Annual meeting of the
Swiss Society of Rheumatology
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Anti-Apolipoprotein A-1 IgG Predict Major Cardiovascular Events in Patients with Rheumatoid Arthritis

Nicolás Vuilleumier1, Sylvette Bas1, Sabrina Pagano1, Fabrizio Montecucco2, Pierre-Sylvain Guerne3, Axel Finckh1, Christian Louis1, François Mach1, Denis Hochstrasser1, Pascale Roux-Lombard5, E. Mysler6, U. Arulmani7, G. Krammer7, V. Murphy7, P. Sallstig7. 

Objective: To determine whether anti-apolipoprotein (apo) A-1 IgG are associated with major cardiovascular events (MACE) in rheumatoid arthritis (RA) patients.

Methods: We determined anti-apoA-1 IgG levels and the concentrations of cytokines, oxidised low density lipoprotein (oxLDL) and metalloproteinases (MMPs) in 1,2, 3, 9 in the sera of 133 RA patients without cardiovascular disease at baseline, who where all longitudinally followed over a median period of nine years. MACE was defined as fatal or non-fatal stroke or acute coronary syndrome. The pro-inflammatory effects of anti-apoA-1 IgG were assessed on human macrophages in vitro.

Results: During follow-up, overall MACE incidence was 15%. At baseline, anti-apoA-1 IgG positivity was 17% and was associated with a higher MACE incidence (adjusted Hazard Ratio: 4.2; 95%CI: 1.5–12.1). Patients with subsequent MACE had higher circulating levels of anti-apolipoprotein-1 IgG at baseline (p = 0.001). ROC curve analysis showed that anti-apolipoprotein-1 IgG was the strongest predictor of all tested biomarkers for subsequent MACE with an area under the curve of 0.73 (p = 0.0008). Anti-apolipoprotein-1 IgG positivity was associated with higher median circulating levels of IL-8 (p = 0.01), oxLDL (p = 0.02), MMP-9 (p = 0.03), and higher pro-MMP-9 activity as assessed by zymography (p = 0.008). On human macrophages, anti-apolipoprotein-1 IgG induced a significant dose-dependent increase of IL-8 and MMP-9 levels, and pro-MMP-9 activity.

Conclusion: Anti-apolipoprotein-1 IgG is an independent predictor of MACE in RA, possibly by affecting atherosclerotic plaque vulnerability.

Canakinumab (AC2885) vs colchicine in the prevention of flares in gouty arthritis patients initiating allopurinol therapy

A. So1, H-Y. Lin1, M. De Meulemeester1, E. Nasonov1, J. Roversky1, E. Mylés1, U. Arulmani1, G. Krammer1, V. Murphy1, P. Sallstig1, N. Schlesinger1. 

Background: Systemic flares occur in up to 25% of patients with gout treated with allopurinol. Several studies have shown that canakinumab, an interleukin-1 (IL-1) receptor antagonist, reduces the frequency and severity of gout flares compared with colchicine and could provide an effective alternative to colchicine. The objective of the study was to determine whether canakinumab, subcutaneously administered every 4 weeks (50+50+25+25 mg [q4wk]) or 16 weeks colchicine 0.5 mg daily. One fatal myocardial infarction occurred in the colchicine group. Serious adverse events were reported in 2 (3.7%), 25 mg; 2 (3.7%), 50 mg; 2 (3.7%), 100 mg; 3 (5.6%), 200 mg, and 1 (1.9%), 40 mg patients on canakinumab, and in 6 (5.6%) patients on colchicine. One fatal myocardial infarction occurred in the colchicine group.

Conclusion: In gouty arthritis patients initiating allopurinol therapy, treatment with canakinumab led to a statistically significant reduction in flares compared with colchicine, and was well tolerated.

Free communications

Anti-Apolipoprotein A-1 IgG Predict Major Cardiovascular Events in Patients with Rheumatoid Arthritis

Nicolás Vuilleumier1, Sylvette Bas1, Sabrina Pagano1, Fabrizio Montecucco2, Pierre-Sylvain Guerne3, Axel Finckh1, Christian Louis1, François Mach1, Denis Hochstrasser1, Pascale Roux-Lombard5, E. Mysler6, U. Arulmani7, G. Krammer7, V. Murphy7, P. Sallstig7.

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Conclusion: In gouty arthritis patients initiating allopurinol therapy, treatment with canakinumab led to a statistically significant reduction in flares compared with colchicine, and was well tolerated.

Octacalcium phosphate (OCP) crystals induce inflammation in vivo through IL-1β but independent of the NLRP3 inflammasome


Objective: To determine whether anti-apolipoprotein (apo) A-1 IgG are associated with major cardiovascular events (MACE) in rheumatoid arthritis (RA) patients who experience an inadequate response to TNF antagonists (aTNF). Joint damage progression in RA patients having a subsequent treatment with either RTX or an alternative aTNF. Joint erosions (ERO) were assessed in 38 joints of hands and feet with a validated scoring method (Ratingsen score, expressed in % of the maximum score) by a single reader blinded to clinical history. The primary outcome of this analysis is the progression of ERO over time while on therapy. The evolution of ERO is analysed using regression models for longitudinal data, adjusting for potential confounders.

Methods: This is a prospective cohort study nested within SCQM-RA cohort including all patients with failed aTNF therapy and a subsequent treatment with either RTX or an alternative aTNF. Joint erosions (ERO) were assessed in 38 joints of hands and feet with a validated scoring method (Ratingsen score, expressed in % of the maximum score) by a single reader blinded to clinical history. The primary outcome of this analysis is the progression of ERO over time while on therapy. The evolution of ERO is analysed using regression models for longitudinal data, adjusting for potential confounders.
Results: 644 RA patients were included; 255 on RTX and 389 on an alternative aTNF (adalimumab 51%, etanercept 30%, infliximab 19%). Patients were followed over a median duration of 18 months and assessed on average with two sets of hand and feet X-rays. The two therapeutic groups were similar for most disease characteristics, but for some differences in disease duration, baseline DAS28 levels and number of previous aTNF failures. After adjusting for prognostic factors, we found no significant differences in the rates of ERO progression between patients on alternative aTNFs and RTX (P = 0.52). The ERO score progressed at an annual rate of 0.01% (95% CI: 0.18 – 0.52) in the aTNF group versus –0.01% (95% CI: –0.51 – 0.49) in the RTX group. Furthermore, we found no evidence for effect modification by rheumatoid factor or use of concomitant methotrexate. Longitudinal progression of functional disability (HAD) produce qualitatively similar results.

Conclusion: This observational study suggests that RTX is as effective as alternative aTNF in preventing radiographic joint damage in RA patients who have previously failed aTNF.

Efficacy of methotrexate in the management of chronic calcium pyrophosphate dihydrate (CPPD) arthropathy: an interim analysis of a randomized controlled trial


University Hospital of Geneva; 1Mater Misericordiae University Hospital, Dublin, Ireland; 2La Chaux-de-Fonds Hospital, La Chaux-de-Fonds; 3Tiremi Hospital, Zurich; 4Yverdon Hospital, Yverdon; 5Zurich University Hospital, Switzerland

Background: Calcium pyrophosphate dihydrate (CPPD) deposition may cause severe arthropathy and major joint destruction. There is currently no specific treatment to prevent CPPD deposition and the therapy of chronic or recurrent CPPD arthropathies can be problematic. We are conducting a randomized controlled trial (RCT) to test the efficacy of methotrexate (MTX) versus placebo (PBO) on symptoms and signs of chronic or recurrent CPPD arthropathy. We present here an interim analysis of the first 21 patients, which was performed by an external reviewer.

