of bone turnover markers with C-telopeptide (CTX, ng/l) up to 12 months after the last Dmab injection (6 months after the last BP prescription). Appropriate statistics were applied.
Results: The first 38 women were included (mean age 65 +/- 10 yo before the first injection of Dmab). 8 in group A, 13 in group B, 10 in group C and 7 in group D. At the end of Dmab treatment, CTX values were significantly lower than baseline for all groups ($p < 0.05$) and were respectively A: 84 (+/-54), B: 336 (+/-266), C: 80 (+/-60) and D: 95(+/-63). 12 months after the last Dmab injection (~6 months after the last BP prescription), the CTX were respectively A: 1075 (+/-321), B: 241 (+/-236), C: 677 (+/-359) and D: 370 (+/-286), with significantly lower CTX in group B compared to group A ($p = 0.03$) and in group C compared to group A ($p = 0.05$).
Conclusion: In this preliminary study, the exposition to BP before or after Dmab treatment attenuates significantly the turnover rebound. However, the prescription of BP 6 months after Dmab tends to be better than pre-treatment with BP but without reaching significance. We failed to demonstrate the superiority of pre- and post treatment use of BP (group D) which could be related to the sample size of our preliminary study.

P 6

Denosumab for the management of giant cell tumours of bone

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Giant cell tumours of bone (GCTB) are osteolytic tumours, mostly benign though locally aggressive with high recurrence risk. Anti-RANKL antibody (denosumab) show promise for more potent targeted treatment than bisphosphonates. After promising early results, concerns appeared about high recurrence rate at discontinuation of denosumab, more difficult surgical resection, unknown optimal treatment duration and some reported cases of secondary degeneration. We followed-up two patients with recurrent GCTB of the distal radius treated with denosumab before or after surgery. In both cases, denosumab administration resulted in resolution of clinical symptoms with dramatic regression of radiographic abnormalities. To manage the risk of relapse, we opted for both progressive spacing of denosumab injections and gradual decrease in dosage. We have implemented this process with several support tools, such as clinical parameters and biochemical markers of bone turnover. There are currently no recommendations to guide denosumab treatment duration and discontinuation in cancer patients. The rebound effect of rapid bone loss following denosumab discontinuation, recently described in osteoporosis, confirms the urgent need for clear recommendations on its use for the management of GCTB. Bone remodelling markers appear to reflect denosumab efficacy and be able to predict the onset of the rebound effect at discontinuation. We therefore propose gradual denosumab discontinuation in patients with GCTB, using bone remodelling markers as reference. Permanent cessation in the absence of relapse could be proposed by relay with bisphosphonates. Prospective studies to validate this practice are essential.
Keywords: giant cell tumour of bone, denosumab, RANKL, rebound effect, bone remodelling markers

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P 7

Change of Metacarpal Shaft Morphology in Rheumatoid Arthritis, A Longitudinal pQCT Study

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Aim: To quantify the effect RA and therapy on metacarpal bone shaft morphology.
Method: Consecutive pm RA patients fulfilling ACR Criteria and consecutive pm healthy controls (HC) were recruited. pQCT-measurements at 50% of total metacarpal shaft of the third metacarpal bone were performed at baseline and follow-up. Use of BP, glucocorticoids, biologics and disease modifying anti-rheumatic drugs was monitored from baseline to follow-up using patient records. RF, ACPA positivity, bone erosiveness and DAS28 were assessed. The following parameters were measured: total CSA, cortical CSA, cortical vBMD, porosity of the compact cortex, CSA of the transitional zone and CSA of the compact zone. Handgrip strength was measured by sphygmomanometer. The Student's t-test for mean comparison, Wilcoxon rank-sum test for median comparison and local regression (LOESS) to model the progression in the HC and RA group. The linear mixed-effects model predicts outcome progression in the patient subgroups using both fixed (subgroup) and random (individual) effects.
Results: 36 consecutive postmenopausal patients with RA and 40 consecutive postmenopausal healthy controls (matched for age, height, and weight) were included. Mean f-up was 57.7 months (RA patients: mean 54.4 months, range 13–83; HC: mean 60.6 months, range 35–78; $p = 0.129$). 18 RA patients were on BP, 22 were BP naïve. Compared to HC, RA patients had lower handgrip strength, for which we corrected in a sensitivity analysis. RA status was correlated with significantly higher rate of cortical BMD loss, and RA patients showed an increase of periosteal circumference, medullary CSA, loss of cortical thickness and porosity. Overall, GC use >5mg/d and non-responder (increase of DAS28 >1.2) were positively correlated with an higher rate of medullary CSA increase and loss of polar moment of inertia. GC use >5mg/d was negatively correlated with faster loss of cortical density, cortical CSA and cortical thickness. RF+/ACPA+ RA patients had higher porosity of cortical cortex, increased

transitional CSA and lower cortical CSA and BMD compared to RF and ACPA negative RA Patients. BP naïve RA Patients showed differences in cortical porosity, cortical CSA and thickness.
Conclusion: RA leads to endosteal and periosteal drift at the shaft of the metacarpal bone over time. GC use, disease activity and RF/ACPA are additional factors influencing metacarpal shaft morphology.

