

# Abstract Book

## **ABSTRACTS**

**Jahreskongress SGSS / ASPCo  
Congrès annuel SSED / ASPCo**

**Biel-Bienne 13./14.11.2008**

Biel-Bienne, 13. November 2008

Liebe Kolleginnen und Kollegen

Zum ersten Mal hat die Schweizerische Gesellschaft zum Studium des Schmerzes (SGSS) ihre Mitglieder sowie andere, die sich in Forschung und Klinik mit dem Schmerz befassen, eingeladen, Beiträge für eine Posterausstellung einzureichen. Das beste am Kongress präsentierte Poster wird mit CHF 1000.- ausgezeichnet, mit dem Ziel, die Forschung im Bereich des Schmerzes zu fördern. Die Kommission bestand aus zwei SGSS-Mitgliedern, Dr. Christine Cedraschi und Prof. Eli Alon sowie Dr. Konrad Maurer aus dem Schmerzambulatorium Anästhesiologie des Universitätsspitals Zürich. Sie hatten die nicht einfache Aufgabe, 48 Abstracts aus der ganzen Schweiz zu evaluieren. Die Preisverleihung findet am 14. November 2008 statt.

An dieser Stelle möchte ich mich bei den Posterautoren für die Vorbereitung und Präsentation ihrer Forschungsergebnisse bedanken wie auch bei der Poster-Kommissionsmitglieder für die kritische Beurteilung. Last but not least geht mein Dank an das SGSS Zentralsekretariat, Frau Beatrice Schwegler, und an die BBS Congress für die Vorbereitung dieser Broschüre. Ich wünsche Ihnen eine interessante Lektüre.

Prof. Dr. med Eli Alon  
Präsident SGSS/SSED

*Chers et Chères Collègues*

*Pour la première fois, la Société Suisse pour l'Etude de la Douleur (SSED) a, cette année, invité ses membres et d'autres professionnels intéressés par le domaine de la douleur en recherche et en clinique à soumettre une contribution pour une session de posters. Il s'agit pour la SSED de promouvoir la recherche dans le domaine de la douleur et, dans ce contexte, le meilleur poster présenté lors du congrès sera récompensé d'une somme de 1'000 CHF. La commission de sélection des abstracts était composée de deux membres de la SSED, la Dr Christine Cedraschi et le Prof. Eli Alon ainsi que du Dr Konrad Maurer du Schmerzambulatorium Anästhesiologie de l'Hôpital Universitaire de Zürich. Ils se sont acquittés de la difficile tâche d'évaluation des 48 abstracts soumis par des cliniciens et des chercheurs de toute la Suisse. La remise du prix aura lieu le 14 novembre 2008 lors du congrès.*

*Je saisis l'occasion de remercier les auteurs pour la préparation et la présentation de leurs résultats de recherche ainsi que les membres de la commission pour leur évaluation critique. Last but not least, je remercie le secrétariat central de la SSED, Mme Beatrice Schwegler, et BBS Congress pour la réalisation de cette brochure. Je vous en souhaite une bonne lecture.*

*Prof. Dr. med Eli Alon  
Président SGSS/SSED*

## P1

### ANALGESIA WITH CONTROLLED RELEASE HYDROMORPHONE FOR VISCERAL, SOMATIC AND NEUROPATHIC PAIN

Alon E, Zürich; Cachin C, Orbe; Martin UJ, Basel

**Aims:** The aim of the study was to document the analgesic efficacy and tolerability profiles of controlled release hydromorphone in patients with heavy visceral, somatic or neuropathic pain under practical conditions.

**Methods:** A prospective observational, multi-centre, longitudinal investigation conducted in 57 centres in Switzerland, on a total of 196 patients.

**Results:** After an average of 43 days of treatment with controlled release hydromorphone, the intensity of momentary pain dropped by 46.5% and that of maximum pain dropped by 41.3%, with the efficacy of the treatment being most pronounced with visceral and somatic pain. At the same time, the prevalence of sleep disorders as a result of pain decreased from initially 86.7% to 21.0%. Controlled release hydromorphone was excellently tolerated in this group of elderly (average age 70.6 years), multimorbid pain patients receiving various medical treatments (average of 2.4 drugs in addition to pain medication), even in the voluntary long-term extension study of up to 96 days. No medical interactions were reported. Six and thirteen weeks after introducing the treatment, 89.8% and 85.2%, respectively, were still taking controlled release hydromorphone.