Objective: To assess the tolerance and efficacy of MTX in CPPD arthropathy and to validate the ethics and the rationale underlying this ongoing RCT.

Methods: This is a double-blind, crossover RCT, with a 2 month "wash-out" between the 3 month treatment periods. Patients with CPPD arthropathy are randomized to receive either weekly subcutaneous injections of 15 mg/week of MTX or similar injections of PBO. Inclusion criteria comprise definite CPPD deposition disease (McCarty diagnostic criteria), recurrent mono- or oligo-arthritis ("pseudogout") or persistent polyarthritides, and an insufficient response to NSAIDs, glucocorticoids or colchicine. Exclusion criteria are a positive rheumatoid factor or anti-CPP antibodies and contraindication to NSAIDs, glucocorticoids or colchicine. Exclusion criteria are a positive rheumatoid factor or use of concomitant methotrexate. Longitudinal progression of functional disability (HAD) produce qualitatively similar results.

Results: 21 patients from 5 centers were randomized and 16 patients completed all follow-up assessments. Baseline characteristics were balanced between the groups. During the study follow-up, 21 adverse events (AE) were reported, but no serious AE induced arthritis is driven by the promoter I of CIITA in macrophages

J. Waldburger1, 2, G. Palmer1,2, W. Reith1, V. Bochet1,2, C. Lamacchia1,2, A. Finckh3, C. Gabay4

1Pathology and Immunology, University of Geneva; 2Rheumatology, Geneva University Hospital, Geneva, Switzerland

Introduction: Rheumatoid fibroblast-like synoviocytes (FLS) express MHC class II (MHCII) molecules and function as antigen-presenting cells. We tested the contribution of ectopic MHCII expression on FLS during experimental arthritis in mice rendered deficient in MHCII induction.

Methods: Cells were obtained from FLS isolated from C57BL/6, MHCII transgenic mice (Tg), MHCII−/− (−/−), Tg−/− (−/−) and control littermates. MHCII and CIITA isoforms were quantified by i.p. at day 22, in pIV-/- knockout mice, pIV-/- CIITA-K14 transgenic mice (Tg) and control littermates. pIV-/- mice were fully protected due to towards CII and arthritis incidence were similar in pIV-/- CIITA-K14 transgenic mice and control littermates. pIV-/- mice were resistant to T cell mediated autoimmunity since they lack arthritis incidence were similar in pIV-/- CIITA-K14 transgenic mice and control littermates. pIV-/- mice were fully protected due to

Conclusions: MHCII expression in the synovium during collagen induced arthritis is driven by the promoter I of CIITA in macrophages.
macrophages were the main source of MHCII expressing cells in arthritic knees in all groups of mice.

Conclusion: Deletion of the inducible isoform pIV of CIITA in the periphery did not significantly decrease immune responses and arthritis severity in the CIA model. Local expression of MHCII and CIITA plasmid mRNA levels were significantly increased during arthritis, highlighting the dominant role of MHCII positive macrophages.

P 5

Tocilizumab in a Patient with Ankylosing Spondylitis and Crohn’s Disease Refractory to TNF Antagonists

Laure Brulhart, Michael J. Nissen, Paola Chevallier, Cem Gabay

Introduction: Tumor necrosis factor inhibitors (anti-TNF) have dramatically improved the management of ankylosing spondylitis (AS). However, up to 20% of patients have an inadequate response to anti-TNF therapy due to inefficacy or adverse events [1]. No biological agent with a target other than TNF has so far demonstrated efficacy for AS patients.

Case report: We present the case of a 30-year old man with a history of severe HLA-B27 positive AS and Crohn’s disease (CD) for over 14 years, recurrent uveitis and psoriasis. He demonstrated secondary failure to 3 anti-TNF agents: infliximab, adalimumab and certolizumab and did not experience any improvement following treatment with abatacept. He ultimately demonstrated a good and sustained clinical response with tocilizumab, an antibody against interleukin (IL)-6 receptor. We did not observe any adverse event after a follow-up of 10 months.

Discussion: This case provides the opportunity to review the data on the role of IL-6 in AS and to discuss the potential use of IL-6 targeting agents in the treatment of spondyloarthropathies. A randomised controlled trial suggested efficacy of fortnightly 8 mg/kg injections of tocilizumab in patients with CD [2] and a recent case report also described successful treatment of reactive arthritis with tocilizumab [3]. This is the first case report of successful therapy with tocilizumab in AS. It emphasizes the importance of investigating other biological targets in AS and suggests that IL-6 targeting agents further research in this disease.


P 6

Work Related Characteristics of Back and Neck Pain among Employees of a Swiss University Hospital

S. Genevay, C. Cedastrini, D.S. Courvoisier, T.V. Perneger, R. Grandjean, A.C. Giesser, D. Monnin

Division of Rheumatology; Division of Clinical Pharmacology and Toxicology, Multidisciplinary Pain Center & Division of General Medical Rehabilitation; Division of Clinical Epidemiology; Back pain Care Program, University Hospitals of Geneva; Care Services Directorate, Unit of Physiotherapy Research and Quality Assurance, University Hospitals of Geneva

Study design: Mailed survey.

Objectives: To define the prevalence of spinal pain among employees of a large teaching hospital and to identify risk factors for spinal pain and its consequences.

Background: Back and neck pain (spinal pain) is a significant source of disability and distress for individuals and has major economic consequences for society. The causes of spinal pain are complex and not fully understood. In particular, little is known about the importance of work categories and work characteristics for the prevalence and consequences of spinal pain.

Methods: A mailed survey was carried out in a random sample of 2700 employees stratified for occupational categories (administration staff, nurses, nurse assistants, physicians, support staff and allied health professionals). The questionnaire measured self-reported spinal pain, consequences of pain, and work characteristics.

Results: The response rate was 48.1% (1298/2700). The one-year prevalence of spinal pain was 67.3%, highest among nurses (75.6%) and lowest among support staff (54.9%). Reported work characteristics associated with spinal pain included frequent work at a poorly adapted work station (odds ratio (OR) 1.90 [1.24–2.93]) and having to maintain a position for a long time (OR 1.71 [1.25–2.34]). No significant correlations were observed with lifting, patient handling, material handling, or working on nightshift. Somatic physical pain due to spinal pain was significantly associated with duration of pain episode (OR 4.08 for >3 months compared to less than 10 days), and with work categories (OR 2.58 for nurses assistants compared to nurses). The work capacity wasn’t associated with the physical increase, but with the evolution on the psychological plan.

Conclusion: In 2700 employees, being a nurse, working at a poorly adapted work place, and having to maintain positions for a long time were related independently to spinal pain. Nurse assistants had a higher risk of work absenteeism.

A Single High Dose of Oral Vitamin D3 Is Not Enough to Correct Insufficiency and Deficiency in a Rheumatologic Population

D. Stoll, O. Lamy1, M.-A. Krieg1, D. Hans1, J. Dudler1, A. So1, B. Aubry-Rozier1

1Division of Bone diseases, CHUV, Lausanne; 2Division of rheumatology, CHUV, Lausanne

Introduction: Vitamin D plays a major role in bone metabolism and neuromuscular function. Supplementation with vitamin D is effective to reduce the risk of fall and of fracture. However adherence to oral daily vitamin D supplementation is low. Screening and correcting vitamin D insufficiency in a general rheumatologic population could improve both morbidity and quality of life in these patients with chronic painful disorders and at high risk of osteoporosis. After determining the prevalence of vitamin D deficiency in this population, we evaluated if supplementation with a single high dose of oral 25-OH vitamin D3 was sufficient to correct this abnormality.