P 8

Elevating the significance of outcome effects from the statistical to the clinical level by the minimal clinically important difference (MCID)

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Background: In measurement of outcome effects, the patient's subjective perception to feel a change in health defines clinical effectiveness irrespective of statistical significance. The aim was to illustrate and discuss current and proposed new concepts of effect quantification and significance.
Methods: Different methods for determining statistically significant and minimal clinically important differences (MCIDs) are reviewed and further developed focusing on their characteristics and (dis) advantages.
Results: In controlled studies, every empirical score difference between verum and placebo becomes statistically significant if the sample sizes are sufficiently large. MCIDs by contrast, are defined by patients' perceptions, which led to "anchoring" of effects by the "transition" item, where patients rate their change of health between baseline and follow-up in an evaluation study. The MCID for improvement by the "mean change method" is the difference of the mean change experienced by the "slightly better" group minus that of the "almost equal" group. The MCID can be expressed as absolute or relative score, as effects size (ES), standardized response mean (SRM) and standardized mean difference (SMD) (bivariate). It can further be adjusted by multivariate regression modeling. In our example of knee osteoarthritis, the MCID for pain relief was 8.74 score points, 17.15% of the baseline score, ES = 0.407, SRM = 0.413, SMD = 0.469. This is consistent to the range of 0.30-0.50 for MCIDs reviewed in literature. After adjusting for potential confounders, the MCID was 7.09 score points or an increase of 2.9% per score point to feel better (logistic regression).
Conclusion: Absolute and relative MCIDs are easy to interpret and apply to data of investigative studies. MCIDs expressed as ES/SRM/SMD reduce bias, which mainly results from dependency on the baseline score. Multivariate linear and logistic regression modeling further reduces bias by adjustment for possible confounders and increase validity. Anchor-based methods use clinical/subjective perception to define MCIDs and should be clearly differentiated from distribution-based methods that provide statistical effect significance only.

Angst F, et al. J Clin Epidemiol. 2017;82:128–36.

P 9

Observed health changes of knee osteoarthritis and risk for total joint replacement up to 5 years after comprehensive rehabilitation

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Background: Comprehensive inpatient rehabilitation of knee osteoarthritis induced moderate short-term improvements. The aim was to follow-up those patients to 5 years by 1) quantifying observed effects in pain, function, and psychosocial health and 2) associating risk factors to total knee arthroplasty during the observation period.
Methods: Prospective cohort study with assessments at baseline (start of rehabilitation) and 1, 2, 3, 4, 5 years after. Comprehensive rehabilitation lasted 2–3 weeks for inpatients and 6 weeks for outpatients. Changes between baseline and the follow-ups were measured by the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) and the Short Form 36 Health Survey (SF-36) and expressed as effect sizes (ES). Multivariate logistic regression included various sociodemographic and disease-modifying confounders and provided adjusted odds rations (OR) for the risk of getting total knee arthroplasty.
Results: At baseline, n = 205 knee osteoarthritis patients were included: 77.1% women, mean age 65.7 years (sd = 10.3y), 81.5% having 3 or more comorbidities. Up to the 5 year follow-up, n = 133 (40.5%) remained with imputable data, 48 (23.4%) received arthroplasty. At 5 years, ES were 0.13 to 0.79 for pain, –0.12 (worsening) to 0.42 (improvement) for function, and –0.25 to 0.21 for psychosocial health. At the last follow-up before surgery, WOMAC pain had worsened by ES= –0.42 (p = 0.001) and WOMAC function by ES = –0.54 (p = 0.002) in the total knee arthroplasty group. Getting total knee arthroplasty was statistically significantly associated with female sex (OR = 3.30), educated at university (OR = 3.54), minus 1 comorbidity less (OR = 1.41), and 10 (of 100 possible) points worsening on the WOMAC factor ascending/descending scale (OR = 1.60).
Conclusions: Moderate to small improvements on pain, function, and psychosocial health were observed up to 5 years after comprehensive rehabilitation of knee osteoarthritis. Nevertheless, almost one quarter of the participants were referred to total knee arthroplasty suffering from significant deterioration in pain and function. Highly educated women with low number of comorbidities and high disability to manage stairs were more likely to receive total knee arthroplasty. The WOMAC seems to be sensitive to predict the need for arthroplasty.

P 10

Interdisciplinary rehabilitation after whiplash injury: an observational prospective 5 years outcome study

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Background: Persistent pain and disability of whiplash injury associated disorders (WAD) cause high burden for the individual and costs for healthcare. The aim of this study was to determine state and change of health and working-capacity five years after a standardized inpatient pain management program of four weeks.
Methods: This prospective cohort study quantified health and quality of life by the generic Short Form 36 (SF-36, 100 = best), the neck-specific Northern American Spine Society (NASS) form, and the Coping Strategies Questionnaire (CSQ). SF-36 data were compared to age-, sex-, and comorbidity-specific German population norms. Changes of health were determined using effect sizes (ES) at the 6 month and the 60 month follow-up.
Results: The 59 participants had mean age of 40.3 years (sd = 12.3), 83% were women, and 37% had one or more comorbidities. At 5 years, health was worse on all SF-36 scales when compared to the norms, varying from mean 41.5, norm 82.3 on role physical to mean 65.7, norm 71.0 on mental health. At 5 years, SF-36 physical functioning improved by ES = 0.99 to entry and ES = 0.16 to the 6 month follow-up. The corresponding effects were 2.22 and 0.83 on role physical, 1.61 and 0.78 on bodily pain, 0.89 and 0.32 on vitality, 0.61 and 0.30 on mental health; CSQ catastrophizing decreased by ES = 1.03 and 0.62. NASS pain improved by ES = 1.12 from entry to 5 years and by 0.57 from 6 months to 5 years. The corresponding ES for NASS function were 0.78 and 0.26. Median working capacity improved from 0 at entry to 21 at 6 months and to 30 hours/week at 5 years.
Conclusions: Moderate to large long-term effects were observed. Substantial improvements still occurred between 6 and 60 months after start of the pain program, especially in pain, catastrophizing, and physical role performance. Improvements observed after the inpatient pain program can be maintained and expanded in the long-term at home.