**Conclusions:** Controlled release hydromorphone is a recommendable oral analgesic medication for treatment of heavy and extremely heavy pain of various genesis.

## P2

### REFINED INSIGHTS INTO THE PAIN-DEPRESSION ASSOCIATION IN CHRONIC PAIN

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**Background.** The relationship between chronic pain and depression is controversial and the data on association show large variation in current literature, especially when using diagnostic thresholds and odds ratios. This study aimed to provide refined correlation and regression data on the basis of continuous measures.

**Methods.** Cross-sectional assessment was performed with standardized instruments that measure on quasi-continuous scales by the Multidimensional Pain Inventory (MPI) and the Hospital Anxiety and Depression Scale (HADS). Correlations between the depression and pain scales were determined controlling for 13 potentially disease-modifying confounders, and within chronic pain subgroups as defined by the MPI cluster patterns using multivariate regression analysis.

**Results.** In 273 chronic pain patients on admission to an inpatient pain rehabilitation program, the MPI pain severity scale and the HADS depression scale showed overall partial correlation of 0.30 (1.00 means perfect association). Distinguishing three subtypes of pain patients, the partial pain-depression correlation was moderate (0.57) in the “interpersonally distressed” subgroup (characterized by relatively low social support), weak (0.26) in the “dysfunctional” subgroup (characterized by relatively high levels of symptoms), and absent (0.01) in the “adaptive copers / minimizers” subgroup (characterized by relatively low levels of symptoms).

**Conclusions.** The strengths of the pain-depression association and the “dose-response” relationship were both weak – weaker than to be expected if the hypothesis of a causal relationship were true. In the “interpersonally distressed” subgroup, the moderate association may have an impact on pain management, i.e. pain could be treated by treatment of depression and vice versa.

**Acknowledgements.** This study was supported by the Zurzach Rehabilitation Foundation SPA, 5330 Bad Zurzach, Switzerland.

*Clin J Pain 2008;in press.*

### P3

#### **A COMBINATION OF OXYCODONE PROLONGED RELEASE (PR) AND NALOXONE PR: ANALGESIC EFFICACY, SAFETY AND THE EFFECT ON OPIOID-INDUCED CONSTIPATION IN CHRONIC PAIN PATIENTS**

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**OBJECTIVE:** The aim of the double-blind study was to evaluate the analgesic efficacy and safety as well as the effect on constipation of the combination of oxycodone PR/naloxone PR (OXN PR) versus Oxycodone PR (Oxy PR) alone in chronic non-malignant low back pain.

**METHODS:** Patients with moderate to severe chronic non-malignant low back pain that required around-the-clock opioid therapy were randomly assigned to OXN PR tablets (20/10mg or 40/20mg per day), Oxy PR tablets (20mg or 40mg per day) or matched placebo for up to 12 weeks. For breakthrough pain oxycodone IR tablets were given. Bowel function was measured using the Bowel Function Index (BFI; patient self-assessment of difficulty of bowel movements, feeling of incomplete bowel evacuation and judgement of constipation) on a numeric rating scale (NRS, 0-100)), and by bowel function measures (stool frequency, stool consistency, laxative intake). Analgesic efficacy was measured by 24hour average pain using a numeric rating scale (NRS, 0-10) and by rescue medication intake.

**RESULTS:** The analgesic efficacy and safety profile of the combination OXN PR were comparable to Oxy PR. In the OXN PR group the bowel function measured by the BFI improved markedly in the subgroup of patients with high BFI values at randomisation.. At the same time the laxative use was reduced compared to Oxy PR.

**CONCLUSION:** OXN PR improves bowel function and reduces laxative use compared with oxycodone PR. In the dose range investigated throughout the study the addition of naloxone PR to oxycodone PR did not have a negative impact on analgesic efficacy or safety of the opioid.