Methods: During one month (November 2009), levels of 25-OH vitamin D were systematically determined in our rheumatologic outpatient clinic and classified into three groups: vitamin D deficiency (<10 µg/l), vitamin D insufficiency (10 to 30 µg/l) or normal vitamin D levels (>30 µg/l). Patients with insufficiency or deficiency received respectively a single high dose of 500000 IU or 600000 IU oral vitamin D3. In addition, all patients with osteoporosis were prescribed daily supplement of calcium (1 g) and vitamin D (800 IU). 25-OH vitamin D levels were reevaluated after 3 months.

Results: In a random sample of 400 patients during one year after a multidisciplinary treatment program. The program contained physical education, occupational activities and psychological – cognitive- participation. We measured the abdominal muscle forces (Shirado, the lumbar muscles (Biering-Sørensen), and the cardiac endurance (Bruce test) in association with different pain scales (Oswestry; Roland-Morris, Dallas pain scale; SF-36 and HADS).

Decrease in apprehension after multidisciplinary treatment in chronic low back pain patients

M. Norberg, C. Schindler, L. Beigland

CHUV, Centre médical de Lavey-les-Bains

Chronic low back pain (CLBP) is a expensive according to direct and indirect costs. The most expensive patients are those who are on long sick leave. There are different treatment possibilities, but surgery is not superior to conservative treatment. But which part in a multidisciplinary treatment program is important to have a successful result? The aim of this study was to look on the different parts of our multidisciplinary program, to find out the important components.

Methods: We have studied the results for 400 patients during one year after a multidisciplinary treatment program. The program contained physical education, occupational activities and psychological – cognitive- participation. We measured the abdominal muscle forces (Shirado), the lumbar muscles (Biering-Sørensen), and the cardiac endurance (Bruce test) in association with different pain scales (Oswestry; Roland-Morris, Dallas pain scale; SF-36 and HADS).

Results: There was a clear increase in muscle force after 3 weeks intensive training (Shirado and Biering-Sørensen) but it didn’t sustain over the year. The global endurance increase seen with the Bruce was maintained for a year. There was a decrease of pain, more clearly seen in the psychological scores: pain behaviour and apprehension.

Conclusion: The work capacity wasn’t associated with the physical increase, but with the evolution on the psychological plan.

P 8

Decrease in appetite and change in body weight in patients with rheumatoid arthritis on methotrexate treatment

A. Aubry-Rozier1,2

1Division of Bone diseases, CHUV, Lausanne; 2Division of rheumatology, CHUV, Lausanne

Introduction: In patients with rheumatoid arthritis (RA) on methotrexate (MTX) treatment, a decrease in appetite and change in body weight is often observed. This is related to MTX therapy as a whole, with moderate weight loss being considered a normal consequence of this treatment. However, oral intake and body weight changes are markers of well-being and might have an impact on the adherence to the treatment. The aim of this study was to analyse both oral intake and body weight changes in patients with RA on MTX treatment.

Methods: We performed a prospective study in 129 patients with RA, 102 of whom were on oral MTX treatment. Diet and body weight were assessed at the beginning of the treatment and at the end of the first, second, third, fourth, sixth and twelfth months of treatment. The biochemical markers of MTX therapy (blood levels of MTX and folinic acid) were measured at each control. The influence of MTX blood levels and folinic acid blood levels on oral intake and body weight changes were also assessed.

Results: The mean body weight was 78 kg at the beginning and 76 kg at the end of the treatment. There was a significant decrease in body weight from the second month of treatment. The mean body weight decreased by 1.2 kg at the end of the study (p = 0.02). There was no significant correlation between MTX blood levels and folinic acid blood levels on oral intake and body weight changes.

Conclusion: This study shows that oral intake and body weight changes are frequent in patients with RA on MTX treatment. A decrease in appetite and weight loss might be considered as a marker of well-being and might have an impact on the adherence to the treatment.
Results: Vitamin D levels were initially determined in 292 patients (mean age 53, 211 women, 87% Caucasian). 77% had inflammatory rheumatic diseases (IRD), 20% osteoarthritis and 12% degenerative disease (DD). Vitamin D deficiency was present in 20 (6.8%), while 225 (77.1%) had insufficiency. Of the 245 patients with levels <30 µg/l, a new determination of vitamin D level was available in 173 (71%) and 68 (31%) had insufficiency. Conclusion: Vitamin D insufficiency is highly prevalent in our rheumatologic population (84%), and is not adequately corrected by daily supplementation with vitamin D3 (1000 IU/day) alone. Methods: The reading had been performed when possible between L5 and T4. During two months (March and April 2010), a medical questionnaire was systematically given to our clinical routine patient to check the validity of ISCD IVA recommendations in our population. In addition, all women had BMD measurement at AP spine, Femur and 1/3 radius using a Discovery A System (Hologic, Waltham, USA). When appropriate, IVA measurement had been performed on the same DXA system and had been centrally evaluated by two trained Doctors for fracture status on tomographic evidence according to the semi-quantitative method of Genant. The reading had been performed when possible between L5 and T4.

Results: Out of 210 women seen in the consultation, 109 (52%) of them (mean age 68.2 ± 11.5 years) fulfilled the necessary criteria to have an IVA measurement. Out of these 109 women, 43 (incidence 39.4%) had osteoporosis at one of the three skeletal sites and 31 (incidence 28.4%) had at least one vertebral fracture. 14.7% of women had both osteoporosis and vertebral fracture (defined as "severe osteoporosis") while 46.8% did not have osteoporosis or vertebral fracture. 24.8% of the women had osteoporosis but no vertebral fracture while 13.8% of women had osteoporosis and vertebral fracture (clinical osteoporosis).

Conclusion: In conclusion, 52% of our patients, IVA was needed according to ISCD criteria. In half of them the IVA test influenced of patient management whether by changing the treatment or simply by classifying patient as "clinical osteoporosis". IVA appears to be an important tool in clinical routine but unfortunately is not yet very often used in most of the centers.

A screening strategy for rheumatoid arthritis in first degree relatives of patients with RA

A. Finch1, B. Möller1, D. Kyburz2, R. Müller1, J. Dudler1, C. Gabay3
1Rheumatology, University Hospital of Geneva (HUG); 2Rheumatology & Immunology, University Hospital of Bern (Inselspital); 3Rheuma-klinik, University Hospital of Zurich (USZ); 4Rheumatology, St Gallen Hospital; 5Rheumatology, University Hospital of Lausanne

Introduction: During the preclinical phase of RA, auto-antibodies are often already present and synovitis can be demonstrated on histology in clinically uninfamed joints. Biomarkers and clinical risk factors of pre-symtomatic disease exist and suggest that screening at risk populations for early detection of RA and treatment are not out of the realm of the possible. The aim of this study is to develop and evaluate a screening strategy for the development of RA in first degree relatives (FDRs) of patients with RA.

Objective: To examine the clinical characteristics of FDRs of RA patients enrolled in a screening study.

Methods: Descriptive analysis of the clinical characteristics of a cohort of FDRs of patients with RA.