Reference

Haiduk P, Benz T, Lehmann S, Gysi-Klaus F, Aeschlimann A, Michel BA, Angst F. Interdisciplinary rehabilitation after whiplash injury: An observational prospective five year outcome study. Medicine (Baltimore) 2017;96(9):e6113.

P 11

Corticosteroid injections for greater trochanteric pain syndrome: a randomized double-blind placebo-controlled trial

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Objectives: To perform a randomized double-blind placebo controlled trial to investigate the efficacy of local corticosteroid (CS) injection in the management of GTPS.
Methods: The trial was conducted in the Rheumatology unit of the Geneva University Hospital (HUG). Inclusion criteria were lateral hip

pain (LHP) for greater than 1 month, a LHP score of ≥4 in the preceding week, failure of another standard treatment (physiotherapy, analgesics) and typical LHP reproduced by palpation of the greater trochanter (GT). Participants were randomised in a 1:1 ratio to: 1) injection with a combination of local anaesthetic and CS (Treatment group), or 2) injection with normal saline solution (Placebo group). The Treatment group received 4 ml of 1% Lidocaine (Rapidocain®) and 1 ml of Bethametasone (Diprophos®). The Placebo group received 5 ml of sterile saline solution. Injections were performed under ultrasound guidance. The study's predefined primary outcome of interest was the difference in pain intensity at 4 weeks post-injection between the 2 groups. Secondary outcomes included the number of "responders" (pain score improvement of >=1.5) and the number of patients with low disease activity (LDA) (pain score <=2.0). Patients were followed up for 6 months.
Results: A total of 46 patients were included and there were no significant differences between the 2 groups at baseline. There were no significant differences between the 2 groups in terms of the reduction in pain at one month post-injection, with scores of –1.5 and –2.5 (p = 0.23) in the Treatment and Placebo groups respectively. When including all measures in the first 3 weeks and using multilevel regression, there was a marginally significant improvement in pain scores in favour of the Treatment group (p = 0.08). There were no significant differences in terms of the percentage of responders (p = 0.32), or patients with LDA (p = 0.50) between the 2 groups at follow up. There were no significant differences in pain scores between groups at 3 and 6 months post-injection.
Conclusion: Local corticosteroid injection in the management of GTPS is only marginally effective for a few weeks. Given the lack of long-term improvement and the potential for cortisone-related side-effects, this intervention is of limited benefit.

P 12

Short-term and long-term efficacy of sclerotherapy in chronic mechanical tendinopathies with neovascularization

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Background: In athletes and even in amateur sportsmen, chronic tendinopathy can be extremely troublesome in the Patellar and Achilles tendons, preventing the pursuit of sport or even professional activity. In some cases a progressive neo-vascularisation can be observed by US Doppler. Several, publication suggested that the symptomatology and healing could be improved by sclerotherapy with 0.5% Aethoxysclerol.
Objectives: To evaluate the short- and long-term clinical effectiveness of sclerotherapy and evolution of the ultrasound.
Method: Design of the study: prospective evaluation of all patients who underwent sclerotherapy on chronic in Lausanne between 2008 and 2017, 12/14 agreed to participate in the study. The retrospective data are extracted from the files. For the follow-up we used the data of the files but also contacted the patients for a control visit including an ultrasound. Technique: 1 to 3 injections at 15 days interval (Aethoxysclerol 0.5%). Injections into the feeder vessel, away from the enthesis, under US Doppler control.
Results: Basic data: all 12 patients (10 men and 2 women, 15 tendons, median age: 32 years) were sportsmen or athletes with an average of 8.7 hours of sport per week, with a predominance of basketball and soccer. Average duration of symptoms before the first sclerotherapy session: 38 months (37.75). Only 3 patients had sclerotherapy as the first treatment.
Clinical follow-up: the mean duration of follow-up was 45.5 months. 6 tendinopathies did not need other means of treatment. In 40% of the cases, the patients announced a favorable clinical improvement with complete or almost complete disappearance of the pain. 33% reported a small improvement, or a transient improvement in symptoms, while 27% did not notice any significant improvement in their pain. 5 patients were able to resume the sport with the same intensity as before; 5 patients only partially recovered and 5 patients had to completely stop the sport which was at the source of their tendinopathy.
Ultrasound follow-up: Neo-vascularisation decreased in 6/13 and disappeared completely in 5/13. The appearance of the tendon was described as normal in only 2 patients.
Conclusion: In case of chronic tendinopathy with neo-vascularization not responding to conventional treatments sclerotherapy can be useful. In many patients, however, the real impact of the sclerotherapy was difficult to assess since, several other treatments had been added before and after the procedure.

P 13

Response to TNF inhibitors in nonradiographic axial spondyloarthritis versus ankylosing spondylitis: is there a gender issue?