The study was sponsored by Mundipharma Research GmbH & Co. KG, Limburg (Lahn), Germany

## P4

### PHENOTYPIC DISTRIBUTION OF CYTOCHROME P450 2D6 (CYP2D6) ACTIVITY IN PATIENTS WITH FIBROMYALGIA.

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**Background:** fibromyalgia is a chronic widespread pain condition and its aetiology is multifactorial. We previously demonstrated central sensitisation in patients with fibromyalgia (PF). Polymorphism of CYP 2D6 has been associated with variability in pain sensitivity in healthy volunteers. Its role in the variability of pharmacokinetic parameters of centrally acting opioid analgesics has also been demonstrated as well as its role in the variability in response to these drugs.

**Aim:** to explore the phenotypic distribution of CYP2D6 in PF and its link with neurophysiologic signs of central sensitisation.

**Method:** PF patients and controls (C) taking part in a neurophysiologic study were asked to stop their medication. Central nociceptive pathways were explored by the spinal nociceptive flexion reflex (NFR). The cut off for presence of central sensitisation was set at a NFR threshold < 27, 6mA, according to our previous results. CYP2D6 activity was evaluated using dextromethorphan as a probe drug. This method allows the distinction of four phenotypic groups in the general population: ultrarapid (UM), extensive (EM), intermediate (IM) and poor (PM).

**Results:** of the 198 PF included, 137 were able to stop their medication (ASM) and 61 were not. In the ASM group, central sensitisation was present in 84 subjects. The distribution of EM, IM and PM was similar irrespective of the NRF threshold. However the proportion of UM was 10 fold higher (23% vs 2,4%,  $p < 0.001$ ) in FP with a NRF threshold > 27,6 mA.

**Conclusion:** In a population of ASM, the distribution of CYP2D6 phenotype UM appears to be linked with neurophysiologic signs of central sensitisation. A clue to this observation could be a role of CYP2D6 in endogenous opioids metabolism.

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## P5

### DOULEUR ET SOINS PALLIATIFS: QUELS DEVELOPPEMENTS POSSIBLES DE FORMATION EN MASSAGE DE CONFORT DANS LES UNITES DE SOINS DES HUG?

Boegli M, Cabotte E, Genève

**Introduction:** Notre pratique des massages de confort, en tant qu'infirmières d'équipe mobile douleur et soins palliatifs, nous a permis d'observer des bénéfices en terme de confort et de qualité de vie chez les patients douloureux et/ou en soins palliatifs. Ces bénéfices sont confirmés par la littérature. Un certain nombre de soignants sont formés au sein des HUG, mais ce soin nous semble peu mis en application dans les unités.

**Objectif:** Explorer les représentations du soin toucher-massage®, les obstacles à son application, les attentes et besoins actuels des soignants afin qu'ils puissent initier et/ou relayer ce soin.

**Méthode:** Distribution d'un questionnaire anonyme aux infirmières et aides soignantes dans 42 unités aux HUG afin de clarifier la place actuelle du massage de confort dans les situations cliniques de douleur et/ou de soins palliatifs.

**Résultats:** La participation a été satisfaisante (53,6%). Les résultats montrent que:

- les professionnels associent le massage à la notion de bien-être et le considèrent comme un outil de communication
- le massage de confort fait partie des soins infirmiers
- ce soin est reconnu comme ayant un impact sur la qualité de vie, et sur des symptômes tels que la douleur et l'anxiété, et lors de situations de fin de vie. Cependant :

• les principales difficultés sont une insuffisance de temps et de formation. La formation exerce un impact positif sur la fréquence de la pratique du massage de confort.

**Conclusion et perspectives:** Les résultats ont conduit à un protocole de formation-action qui tient compte des besoins exprimés par les personnes interrogées: **ateliers de formation** à la technique du **massage-minute**®. Une évaluation de l'impact de cette formation est prévue à un an.

## P6

### STRONG AMYGDALA ACTIVITY IN RESPONSE TO EXPERIMENTAL HUMAN DENTAL PAIN

Brügger M, Lutz K, Meier M, Keller T, Barlow A, Luechinger R, Jäncke L, Ettl D, Zürich

**Objectives:** Dental treatment is often perceived as threatening and fearful. In an attempt to establish a link between tooth pain and its particular emotional component, earlier investigations in cats found that nociceptive tooth pulp stimulation evoked activity of the amygdala, which processes emotion, fear and memory. Surprisingly, controversial evidence exists regarding involvement of the amygdala in human pain processing, in spite of the key role that pain related fear and memory play in nociception. We aimed at assessing amygdala activity in response to experimental human dental pain.