Results: We started to assemble a cohort of FDRs of RA patients in all academic rheumatology clinics of Switzerland (see author affiliations above). After the few months of recruitment (average of 7 months), 72 FDRs of RA patients have been enrolled. On average, participants have 1.3 diseased family members, which is generally a parent (83%) and only in 17% a diseased sibling. Participants are relatively young (mean 39 years), which tends to be approximately the average age at which their diseased family member developed RA (mean 41 years). Participants are mostly female (67%), without significant comorbidities, and with normal weight (mean BMI 23.7). Surprisingly, many of the participants presented several tender joints (med s, IQR: 3–4) on examination at inclusion, but only one had swollen joints (2). Conclusion: FDR participants in the screening study tend to enrol because of concerns of developing RA, which they had known history suggestive of malabsorption related to bowel involvement.

Behcet’s disease: Successful treatment with Infliximab in 8 patients with severe vascular manifestations

S. Adler, P.M. Villiger
Department of Rheumatology, Clinical Immunology and Allergology, Inselspital, Bern

Introduction: Vascular inflammatory lesions of arteries and veins in Behcet’s disease (BD) are rare but may be life-threatening. Standard therapeutic concepts do not exist. We report 8 patients with severe vasculitic BD lesions treated with infliximab as acute management combined with basic immunosuppression.

Patients and therapy: Eight patients (5 male, 3 female, age at diagnosis 23–42 years) with clinical evidence of BD. Two had an aortic involvement with one of them undergoing emergeny aortic valve surgery.
replaced twice, presented with hemoptysis due to pulmonary aneurysm, 1 with recurrent venous thrombosis of the pelvic veins, 1 suffered from chronic renal failure, and 1 was diagnosed with IgA-nephropathy, 1 with lesions of the spine, and 1 with calcification of the gall bladder. Therefore, there were significant differences in the individual cases. The disease manifestations were easily controlled by adapted immunosuppression. ANCA positive vasculitis: misleading digital ischemia and successful fortified immunosuppressive treatment

P.-A. Vanasco, S. Adler, F. Wermelinger, P.M. Williger
Department of Rheumatology, Clinical Immunology and Allergology, Inselspital, Bern

Introduction: ANCA-positive vasculitis may present with digital ischemia and infarction. We report the case of a patient with prolonged peripheral ischemia leading to the loss of 7 finger tips.

Patient and therapy: A 59-years old man presented with a 3-week history of fever, malaise, epistaxis and finally spotted, progressive cyanotic lesions on 7/10 finger tips. Endocarditis and other infectious foci were ruled out. Electrocardiogram and chest X-ray were normal. A venous Doppler ultrasound showed high tides of PR3-positive c-ANCA. Nasal biopsy revealed acute vasculitic lesions in small-size arteries. In MRI small cerebellar ischemic lesions were detected. Furthermore, microhematuria, microalbuminuria, ECG-abnormalities with R-reduction in antero-septal and inferior leads were found. Collectively the findings proved to be caused by an ANCA-associated vasculitis, probably a generalized Wegener’s disease.

Immunosuppression was initiated with cyclophosphamide, plasmapheresis and i.v. cyclophosphamide.

Conclusion: This case illustrates the need for a rapid work-up if vasculitis is suspected. At the time of diagnosis infarcts of the end phalanges of 7 fingers were already established. In contrast, all other disease manifestations were easily controlled by adapted immunosuppression.

Utility of ultrasound guided infiltrations in the painful shoulders: a randomized study of 70 cases

P. Zufferey1, S. Revaz2, X. Degallier2, F. Balague2, A.K. So3
1HIB, Estavayer-le-lac, service de rhumatologie; 2HCF Fribourg; 3service de rhumatologie, DAL CHUV, Lausanne

Background: Inflammation of painful shoulders with local steroid injections is a frequent request in many cases. Ultrasound allows a more precise diagnosis of the causes of pain than clinical evaluation and therefore could be an interesting way of predicting the response to the steroid infiltration.

Objectives: We aimed to: double: first, to see whether sonographic guided infiltration oriented according to the echographic diagnosis resulted in a better outcome of pain and function than blind subacromial infiltrations, second to evaluate whether a precise sonographic diagnosis has any impact on the result of the infiltration.

Methods: 70 consecutive patients were studied. All the patients had a complete clinical and sonographic evaluation at day 0 and at 6 weeks. Patients were randomized to receive either a blind sub-acromial infiltration of bethamethasone 7 mg independently of the ultrasound diagnosis or sonographic guided injection oriented according to ultrasound diagnosis. The follow-up clinical evaluations were performed blind to the results of initial sonographic and clinical assessments by another rheumatologist than the one who performed the infiltration. Pain by a verbal numerical rating scale (range from 0 to 10) and function by standardized modified Constant score were assessed at day 0, 2, 6 and 12 weeks.

Results: 67 completed the study (35 blind, 32 ultrasound). The two groups were comparable for gender, age, pain intensity at baseline, duration of pain before the infiltration and for most of the echographic diagnosis. Ultrasound-guided infiltration resulted in a better improvement of pain and function but only night pain was significantly reduced at 2 and 6 weeks in the ultrasound infiltrated compared the blind infiltrated patients with a mean difference of 2.2 points at 2 weeks and 2.5 points at 6 weeks. Pain and loss of sleep significantly improved at 6 weeks in the ultrasound infiltrated compared the blind infiltrated patients. The same was found in the patients with calcification and bursitis infiltrated under ultrasound. Ultrasound diagnosis has no impact on: initial degree diurnal pain, maximum and significant pain improvement at 2 weeks, progressive reoccurrence of pain at 6 and 12 weeks and constant at 12 weeks.

Conclusion: Ultrasound-guided infiltration under sonographic guidance according to the diagnostic image add significant benefit to night pain reduction at 2 and 6 weeks. Some particular ultrasound diagnosis have an impact on the pain response especially if patients present with pain associated with bursitis. The ultrasound guided infiltration significantly improves the pain whatever the initial ultrasound diagnosis.

Improvements after interdisciplinary rehabilitation of whiplash injury

Sera Thomas, Angst Felix, Gysi Françoise, W. Jenni, Lehmann Susanne, Aeschlimann André
RehaClinic Zürich, 5330 Bad Zürich

Background: In Switzerland, 10,000 car accidents lead to whiplash injuries with annual cost of over 500 Billion CHF. The aim of this study was to examine state and change of bio-psychosocial health and quality of life of patients after whiplash injury, before and after an inpatient interdisciplinary pain management program.

Methods: Observational, prospective cohort study (n = 103) using medical record data and standardized self-assessments to determine effects by means of standardized effect sizes (ES). ES ≥0.5 reflect moderate, ES ≥0.8 high effects. The four-week inpatient therapy program consisted of drug adaptation, graded activity exercise, relaxation therapies, and behavioral therapy (>100 h of therapy).

Results: After rehabilitation, pain improved by ES up to 0.65, function/role performance up to 0.87, vitality up to 0.67, coping ("catastrophizing") up to 0.41 and depression up to 0.45. At the 6 month follow-up, these effects remained with ES between 0.45 and 0.67. The median working capacity improved from 8 hours per week at baseline to 21 hours on the follow-ups. These effects were observed in severely affected patients with poor response to previous outpatient therapies.

Conclusion: The rehabilitation program was associated with moderate to large midterm improvements in important health dimensions, medication reduction and working capacity.