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Objective: Response to tumor necrosis factor inhibition (TNFi) has been shown to be similar in nonradiographic axial spondyloarthritis (nr-axSpA) and ankylosing spondylitis (AS) in patients with objective signs of inflammation, such as an elevated C-reactive protein (CRP) and/or sacroiliitis on MRI. We aimed at comparing response to TNFi in nr-axSpA versus AS after stratification by sex.
Methods: Patients within the Swiss Clinical Quality Management cohort fulfilling the Assessment of Spondyloarthritis international Society (ASAS) classification for axSpA were included in the current study if they a) had a baseline pelvic X-ray, b) started a first TNFi after inclusion in the cohort and c) had a follow-up visit at 1 year (±6 months). We excluded patients with known fibromyalgia as a co-morbidity. The proportion of patients achieving the ASAS criteria for 40% improvement (ASAS40) as well as Ankylosing Spondylitis Disease Activity Score (ASDAS) improvement criteria and status scores were evaluated at 1 year. Patients having discontinued the TNFi were considered non-responders.
Results: Inclusion criteria were fulfilled by 592 patients (152 nr-axSpA and 440 AS). A follow-up visit at 1 year ± 6 months was available in 76% of patients (N = 447). Similar proportions of men with nr-axSpA and AS achieved an ASAS40 response upon treatment with TNFi (38% versus 45%; odds ratio (OR) 0.75, 95% confidence interval (CI) 0.35–1.56, p = 0.49), as well as all ASDAS response criteria. By contrast, a significantly lower proportion of women with nr-axSpA compared to women with AS achieved a clinical response according to the different criteria assessed (ASAS40 response of 17% versus 42%, OR 0.28, 95% CI 0.10–0.70, p = 0.004 in women with nr-axSpA versus AS, respectively).
Conclusion: While men with nr-axSpA have similar response rates as men with AS, significantly lower response rates are found in women with nr-axSpA in comparison to women with AS. The results are in line with randomized controlled trials of adalimumab and golimumab in nr-axSpA, showing lower response rates in women compared to men.

P 14

Clinical course of axial spondyloarthritis in patients not treated with tumor necrosis factor inhibitors: a 4 year prospective follow-up of the SCQM cohort

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Background/Objective: Some patients with axial spondyloarthritis (axSpA) are not treated with tumor necrosis factor inhibitors (TNFi) despite persistent high disease activity. There is little data on the rate of spontaneous remission. We investigated the clinical course of axSpA in the absence of TNFi treatment, depending on baseline disease activity.
Methods: A total of 386 axSpA patients were observed during their TNF-naïve period in the Swiss Clinical Quality Management cohort (up to 4 years of follow-up) after stratification for baseline Ankylosing

Spondylitis Disease Activity Score (ASDAS) eligibility criterion for potential TNFi treatment (200 patients with ASDAS ≥2.1 and 186 patients with ASDAS <2.1). The longitudinal course of ASDAS, as well as of Bath Ankylosing Spondylitis Functional and Mobility Indices (BASFI, BASMI) were analyzed using multiple adjusted mixed effect models. We also assessed the proportion of patients achieving an ASDAS <1.3 at least once during follow-up.
Results: Mean (±SD) baseline ASDAS in high vs. low disease activity groups were 3.3 ± 0.7 vs. 2.1 ± 0.9, p <0.001). Significant baseline differences were also observed for BASFI and BASMI: 3.4 ± 2.2 vs. 1.5 ± 1.7 and 2.3 ± 2.0 vs. 1.3 ± 1.8, respectively. Outcome measures remained at steady levels over time (–0.26 units, +0.03 units and +0.01 units for ASDAS, BASFI and BASMI, respectively) with no significant differences in change from baseline to follow-up between patients with high and low baseline disease activity. The proportion of patients reaching an ASDAS <1.3 at least once during follow-up was 3% vs. 39% in patients with baseline ASDAS ≥2.1 vs. <2.1, p <0.001.
Conclusion: A baseline ASDAS≥2.1 segregates well axSpA patients who remain at high disease activity levels over years in the absence of TNFi treatment from patients with persistently low disease activity, good function and mobility.

P 15

Response to TNF inhibition in male and female patients with ankylosing spondylitis: data from SCQM cohort

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Objectives: To investigate sex differences with regard to effectiveness of tumor necrosis factor inhibitors (TNFi) in patients with ankylosing spondylitis (AS).
Methods: A total of 440 AS patients (294 men; 146 women) initiating a first TNFi in the prospective Swiss Clinical Quality Management (SCQM) cohort were included. We evaluated the proportion of patients achieving the 20% and 40% improvement ASAS criteria (ASAS20 and ASAS40) as well as Ankylosing Spondylitis Disease Activity Score (ASDAS) improvement and status scores at 1 year. Patients having discontinued the TNFi were considered non-responders. Logistic regression analyses were performed to adjust for important predictors of response.
Results: Compared to men, female patients had lower mean C-reactive protein (CRP) levels, a better spinal mobility and more peripheral disease at the start. There was no gender disparity with regard to the ASDAS, the Bath Ankylosing Spondylitis Disease Activity and Functional Indices and the quality of life. At 1 year, 52% of women and 63% of men achieved an ASAS20 response (odds ratio (OR) 0.63, 95% confidence interval (CI) 0.37–1.07, p = 0.09). An inactive disease status (ASDAS <1.3) was reached by 18% of women and 26% of men (OR 0.65, 95% CI 0.32–1.27, p = 0.22). These sex differences in response to TNFi were more pronounced in adjusted analyses (OR 0.45, 95% CI 0.22–0.92, p = 0.03 for ASAS20 and OR 0.14, 95% CI 0.04–0.40, p <0.001 for ASDAS <1.3) and confirmed for all the other outcomes assessed.
Conclusion: In AS, fewer women respond to TNFi and women show a reduced response in comparison to men.