**Methods:** Values of trait, state and dental anxiety scales were obtained from 23 healthy volunteers. During fMRI measurements, a constant current 150% above individual, tooth specific pain threshold was applied to maxillary central incisors and canines. Corresponding online pain intensity ratings were recorded with a computerized visual analog scale. We then analysed amygdala activation in response to electric dental stimulation. A random effects group analysis was performed. Lateralization effects were determined by a region of interest analysis, followed by two-by-four factorial repeated measurement ANOVA with the factors "hemisphere" and "tooth".

**Results:** All recorded values on anxiety scales were in the normal range. Distinct activation within both amygdalae occurred with left cluster size of 80 voxels, cluster  $p < 0.001$  and right cluster size of 33 voxels, cluster  $p < 0.001$ . No main effect "tooth" was found ( $p=0.498$ ), but interestingly, we observed a significant main effect towards left "hemisphere" ( $p=0.042$ ), and a strong interaction effect "tooth \* hemisphere" ( $p=0.002$ ).

**Conclusion:** Current data provide new evidence for the amygdala's critical role in dental nociception not previously documented with such distinctness in other human pain related imaging studies. Results suggest unique features for cortical processing of dental pain.

**Acknowledgements:** This work was supported by GlaxoSmithKline, Consumer Healthcare, Weybridge, UK, the Swiss Dental Association and the Swiss Society for Endodontology.

## **P7**

### **TREATMENT OF CHRONIC PAIN & SOMATOFORM DISORDER PATIENTS USING BEHAVIOURAL AND COGNITIVE SKILLS**

Chevalley AF, STAH, Hôpital de Céry & Lausanne

**Goal:** In our department, we used individual and group settings for patients with chronic pain & somatoform disorders including education, behaviour and cognitive aspects.

**Method:** After 6 individual consulting sessions (anamnesis, therapeutic link, assessment), patients were invited to join a group. The group setting was based on our previous clinical findings. The first 8 group sessions were used to present the body as a whole, to give basic information on anatomy, physiology, health/dysfunction and medication (education) and to introduce first behavioural aspects (methods of physical control as respiration, relaxation, exercise and stretching) then a bit of cognitive aspects (link between body and mind). After that time, in a 10 sessions period, we focused on pain (description, qualification), pain-behaviours (attitudes, strategies and behaviours wrong/good ones), and progressively pain-cognitions (meanings and believes negative /catastrophic cognitions versus positive /rational /alternative ones, stress and pain). In a third step of 4 sessions, we focused on fatigue and sleep (education, behaviour and cognitive aspects). The last 10 sessions focused on psychological aspects (communication, problem solving, emotions and their expression, self-esteem, social abilities). Individual and group sessions could be combined and it was often the case when cognitive education and training start to work. At the end of the therapeutic group, patients had the opportunity to join a self-help group of patients.

## P8

### DESCRIPTION OF A CHRONIC PAIN / SOMATOFORM DISORDER POPULATION CONSULTING OUR PSYCHIATRIC DEPARTMENT (1999-2007)

Chevalley AF, STAH, Hôpital de Céry & Lausanne

In our psychiatric department, chronic-pain / somatoform disorder-patients were assigned to a psychiatrist for medical treatment then oriented towards a CBT.

**Method:** The assessment was done using clinical instruments with good metrological characteristics.

**Results:** Psychiatric consulting took place around 2 years after the first long-term medical certificate. Most of them came from the immigration population. They were well established in Switzerland (8 years residence), had experimented manual, repetitive, and heavy jobs (~50 hours per week) with an average income of 5400CHF per month. They had a basic education level (~6 years in school) and started to work around 12 years of age.

“Action” was their main strategy, using their developing body without limit (no stop since the first job, 2-3 jobs in the same time, no week-end, ~6 physical traumas). “Cognition”, they had no time to develop it (impaired/immature cognitive functions). They faced high economical pressure (family, community, and sometimes country waited for their income). The consequences appeared as the body started to decline around 35 years of age, when a single bad event revealed the story. Our findings confirmed that the body of these patients was in bad condition (sequel of traumas, cardiovascular, immunological & rheumatologic problems), older than its real age (~2 degenerative diseases), prematurely worn out. No more “Action” to cope with adverse situations as previously and no cognitive strategies to compensate. Using their body as a main source of expression, these patients converted distress, powerlessness, frustration and anger into pain because they did not know how to do in another way.