Costs related to treatment with TNF alpha inhibiting agents in Switzerland

J. Zeidler1, T. Mittendorf2, J. von Kempis3
1Center for Health Economics, Hanover, Germany; 2herescon gmbh, Hanover, Germany; 3Department Innere Medizin, Kantonsspital St. Gallen, St. Gallen, Switzerland

Introduction: The reasons for rising health care costs are one of the most prominent areas of interest in the analysis of health care structures. Aim of this study was to obtain detailed data not only on costs but also treatment patterns in the utilization of TNF-alpha inhibiting agents in patients treated by Swiss rheumatologists.

Methods: Insurance claims data from 1,433 individuals were identified and extracted for the years 2005-08 from the data base of the Helsana insurance. Research questions address not only annualized costs in different domains but also treatments patterns (e.g., adherence, dosing). Specific areas of interest were: drug costs/year, additional healthcare costs/year, costs in relation to diagnosis and adherence, continuity of care with respect to individual compounds, costs in relation to dosing and adherence, continuity of care with respect to individual compounds, as well as the identification of specific patient clusters. Data of various different subgroups which were defined with respect to the different approved indications (e.g., rheumatology, gastroenterology) were analyzed using descriptive as well as explorative statistics and are presented in detailed overviews. The focus was set on the costs.
Brain abscess in immunosuppressed patients – not always infection

Dr. med. Inge M. Schudel1, Prof. Peter M. Villiger2 1Universitätsklinik für Rheumatologie, Klinische Immunologie und Allergologie, Innsbruck, Austria; 2Department of Pediatrics, University Hospitals of Geneva, Switzerland

Introduction: Clinical features of brain abscesses are extremely variable and nonspecific. Symptomatic signs from the effects of increased intracranial pressure, focal neurologic abnormalities to fever of unknown origin. A high alertness is needed as early detection is crucial for cure. We report two cases of cerebral abscesses of different etiology in immunosuppressed patients.

Report of cases: Case 1: A 64-years-old woman, known for seronegative polyarthritis and treated with sulfasalazine, presented because of diplopia. Magnetic resonance imaging (MRI) revealed destructed walls of sinus maxillares, orbita and lamina papyracea with penetration of the dura mater and localized intracranial inflammatory process. Endoscopic (fransnasal) biopsy showed a chronic inflammation with plenty of staphylococcus aureus, however, without characteristic findings of Wegener’s disease (WG) or NKT cell lymphoma. Immunosuppressive therapy was stopped and antibiotic treatment was begun.

Case 2: A 62-years-old woman with known Wegener’s granulomatosis treated with Methotrexat and glucocorticoids presented because of severe frontal and left parietal pain and loss of vision. MRI revealed intracranial frontobasal lesions with a high suspicion of infectious abscesses. The patient underwent craniotomy and biopsy of the patient received high-dose glucocorticoids and immunosuppressive therapy was intensified with infliximab and cyclophosphamid.

Discussion: Cerebral involvement of localized Wegener’s disease and to rule out an infectious or neoplastic cause. Destruction of parasanal sinuses predisposes for intracranial bacterial spread.

The influence of immunosuppressive therapy and underlying disease on vaccine responses to influenza A H1N1/09 vaccines in inflammatory rheumatic diseases

C. Gabay1, S. Meier2, D. Gascon3, K. Posfay- Barbe2, C. Combescure4, M. Beil5, L. Kaisen5, P.-A. Guerne6 1Division of Rheumatology; 2Clinical Research Center; 3Department of Laboratory Medicine and Division of Infectious Diseases; 4Department of Pediatrics, University Hospitals of Geneva

Background: Influenza A H1N1 is a new virus that emerged in spring 2009 and rapidly spread around the world causing a pandemic. As patients with inflammatory rheumatic diseases (IRD) exhibit some form of immunodeficiency related to their diseases and the use of immunosuppressive drugs, the Swiss Society of Rheumatology recommended the vaccination of all IRD patients under immunosuppressive agents. However, two important questions remain unresolved: 1) are immunocompromised hosts able to raise successful vaccine responses, 2) is the use of adjuvanted vaccines safe in patients with autoimmune diseases.

Objectives: To determine the efficacy and safety of influenza A H1N1/09 vaccine formulated in a lipid adjuvant (squalene) in patients with IRD.

Patients and methods: 173 patients with IRD and 138 healthy controls were included from November 2009 to January 2010 in this prospective, open-labeled, single center, parallel cohorts study. Among IRD patients, there were 82 cases of rheumatoid arthritis (RA), 45 cases of spondyloarthropathies (SpA), and 46 cases of connective tissue diseases (18 systemic lupus erythematosus (SLE) or vasculitis). The kinetic of the vaccine response and antibody titers (using a standardized in-house hemagglutination inhibition assay) were assessed after the first and the second dose and compared to titers obtained in a control group of healthy inhabitants. Cellular immune responses to influenza A H1N1/09 vaccine will be also determined in a subset of patients and controls.

Results: Disease modifying antirheumatic drugs were used in 85% of RA, 63% of SpA, 94% of SLE patients; oral corticosteroids in 31% of RA, 11% of SpA, and 70 of SLE patients; anti-TNF in 43% of RA and 71% of SpA; and rituximab in 21% of RA and 11% of SLE patients. The different indices of systemic activity were not significantly different at baseline and after vaccination. Despite immunosuppression, injection-site tolerability and systemic inflammatory reactions were similar in patients with IRD than in healthy controls. The analysis of the kinetic and the patients and at 1 year post the injections revealed no differences in the different IRD patient groups in comparison with those of healthy subjects is in progress and will be presented.

Conclusions: The adjuvanted vaccine against influenza A H1N1/09 is well tolerated and does not induce short-term exacerbation in patients with IRD treated with immunosuppressive agents.
re-expose the patient to Etanercept, this time without PPP exacerbation. This led to a new complete remission of the exacerbated arthritis for more than a year. The observation strongly suggests that there are different immunological pathways for the arthritis and PPP in the same individual. Furthermore we suspect that the T-cells are involved in the causal relationship between the TNF blockade and PPP. We cannot rule out a high infection rate of the latter under the combined therapy. Although not the first treatment option, two biologics can be applied simultaneously after careful consideration of the potential interactions, higher infection rate and cost.

Efficacy of canakinumab (ACZ885) compared to triamcinolone acetonide treatment of acute flare and prevention of recurrent flares in gouty arthritis patients

A. Soi, M. De Meulemeester, A. Piklaki, A. E. Yücel, U. Arulmani, D. Richard, V. Murphy, P. Sallitski, N. Schlesinger

CHU Vaudios, Lausanne, Switzerland; Gzotele, Belgium; WSUMD, Moscow, Russia; Ba kent University, Ankara, Turkey; Novartis, Basel, Switzerland; UDMNJ-RWJMS, New Brunswick, NJ, USA

Aim: This study determined the target dose of canakinumab (a fully human anti-IL-1β) monoclonal antibody) for treatment of acute flares in gouty arthritis patients.

Methods: In this 8-week, dose-ranging, multicenter, blinded, double-dummy, active-controlled trial, patients (aged ≥18–≤80 years) with an acute gout flare, refractory to or contraindicated to NSAIDs and/or colchicine were randomized to one subcutaneous dose of canakinumab (10, 25, 50, or 150 mg) or one intra muscular dose of triamcinolone acetonide (TA) [40 mg]. The primary variable was assessed 72 hours post-dose, measured on a 0–100 mm VAS pain scale.