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Impact of obesity on the response to tumor necrosis factor inhibitors in axial spondyloarthritis

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Background: Few studies have investigated the impact of obesity on response to tumor necrosis factor inhibitors (TNFi) in patients with axial spondyloarthritis (axSpA). The aim of our study was to investigate the impact of different body mass index (BMI) categories on TNFi response in a large cohort of patients with axSpA.
Methods: Patients with axSpA within the Swiss Clinical Quality Management (SCQM) program were included in the current study if they fulfilled the ASAS criteria for axSpA, started a first TNFi after recruitment and had available BMI data, as well as a baseline and follow-up visit at 1 year (±6 months) (N = 624). Patients were categorized according to BMI: normal (BMI 18.5 to <25), overweight (BMI 25 to 30) and obese (BMI >30). We evaluated the proportion of patients achieving the 40% improvement ASAS criteria (ASAS40), as well as Ankylosing Spondylitis Disease Activity Score (ASDAS) improvement and status scores at 1 year. Patients having discontinued the TNFi were considered non-responders. We controlled for age, sex, HLA-B27, axSpA-type, BASDAI, BASMI, elevated C-reactive protein (CRP), current smoking and physical exercise in multiple adjusted logistic regression analyses.
Results: Obese individuals were older, had higher BASDAI levels and a more important impairment of physical function in comparison to patients with normal weight, while ASDAS and CRP levels were comparable between the three BMI groups. An ASAS40 response was reached by 44%, 34% and 29% of patients with normal weight, overweight and obesity, respectively (overall p = 0.02). Significantly lower odds ratio (OR) for achieving ASAS40 response was found in adjusted analyses in obese patients versus patients with normal BMI (OR 0.30, 95% confidence interval (CI) 0.11–0.77)). The respective adjusted ASAS40 OR in overweight versus normal weight patients was 0.66, 95% CI 0.37–1.18. Comparable results were found for the other outcomes assessed.
Conclusions: Obesity is associated with significantly lower response rates to TNFi in patients with axSpA.

P 17

Secukinumab sustains individual clinical responses over time in patients with active ankylosing spondylitis: 2-year results from a phase 3 randomized placebo-controlled trial

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Background: The assessment of clinical response to biologics in Ankylosing Spondylitis (AS) is part of treat-to-target recommendations. Here we present patient-level secukinumab (SECU) data to assess the likelihood of achieving an ASAS response and maintaining or improving that response from Week (Wk) 2 to Wk 16 and from Wk 16 to Wks 52 and 104 in patients with active AS from the MEASURE 2 trial.1
Methods: This was a post-hoc analysis of AS patients randomized to SECU 150 mg who completed the 16-wk double-blind treatment period, followed by long-term uncontrolled treatment. Shift analyses on ASAS responses between Wks 2 and 16 and Wks 16 and 52/104 were performed for subgroups of SECU-treated patients, based on response at the earlier time point (non-responders for ASAS 20 or ASAS 40 [ASAS NR], ASAS 20 only, or ASAS 40 only) by evaluating these responses.
Results: 65, 61, and 59 AS patients treated with SECU 150 mg had available data to determine ASAS responses for shift analyses from Wks 2 to 16, Wks 16 to 52, and Wks 16 to 104, respectively. Approx. half of the ASAS NR patients at Wk 2 or 16 subsequently developed

an ASAS response at the later time point of Wk 16 or 52. A majority (71% and 67%) of ASAS 20 responders at Wk 2 or 16 showed improved responses to ASAS 40 by Wk 16 or 52, respectively, whereas 21% and 16% of ASAS 20 responders maintained their response by Wk 16 or 52, respectively. A majority (64% and 84%) of ASAS 40 responders at Wk 2 or 16 maintained this response by Wk 16 or 52, respectively.
Conclusion: In this post-hoc analysis, the majority of patients on SECU treatment maintained or improved their ASAS responses, consistent with the sustainability of group-level ASAS responses.1 The vast majority of patients who achieved either an ASAS 20 or ASAS 40 response at Wk 2 or 16 maintained or improved their response by Wks 16, 52, or 104, respectively.

1 Baeten, et al. NEJM. 2015;373:2534–48.

P 18

Needle versus forceps technique in ultrasound-guided synovial biopsy of the knee joint

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Objectives: Ultrasound-guided synovial biopsy is increasingly applied in rheumatology. Usually forceps- or needle-based techniques are used. So far there has been no direct comparison of different devices regarding their suitability in high resolution musculoskeletal ultrasound (hrMSUS)-guided synovial biopsy.
Methods: A core needle biopsy (Quickcore, Cook Medical, Bloomington, IN, USA), an anterograde arthroscopy forceps (Karl Storz GmbH, Tuttlingen, Germany), a retrograde forceps (Retroforce, Karl-Storz GmbH Tuttlingen, Germany) and an convexly shaped integrated core needle system (Synovex, Hipp Medical, Kolbingen, Germany) were tested for ultrasound-guided synovial biopsy of the suprapatellar recess in cadaver knee joints. Four senior rheumatologists scored each intervention from 0–5 regarding the following characteristics: visualization, handiness, accuracy, synovial tissue yield, invasiveness and overall suitability. Each intervention was recorded as static images and video clips.
Results: In all devices, enough representative synovial tissue was obtained and the instruments were all well visualized by hrMSUS. Core needle biopsy and the integrated needle system were best visualized due to their horizontally shaped closing mechanism. The core needle obtained a high yield of superficial synovial tissue and was the least invasive procedure. Despite handiness and accuracy were higher in the forceps instruments, overall suitability for hrMSUS -guided synovial biopsy was rated highest for the core biopsy needle.
Conclusion: Technically, all of the tested devices can be used for hrMSUS-guided synovial biopsy. Core needle biopsy seems to be most suitable for this intervention due to a low invasiveness, good visualisation and optimal yield of superficial synovial tissue.

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Tenosynovitis in rheumatoid arthritis; prevalence and determinants of tenosynovitis detected in the sonar-ultrasound examination in the SCQM cohort

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Background: Tenosynovitis (TS) is one of the common features of rheumatoid arthritis (RA). The diagnosis of TS is frequently made clinically but for the detection of TS, ultrasound (US) is more sensitive. US and MRI detected tenosynovitis is a predictor for erosive progression in early RA.
Objectives: The aim of this study was to assess the prevalence and determinants of TS detected in the SONAR (Swiss Sonography Group in Arthritis and Rheumatism) examinations in patients with Rheumatoid Arthritis in the SCQM Cohort.
Methods: The SONAR ultrasound examination consists of a semi-quantitative score employing both multiplanar gray scale (B-mode) and Doppler-mode (PwD) and a TS composite score (grade 0–3). Pathologic TS was defined as TS grade 2-3. Characteristics of patients with and without TS are shown using standard descriptive methods. In a longitudinal sub-group the change in TS from no TS to pathologic TS or vice versa and DAS28 over time was categorized as 'worse' (ΔDAS28 $\geq$ 2.1), 'same' and 'better' (ΔDAS28 $\leq$ –2.1) and the correlation between change DAS28 and in tenosynovitis was evaluated.
Results: 941 RA patients with TS score were available. 20% of included patients showed signs of TS. The presence of TS was associated with male gender and higher values of disease activity and physical function disability. Furthermore, 15% of patients in DAS28 remission had sonographic TS. TS was less frequently observed in patients on biologic therapies. The longitiudinal sub-group consisted of 348 patients. The correlation between change in DAS28 and change in TS was poor (polychoric correlation 0.28 [0.14, 0.43]).
Conclusions: Tenosynovitis in RA was present in 15% of patients in DAS28 remission and associated with male gender and overall higher disease activity. Therefore one should actively look for TS even in RA patients in DAS28 remission.

P 20

Drug retention of tofacitinib versus biologic antirheumatic agents in rheumatoid arthritis: observational data from the Swiss SCQM registry

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Background: The oral Janus kinase inhibitor tofacitinib (Tofa) was licensed in Switzerland in 2013 for the treatment of moderate to severe rheumatoid arthritis (RA) patients having failed methotrexate. Besides Tofa, rheumatologists in Switzerland have the choice between 7 alternative bDMARDs licensed with similar indications, including 5 TNF inhibitors (TNFi) and 2 bDMARDs with other modes of action (OMA-bDMARDs).
Objective: To compare the drug retention rate of three alternative treatment options licensed with a similar indications, namely Tofa, TNFi and OMA-bDMARDs, using data from the Swiss registry.
Methods: This is an observational cohort study within the Swiss Clinical Quality Management registry (SCQM). All therapies with Tofa, TNFi, and OMA-bDMARDs initiated in adult RA patients between August 1, 2013 and Dec 1, 2016 were considered. The exposure of interest was treatment with Tofa vs TNFi and vs OMA-bDMARDs (Abatacept or Tocilizumab). The primary outcome was drug retention defined as the time from initiation to discontinuation of treatment. We used Kaplan Meier curves to display drug retention and Cox proportional hazard models stratified by seropositivity to analyze the hazard for treatment discontinuation. We adjusted for potential confounders, including gender, age, disease duration, seropositivity, BMI, smoking status, DAS28-CRP and the total number of previous bDMARDs. We applied multiple imputation to account for missing baseline covariate data.
Results: A total of 1996 therapies were initiated during the study period (376 Tofa, 928 TNFi, 692 OMA-bDMARDs). Some differences in disease and treatment characteristics existed between the 3 groups, in particular TNFi tended to be used in patients with fewer previous bDMARDs experience, younger age and shorter disease duration. The crude overall drug retention was similar between the 3 three drug groups (p = 0.24). The adjusted analysis demonstrated a slightly higher hazard of drug discontinuation with TNFi compared to Tofa [HR 1.27 (95% CI: 1.02 – 1.57, p = 0.03)], while no difference was observed for OMA-bDMARDs and Tofa [HR 1.03 (95% CI: 0.83–1.28, p = 0.76)]. Complete case results were consistent with results using multiple imputation of baseline covariates.
Conclusion: The results of this observational study suggest that Tofa is a valuable alternative to treatment options in RA, with Tofa drug retention at least comparable to other available bDMARDs.

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Does parity influence joint damage progression in women with rheumatoid arthritis?