Results: 200 patients were randomized (canakinumab n = 143, TA n = 57), and 191 completed the study. Canakinumab showed a statistically significant dose response for pain (VAS) at 72 hours. Canakinumab 150 mg showed superior pain relief compared to TA starting from 24 hours; estimated mean difference in pain intensity on 0–100 mm VAS was −1.35 ± 0.94 at hour 48, −1.82 ± 0.94 at hours 72, and −1.92 ± 0.94 at 72 hours (all p <0.05). Canakinumab 150 mg provided a rapid onset of pain relief: median time to 50% reduction in pain was reached at one day with canakinumab 150 mg vs. two days for TA (p = 0.0006). At Week 8, recurrent flares occurred in one patient (3.2%) on canakinumab 150 mg vs 25 (44.6%) patients on TA (relative risk reduction 94%, p = 0.006). Median CRP/SAAS levels were normalized by Day 7 with all canakinumab doses above 10 mg and remained below the Upper Limit of Normal (ULN: CRP 3.0 mg/L, SAA 6.7 mg/L) for rest of the study in contrast to the TA group, where the median CRP levels remained above the ULN throughout the study while median SAA levels decreased below ULN 28 days after first treatment. Serious adverse events (canakinumab n = 4, TA n = 1) were not considered to be treatment-related by investigators. No discontinuations occurred due to adverse events.

Conclusions: Canakinumab 150 mg provided faster onset and superior pain relief compared to TA for acute flares in gouty arthritis patients refractory to or contraindicated to standard treatments. CRP/ SAA levels were normalized by Day 7 with all doses of canakinumab above 10 mg, while levels did not normalize in the TA group. Canakinumab 150 mg prevented recurrence of gout flares with a relative risk reduction compared to TA of 94% 8 weeks post-dose, and was well tolerated.

The humeralrodistal impingement

D. Van Linthoudt

Service de Rhumatologie, Département de Médecine, Hôpital neuchâtelois

Lateral pain of the elbow is frequently reported. Impingement of the humeralrodistal fold or a synovial fringe is a seldom evoked cause, sometimes ignored. Nonetheless, this etiology should be remembered, especially in young adults performing sport activities and in heavy workers. This presentation reports on a young lady, born in 1990 who came to the outpatient clinic for a progressive limitation of her left elbow which started one year before. She experienced a few local inflammatory episodes, especially after horse riding. There was no synovitis of the distal elbow, but the patient stated that the humeralrodistal joint space was painful. There was also a lack of 15° joint extension. Full supination and pronation against resistance when the arm was extended the humeroradial fold, confirmed by the MRI-arthrogram. The MRI revealed no enthophyrosis nor bone edema; on the other hand, it showed a thick synovial fringe extending the humeroradial fold, consistent with the MRI-arthrogram. Treatment consisted in physiotherapy and a local injection of a corticosteroid suspension. Joint mobility was not improved but pain was sufficiently decreased to presently avoid arthroscopy. The presence of a humeroradial fold is frequently observed at autopsy or in the dissection room (from 80 to 100% of the reported series). It can be responsible for snapping, locking, pain and restricted mobility of the elbow. Elective pain is usually elicited by the pressure on the humeroradial joint space beneath the lateral epicondyle.

Discussion: Efficacy of canakinumab (ACZ885) compared to triamcinolone acetonide treatment of acute flare and prevention of recurrent flares in gouty arthritis patients

Comparison of two osteoporotic fracture management pathways: experience at 1 year

B. Aubry-Roizier, D. Stoll, H. Hans, A. Soi, M-A Krieg, O. Lamy

Center of bone diseases, CHUV Lausanne; Unit of rheumatology, CHUV, Lausanne

Introduction: Osteoporosis presenting as low-impact fractures to traumatology units is often undiagnosed and under-treated. Results from the Osteocare study in Lausanne (a nurse based intervention, passive pathway) showed that only 19% of patients received specific management for osteoporosis, and in the literature [1], the rate is between 10–25%. We have evaluated a different management concept, based on the systematic assessment of patients with osteoporotic fractures during and after hospitalization (active pathway).

Methods: Inpatients admitted to the Department of Musculoskeletal Medicine for a fragility fracture were identified by a nurse according to a predefined questionnaire and were then clinically evaluated by a doctor. Based on the results, a management plan was created and proposed to the patients. Patients could choose between follow up either by their GP or by the Centre of Bone Disease of the CHUV. For patients who chose follow-up in our Centre, we assessed their adherence to medical follow-up 1 year inclusion. The results of patients who had been evaluated in our cohort between the 1 November 2008 and the 1 December 2009 were analysed.

Results: 573 inpatients received specific management of their osteoporotic fracture over 18 months. The mean age was 77 y (31–99), 81% were women (203 hip fractures, 40 pelvis fractures, 101 arm fractures, 57 vertebral fractures, 63 ankle fractures, 49 other fractures). During the study period, 303 patients received a proposition of a specific treatment. 39 (13%) chose a follow up with the GP. 19 (6%) dead and 245 (81%) preferred a follow up in our Centre. After 1 year, 168 (87%) patients are under follow up in our outpatient clinic.

Conclusion: With an active clinical pathway that starts during the hospitalization, consisting on a nursing evaluation followed by a medical consultation an osteoporosis expert in the osseopain pathway, the adherence increased from 19% to 67% in terms of follow up. These results lead us to propose a consultation with a doctor experienced in osteoporosis after all osteoporotic fractures.


Mid-diaphyseal cortical thickening in appendicular bone and scull with highly increased volumetric bone mineral density in a patient with diffuse pain syndrome

N. Kartal, P.M. Villiger, K. Siebenrock, D. Aeberli

Department of Rheumatology, Clinical Immunology and Allergology Inselspital, University of Bern; Department of Orthopaedic Surgery, Inselspital, University of Bern

A 36-year-old Pakistani woman was referred for evaluation of long-standing diffuse musculoskeletal pain. The veiled patient complained particularly about leg and lumbar back pain, occasional headache and generalized weakness. Clinical examination showed hypoaesthesia and abnormal bowel, but no dysmorphic features and functional deficits in the field of musculo-skeletal disorders. Laboratory examinations revealed a lack of 25-hydroxy-Vitamin D3, whereas 1,25-Dihydroxy-Vitamin, calcium, PTH, osteocalcin and crossLaps were normal, ESR slightly increased. Radiological imaging showed mid-diaphyseal cortical thickening of the femur and metacarpal bones. Scintigraphy was normal except for slightly degenerative changes. In the peripheral quantitative-T cortic bone area the BMD was increased to 80% of the total cross sectional area at femoral and metacarpal shaft, the volumetric BMD of cortices and trabeculae was increased. In the CT of the skull a thickening of the temporal and parietal cortices was found.

Discussion: Evidence of vitamin D deficiency and concealment as well as diffuse pain lead us initially to a hypothesis of osteomalacia, as well as was refuted by normal calcium metabolism and high bone density. The findings of mid-diaphyseal cortical thickening in appendicular bone and scull together with a family history of reduced
strength in the legs and additional literature search pointed out to a rare syndrome, the Camurati-Engelmann Syndrome. Camurati-Engelmann Syndrome is a rare form of osteosclerosis caused by a genetic mutation on chromosome 19q13.1 leading to an over- expression of TGF-beta 1. Characteristic features are bone and joint pain especially in the legs with muscle weakness and sclerosis of the diaphyses of long bones and skull. Usually the symptoms begin on the legs and with progressive hyperostosis they can affect the base of the skull and the lower jaw. Treatment so far is only symptomatic and mostly consists of glucocorticoids, in order to suppress TGF beta.