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Backgroud: The role of parity on disease activity is controversial, since pregnancy is characterized by a decrease in disease activity,

but the postpartum period by an increase. The long term effect of parity on joint damage progression has not been studied.
Objective: To study the impact of parity on radiographic progression in women with RA.
Methods: This is an observational cohort study of RA patients included in the Swiss Clinical Quality Management in Rheumatoid Arthritis (SCQM-RA). Patients enrolled are followed-up and have x-rays assessments at regular intervals. Information about female hormonal factors, such as pregnancies were retrospectively retrieved using a questionnaire. For this analysis we included women with at least two x-rays and full information on reproductive factors. The primary outcome was the rate of radiographic progression (Ratingen erosion score) and the secondary outcome was functional disability progression (HAQ-DI). We compared the rate of progression between parous and nulliparous women using a multilevel regression model for longitudinal data, adjusting for confounders, such as age, disease duration, DAS 28 and treatment. In a subanalysis we explored if the x-ray progression was more severe during the active parous period, operationally defined as the 10 years following the first pregnancy or miscarriage.
Results: A total of 683 women were analysed, of which 395 (58%) were parous, with a median number of pregnancies of 2 (IQR: 2–3), a mean of 5 x-rays per patient and 9 years of follow-up. Baseline patients and disease characteristics were balanced, but parous women were older than nulliparous (median of 48 vs 45 years, p = 0.007). During follow-up, erosion progression did not differ significantly between parous and nulliparous women (p = 0.76). In a subanalysis, the radiographic progression during the active parous period was not different (p = 0.79). The decrease of the HAQ-DI score overtime was not different between parous and nulliparous women (p = 0.36). We did not find differences in radiographic progression or HAQ-DI score between women with a single pregnancy and multiparous women.
Conclusions: In women with RA, the progression of structural damage and of functional disability did not differ between parous and nulliparous women. Although postpartum period is associated with increase in disease activity, our results suggest that parity does not have a negative long term impact on structural damage.

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Septic arthritis of the pubic symphysis

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Introduction: We present a rare but important differential diagnosis of a cause of pubic pain. Unawareness of this important diagnosis may result in delayed treatment and dire consequences.
Case report: A 60-year-old adult female, without a previous history of a pelvic operation, was admitted to hospital because of bilateral inguinal inflammatory pain with progressive difficulty in walking over four weeks. The patient developed fever at 38.2 °C. MRI imaging revealed a retropubic collection, an oedematous infiltration with inflammatory aspect of the adductor, rectus femoris and pectineus muscles. Computed tomography-guided puncture revealed a viscous and highly inflammatory liquid (13'300/l leucocytes (80% neutrophils). The liquid was put into culture and was positive for a penicillin- and amoxicillin-resistant Staphylococcus aureus. Laboratory findings revealed an inflammatory state with a CRP at 119 mg/l, a normal white cell count at 9 G/l and no left shift. The patient underwent a resection of the pubic symphysis, deep surgical debridement and rinsing as well as insertion of three gentamicine-impregnated sponges. Bacteriological analysis of surgical specimens revealed a Staphylococcus aureus sensitive to amoxicillin. The patient received intravenous co-amoxicillin 2.2 g t.i.d. for 10 days followed by intravenous flucloxacillin 2 g q.i.d. for one week. This was followed by a six-month period of oral antibiotics (rifampicin 450 mg b.i.d. associated with levofloxacin 500 mg b.i.d). The patient was provided with regular physiotherapy in order to speed her recovery.
Discussion and Conclusion: Our patient had no known obvious risk factors for septic arthritis of the pubic symphysis. Risk factors include pelvic surgery, particularly for urinary incontinence, pelvic cancer, toxicomania and sports activities. Pain associated with difficulty walking and X-rays showing irregularities of the pubic symphysis should alert the physician to a possible diagnosis of septic arthritis of the pubic symphysis therefore warranting further investigations. The most frequently responsible germs are Staphylococcus aureus, Pseudomonas aeruginosa, Escherichia coli, Enterococcus, Mycobacterium tuberculosis, polymicrobial infection in pelvic cancer, and pyocyanic in drug addicts. The incidence of infectious arthritis is 2 to 10 cases per year per 100'000 inhabitants. Septic arthritis of the pubic symphysis comprises less than 1% of all hematogenic septic arthritis.

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Patient's self-monitoring of disease activity of rheumatic diseases via webapp – study design, patient's perspective and recruitment in the first 15 months of the Swiss multicentre, longitudinal COmPASS II study

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Background: The management of patients with rheumatic diseases is partly guided by the medical history at each clinic visit. Patients however often find it difficult to accurately remember the course of their symptoms between appointments. Regular App-based patients' self-monitoring of disease between clinic visits might provide an innovative and feasible improvement. The COmPASS I study [1] demonstrated that RA patients' self-assessments of disease activity via App correlate strongly with clinicians' assessments.
Objectives: The main aims of COmPASS II are to assess if continuous self-monitoring of the disease optimises disease management in rheumatic diseases, and to assess the fluctuation of disease activity between clinic visits. This abstract describes the set-up and recruitment of the COmPASS II study in the first 15 months.
Methods: COmPASS II is embedded in the SCQM registry and hence allows the linkage of data obtained via the WebApp from the patients with routine clinical data collected in the SCQM. The App questionnaire consists of the RAPID3 score, a validated, commonly used PRO to self-assess disease activity. Interested SCQM patients with RA, axSpA or PsA are electronically assigned into 1 of the 3 study arms. In arm 1 patients and rheumatologists are displayed the self-assessed disease activity over time, the patient directly via the App and the rheumatologists via SCQM. In arm 2 only patients are displayed their chart and in study arm 3 neither sees the recorded data.
Results: The COmPASS II App went online in February 2016. In the first 15 months, 323 patients were enrolled. 65% of patients used the App, 79% of those filled in the questionnaires for longer than a month; currently, the longest follow-up is 15 months. On average patients use the App every 2 weeks. Patients using the App for longer than 6 months rated the user-friendliness/usability of the WebApp as very positive and indicated that they felt a benefit in terms of patient physician communication.
Conclusions: Patients are highly adherent in the App use, rate it as very user-friendly and feel a benefit in patient physician communication. The COmPASS II study will validate the utility of app-based patients' self-assessments in enhancing disease control.

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Sustained improvements in skin symptoms, physical functioning, and quality of life with secukinumab versus ustekinumab in patients with moderate-to-severe psoriasis and concomitant psoriatic arthritis: 52 week results from the clear study

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Background: Psoriatic arthritis (PsA) is an inflammatory arthritis associated with psoriasis [1]. In the prospective, randomised, double-blind CLEAR study (NCT02074982), secukinumab (SECU), a human anti-interleukin (IL)-17A monoclonal antibody, demonstrated superior efficacy (Psoriasis Area and Severity Index [PASI] 90) over ustekinumab (USTE) (an IL-12/23 inhibitor) [2]. We previously reported that SECU improved skin symptoms and physical functioning at 16 weeks (wks) in the subgroup with concomitant PsA [3].

Objective: To report 52 wk results in the PsA subgroup.
Methods: The primary endpoint was the proportion of patients achieving ≥90% reduction from BL in PASI score at Wk 16. PASI 75, PASI 90, PASI 100, and IGA mod 2011 responses over time, and changes from BL in the HAQ-DI, WPAI, and DLQI were analysed in the subgroup with concomitant PsA. Analyses used non-responder imputation for efficacy assessments and observed data for PROs.
Results: 610 (93.7%) completed 52 wks of study (SECU group, 312 [94.8%]; USTE group, 298 [92.5%]). Concomitant PsA was reported in 69/337 (20.5%) and 54/339 (15.9%) patients in the SECU and USTE groups, respectively. In the subgroup with concomitant PsA, a higher proportion of patients receiving SECU achieved HAQ-DI response (minimum clinically important difference) vs. USTE at Wk 52 (39.4% vs. 23.5%, respectively).
Conclusions: The significant efficacy of SECU vs. USTE in clearing psoriasis was sustained through 52 wks. In the subgroup with concomitant PsA, SECU was associated with greater improvements in skin symptoms, physical functioning, quality of life, and work productivity compared with USTE through 52 wks.

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P 25

Transition into adult care for young people with juvenile idiopathic arthritis: a bi-centre cohort study

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Introduction: Juvenile idiopathic arthritis (JIA) is the most common chronic inflammatory arthritis in children. The International League of Associations for Rheumatology (ILAR) 2001 classification includes 7 subgroups: systemic JIA, polyarticular JIA, oligoarticular JIA, enthesitis related arthritis (ERA), psoriatic arthritis and undifferentiated arthritis. Most paediatric inflammatory arthritides persist into adulthood. A transition from paediatric to adult rheumatology is a necessary step, which should be planned because of the risk of failure in monitoring. Difference in classification criteria in paediatric and adult rheumatology can also cause significant difficulty for rheumatologists.
Objectives: The aim of this study was to determine the characteristics of JIA seen during the transition period and to compare paediatric classification criteria to those of adults.
Methods: A retrospective bi-centre study was performed. Patients with JIA had a consultation at transition. JIA classification criteria were compared to ACR/EULAR 2010 criteria for rheumatoid arthritis (RA), Yamaguchi criteria for adult Still's disease and ASAS criteria for spondyloarthritis.
Results: 112 patients were included: 17 systemic JIA, 26 polyarticular JIA, 19 oligoarticular JIA, 41 ERA and 9 psoriatic arthritis. The median age of transition was 19 years old. 8 cases of uveitis were observed among patients with oligoarticular JIA and 7 with ERA. Radiographic structural damages were assessed and showed 15% of patients with erosions or carpitis, mainly in polyarticular and systemic JIA patients. 29% of patients with ERA displayed sacroiliitis. 42% of patients with systemic JIA fulfilled Yamaguchi criteria and 23% of patients with polyarticular JIA fulfilled ACR/EULAR criteria for RA. 41% of patients with oligoarticular JIA, 73% with ERA and 100% with psoriatic arthritis fulfilled ASAS criteria for spondyloarthritis.
Conclusions: Our study confirmed the articular destructive potential of polyarticular and systemic JIA and an ocular risk in oligoarticular JIA. Comparison of JIA criteria to adult rheumatism criteria showed that polyarticular JIA with positive rheumatoid factor fulfilled ACR/EULAR criteria for RA. Oligoarticular JIA and polyarticular JIA without rheumatoid factor did not fulfill any adult rheumatism criteria and seem to be paediatric entities. Finally, most patients with ERA and psoriatic arthritis fulfilled the ASAS criteria for spondyloarthritis.

The numbers refer to the pages of the supplement. Please note that the online version is not identical with the printed version because the poster P7 has been added to the online PDF.