Favorable investigations including genetics are scheduled. In conclusion, we report a for the first time data on volumetric bone mineral density in a patient with a possible Camurati-Engelmann Syndrome.

Cost-effectiveness of Tocilizumab in Switzerland: A Microsimulation Approach

S. Wieser1, P. Brühlmann2, D. Kyburz2, R. Plessow1, M. Pletscher1, A. Diamantopoulos3, U. Brügger1
1Winterthur Institute of Health Economics WIG, Winterthur; 2Division of Rheumatology, University Hospital Zurich USZ, Zürich; 3Symmetron Ltd, London

Introduction: Rheumatoid Arthritis (RA) imposes high costs on the affected patients as well as on the payers of the medical expenditures. Thus there are constant efforts to develop new drugs that are effective at reasonable costs. Tocilizumab is a human monoclonal antibody that binds to the interleukin-6 (IL-6) receptor, inhibiting IL-6-mediated proinflammatory activity. In Switzerland it is currently approved for patients who do not respond to traditional DMARDs or TNF-α-inhibitors. This study evaluates the cost-effectiveness of Tocilizumab as a treatment for RA in Switzerland.

Objectives: To adapt a model for cost-effectiveness evaluation developed in the English NHS to the Swiss context. To estimate the cost-effectiveness of Tocilizumab in Switzerland.

Methods: An individual simulation model, developed for the appraisal by the National Institute for Health and Clinical Excellence (NICE), is adapted to the Swiss context. The model simulates cost and utility progression over the lifetime period of individual RA patients and allows to estimate direct and indirect costs per quality adjusted life year (QALY) gained. The simulation is run once for each of 100 patients with inadequate response to traditional DMARDs or to TNF-α-inhibitors. Treatment sequences were adapted to the Swiss standard of care for RA patients using information from the Swiss SCQM registry of RA patients as well as from clinical experts. Cost data was provided by health insurers.

Results: A standard sequence of treatments for RA in Switzerland and estimates of cost-effectiveness for Tocilizumab in the context of the Swiss healthcare system will be presented at the conference.

Immune response to influenza vaccination in children treated with methotrexate or/and tumor necrosis factor-alpha inhibitors

A. Wörmer1, M.-J. Sauvain2, C. Aebl1, M. Othri1, I. Boit1
1Department of Pediatrics, University Hospital Bern; 2University Clinic for Rheumatology, Clinical Immunology and Allergology, University Hospital Bern

Introduction: In children treated with methotrexate (MTX) and/or tumor necrosis factor-alpha (TNF-α) inhibitors, immunization is recommended due to greater risk of infections. It is still unclear if adequate antibody response to vaccinations can be achieved.

Methods: In a prospective open label study, we assessed seroconversion and seroprotection after influenza vaccination during 2 seasons (6 different strains) in 36 children treated either with MTX (n = 18), TNF-α inhibitors (n = 10) or both (n = 8) and a control group of 16 immunocompetent children. In season 07/08, we included 31 children in the therapy group and 10 in the control group, in season 08/09 16 children were treated in therapy resp. control group. Ten children of the therapy group were vaccinated as well in 07/08 as in 08/09. Seroconversion and seroprotection were assessed 4 months after vaccination.

Results: Pre-vaccination seroprotection (titre ≥1:40 or ≥2 of 3 influenza strains) was present in 42% of the treatment group and 30% of the control group in season 07/08 and 33% resp. 50% in season 08/09. After vaccination, a protective titre was achieved in 87% of the treatment group and 90% of the control group in season 07/08 and 73% resp. 83% in season 08/09. Seroconversion was defined as the change from pre-vaccination negative titre (<1:10) to a protective titre (≥1:40) with at least a 4-fold increase. This was documented in 57% resp. 50% (B strain), 46% resp 75% (A/H3N2 strain) and 58% resp. 80% (A/H1N1) in the treatment group resp. control group in season 07/08 and 50% resp. 67% (B strain), 44% resp. 60% (A/H3N2 strain) and 67% resp. 100% (A/H1N1) in season 08/09. Safety evaluation of vaccination showed no serious adverse events.

Conclusion: Children under MTX and/or TNF-α-inhibitors can be safely and effectively immunized against influenza.

Effects of a multidisciplinary intervention program in back and neck pain patients absent from work – baseline data and effects on subjective workability, lifting capacity and sickness absence over 12 month

A. Klipstein1, T. Laebi2, M. Cançuga2, H. Joronen3, M. Norberg2, B. Danuser2
1Dept. of Rheumatology, University Hospital, Zurich; 2ZO, ETH, Zurich; 3CHUV, IST CHUV, Lausanne, Switzerland

Background: Sickness absence caused by back pain is a persistent and expensive health problem challenging most of industrial countries. Systematic reviews showed strong evidence, that multidisciplinary programs with a functional restoration approach including behavioural aspects and some relationship to the workplace improve function, but moderate evidence with respect to vocational outcomes. Furthermore, results depend on local (social) systems.

Objective: to evaluate the effects of a multidisciplinary intervention on subjective workability lifting capacity and the number of sick days.

Methods: The study was a randomized controlled trial (RCT) comparing a multidisciplinary intervention strategy with usual care/ attention at two sites – Lausanne and Zurich, Switzerland. 6 large sized companies took part in the study. Subjects with more than 20 (complete absence) or 60 (partial absence) days of absence from work because of chronic back or neck-shoulder pain were clinically evaluated for exclusion reasons (age >58, specific back/neck condition or not have any health condition allowing a physical training). After informed consent, subjects got a clinical baseline assessment including questionnaires performance tests and were randomized stratified by companies (intervention group or controls). Assessment was repeated 4 month after inclusion, absences days were continuously observed until 12 month after inclusion.

Results: n = 80 (61% male), n intervention = 46, controls = 34, average age of 45 ± 8 years, average duration of low back pain 34 days. Groups didn’t differ by age, gender and absence duration at inclusion (P = 0.90 to 0.99). Subjective workability (WAI) at baseline was in average 26.1 ± 6.8 (intervention) respectively 23.3 ± 6.5 (controls, p < 0.05), lifting capacity (lower PILE) 46.5 ± 9.5 (intervention) and 50.1 ± 13.1 kg (controls, p > 0.5). 2nd assessment 24 ± 6.7 weeks after inclusion in both groups with complete data in 46 subjects (61% male, 23 inter- ventions and 23 controls). WAI at 2nd evaluation showed a statistically not significant trend to positive change over time in the intervention group with higher values already at start, but no change in PILE could be recognized.

Conclusion: Due to the company based randomization procedure, more subjects were randomized to the intervention group by chance. Nevertheless, baseline data of groups were equal concerning age, gender and absence duration. WAI showed a statistically significant difference in the intervention group. 12 month absence data are not completed yet due to the study process, but complete data will be available and presented at the congress.

Ultrasound Assessment in Rheumatoid Arthritis: Impact of US on Treatment

H.R. Zsiwler1, P. Zufferey2, G. Tamborini3, L. Bruhart1, A. Krebs4, T. Gerber5, S. Mariacher6, B. Müller1
1Universitätskliniken für Rheumatologie, klinische Immunologie, Allergologie Inselspital Bern; 2Hôpital Intercantonal de la Broye-site d’Estavayer-le-Lac; 3Rheuma und Institut für Physikalische Medizin Universitätsspital Zürich; 4Service de Rheumatologie, University Hospital of Geneva; 5Praxis für Rheumatologie Kloten; 6Zentrum für Rheuma- und Konochenerkrankungen Zürich; 7Aareha Schinzach Bad

Introduction: Ultrasound has proved to be more sensitive and specific for detection of Synovitis in Rheumatoid Arthritis (RA) than clinical Assessment [1]. Although Ultrasound is being used more and more frequently in the assessment of RA, hardly anything is known about the direct impact on the treatment due to the US Examinations.

Methods: We added Questions about the direct impact of the US-assessment to the SONAR-SCQM Database. Questions to be answered by the treating physician after the US evaluation (after intervention 1) do the results of the joint Sonography influence your decision in therapy? yes/no; if yes question 2 was asked: do you treat a) more aggressively b) equal c) less aggressively. Does the result of the Sonography influence the willingness of your patient to accept changes in treatment? yes/no; P value 0.05 was considered significant.

Results: 122 patients from 4 participating sites were included. 108 (89%) patients answered the question about the direct impact of the ultrasound examination. 83% (91/108) of these patients refer to the US evaluation as a helpful tool in their decision making. 47% (53/108) stated that the US evaluation influenced their therapy decision.

Conclusion: Ultrasound has an impact on physician decision making.

Ultrasound can benefit the physician in assessing RA. A prospective study evaluating the impact of sonography on treatment decisions would be valuable.

References:
Results: For 73 US Assessments (out of 104) answers about consequences of the US-Results were available. In 50 out of these 73 (68%) the results of Sonography had direct impact on the Treatment decision: 4 Patients (3.8%) were treated less aggressively, 26 (25%) more aggressively, in 20 patients (19.2%) the treatment was not changed. In 23 of the 73 Assessments (32%) the Sonography provided no additional information and had no impact on treatment decision. In 60% (44 out of 73 Patients) the willingness of the patient to accept changes in the treatment was directly influenced by the US-assessment.

Conclusion: Obviously US-Assessment in RA has important immediate impact on patient management in different ways, most frequently leading into more aggressive, but sometimes as well into less aggressive treatment. The fact that in 60% results of US-Assessment influenced patient willingness for treatment changes is striking.


Ultrasound Assessment in Rheumatoid Arthritis: Preliminary Results from the first 104 Patients included the SONAR-SCQM Database

Zawiler Hans-Rudolf1, Pascal Zufferey2, Giorgio Tamborini3, Laure Bruhlhart1, Annas Krebs3, Thomas Gerber1, Stefan Mariacher1, Burkhard Möller1

1Universitätskliniken für Rheumatologie, klinische Immunologie, Allergologie Inselspital Bern; 2Hôpital Intercantonal de la Broye-site de l’Estateve et 3Rheumaklinik und Institut für Physikalische Medizin Universitätsspital Zürich; Service de Rheumatologie

Introduction: The SCQM-Database and the widespread application of Sonography by Rheumatologists in Switzerland offer the unique opportunity to further validate a Sonography instrument within an ongoing quality management program. We report the preliminary results of the first 104 examinations in 94 Patients.

Free communications

HP 1

Perceived functional ability assessed with the Spinal Function Score: Is it valid for European Rehabilitation Settings in patients with non-specific low back pain?

P. Oesch1, R. Hilfiker2, J. Kool3, S. Bachmann1,4, K.B. Hagen5

1Klinik Valens; 2HES-SO Valais; 3ZHAW; 4University of Bern; 5University of Oslo

Background: The use of self-reported measures is limited by literacy level and depends on linguistic abilities. Text-based questionnaires are therefore often impossible to administer in European rehabilitation settings treating patients with different mother tongues. A possible approach to overcome this problem is the use of picture-based questionnaires such as the Spinal Function Score (SFS) assessing perceived ability to perform work tasks that involve the spine. Its psychometric properties were investigated in patient populations from the USA and Australia. No studies have been performed investigating the validity of the SFS in a European rehabilitation setting.

Objectives: To test the validity of the SFS in a European rehabilitation setting treating patients with non-specific low back pain (NSLBP).

Methods: This validation study is embedded within a RCT investigating two in-patient exercise programs aiming for early return to work (RTW). Eligible were patients with NSLBP 20–55 years old, and at least 6 weeks of sick leave. Measurements of body functions, work-related activities and personal beliefs were taken by a blinded research assistant. RTW at 3 and 12 month follow-up was assessed through to the family physician and employer. Internal consistency was assessed by item-total correlations and Cronbach’s alpha. Principal component analysis was used to assess the unidimensionality of the instrument. Concurrent validity was assessed by comparing the SFS scores with body function, work-related activity and personal beliefs with Spearman’s correlation coefficient. Receiver Operating Characteristic (ROC) curve analysis was used to evaluate the diagnostic performance of the SFS scores at discharge for RTW at 3 and 12 month follow-up. Responsiveness was assessed in the two treatment groups with the standardised response mean (SRM).

Results: Of a total of 106 people (mean age 48.7 (SD ± 12.3)), 14 were retired due to age. Of the other 92 people, 14 received a full or partial disability pension and 78 were in the working process. The mean of the absence days per year of the 78 people due to all reasons and due to AS was 23.6 days (SD ± 50.3) and 17.9 days (SD ± 43.7), respectively. If the disability in the 14 people receiving a disability pension was expressed in days of absences and added to the absences of all working participants the mean of 74 days was 47.9 days (SD ± 79.1) due to all reasons. ANOVA could not reveal that WA-Index scores changed after 3 months. Spearman-correlation was performed between the WA-Index and absence days was r = –0.701 (p < 0.01) (n = 58).

Conclusion: Incapacity for work in patients with ankylosing spondylitis (AS) reflects a socioeconomic problem and lies in the range of 3–50% in European countries [1]. The Work Ability Index (WAI) is applied to measure the subjective ability to work.

Aims: To investigate the incapacity for work in terms of absence days in a study-sample with AS in Switzerland; to evaluate whether the WAI reflects the absence from work; and whether the subjective incapacity for work decreases after the intervention.

Methods: A randomised controlled trial evaluating the effect of cardiovascular training in people with AS. The WAI and questions about work absence days, part-time work, and disability pension were administered at baseline and after the three-month intervention. Spearman-correlation was performed between the WAI and absence days in a subgroup of AS patients, who had at least one or more absence days.

Results: Of a total of 106 people (mean age 48.7 (SD ± 12.3)), 14 were retired due to age. Of the other 92 people, 14 received a full or partial disability pension and 78 were in the working process. The mean of the absence days per year of the 78 people due to all reasons and due to AS was 23.6 days (SD ± 50.3) and 17.9 days (SD ± 43.7), respectively. If the disability in the 14 people receiving a disability pension was expressed in days of absences and added to the absences of all working participants the mean of 74 days was 47.9 days (SD ± 79.1) due to all reasons. ANOVA could not reveal that WA-Index scores changed after 3 months. Spearman-correlation between the WAI and absence days was r = –0.701 (p < 0.01) (n = 58).

Conclusion: Incapacity for work of our participants was equal to pan-European studies [1, 2], but larger than in another Swiss cohort [3]. The WAI-score does represent the absence days in the subgroup of patients with absences in 78. Hence, the WAI could be used in economic studies to estimate the absence days and to evaluate the indirect costs in patients with AS who have sick leave.