**Conclusion:** These patients were hard to treat ones, with at least functionally-based personality disorders (starting early, long-lasting and widespread symptoms) and very poor cognitive support, restrictive action possibilities and high socio-economical pressure. A model is proposed as a basement for treatment.

## P9

### BENEVOLAT D'ACCOMPAGNEMENT: UN ELEMENT DE REPONSE AUX DIMENSIONS SOCIALE ET EXISTENTIELLE DE LA DOULEUR

Delaloye S, Genève

**Introduction:** Le bénévolat d'accompagnement, qui consiste à offrir écoute et présence aux malades dans différents contextes de soins, est une ressource encore méconnue mais que l'on sollicite néanmoins de plus en plus fréquemment dans les institutions hospitalières comme au domicile.

**Objectifs et méthode:** Le but de cette étude est d'identifier les rôles assumés par ces bénévoles accompagnants et de définir en quoi ces derniers peuvent constituer un soutien, une aide pour les patients, notamment dans le domaine de la douleur. Pour ce faire une revue détaillée de la littérature a été effectuée en explorant le bénévolat d'accompagnement en institutions de soins et plus particulièrement en soins palliatifs et oncologie.

**Résultats:** Il en ressort principalement que les bénévoles, de par leur disponibilité et leur écoute, contribuent à une meilleure qualité de vie des patients. Ils permettent notamment de répondre à la douleur sur un plan psychologique, (angoisse, peur, tristesse) spirituel ou existentiel (question du sens donné à ce qui arrive) et social (isolement, stigmatisation) en offrant un espace où les patients peuvent se confier d'abord en tant qu'individu. On constate ainsi que, si le bénévolat d'accompagnement s'est d'abord développé en soins palliatifs et en oncologie, il constitue aujourd'hui une ressource importante, quelle que soit la pathologie de base, pour répondre au mieux aux besoins des patients notamment sur le plan spirituel et psychologique.

**Conclusions:** Ces résultats soulignent qu'au-delà des traitements antalgiques et des soins physiques, la présence de bénévoles, non soignants, donne un espace supplémentaire à l'expression de la souffrance des patients dans sa dimension la plus globale et la plus humaine.

## **P10**

### **DOULEUR INDUITE LORS DE LA REFECTION DE PANSEMENTS DE PATIENTS AGES HOSPITALISES**

Déramé L, Pautex S, Equipe Mobile Antalgie et Soins palliatifs – DRG/HUG, Collonge Bellerive

**Buts de l'étude:** Evoluant sur un mode chronique, les plaies sont de grands pourvoyeurs de douleur, particulièrement dans la population âgée. L'objectif de cette étude est d'analyser la prise en charge de la douleur lors de la réfection de pansement (RP).

**Méthodes:** Observation directe de RP à l'aide d'une grille d'observation. Analyse du dossier de soins et de la prescription médicamenteuse.

**Résultats:** 15 RP ont été observées. L'objectif de soins (curatif ou palliatif) était connu dans 12 situations. La date de début des plaies 11 fois. Concernant la prescription d'antalgiques: 10 patients étaient couverts par des antalgiques systémiques répartis sur 24 h: paracétamol: 5, opiacés: 5 ; 1 patient avait un opiacé prescrit avant RP, 1 autre un gel anesthésique local, 11 avaient des réserves disponibles dont 3 ont été proposées avant RP. La durée moy était de 17 min (5-60). Avant et pendant RP, l'évaluation de la douleur était faite 11 fois, de façon unique (5x) et après RP à 5 reprises sous forme de questionnement et d'observation. Une seule fois un outil d'évaluation a été utilisé. 10 patients ont clairement exprimé ne pas avoir de douleur en lien avec RP. Comme moyens de diversion pendant RP, l'approche relationnelle est utilisée 13 fois, le toucher relationnel une fois et la diversion verbale 3 fois. A cinq reprises, des transmissions en lien avec douleur ont été trouvées.

**Conclusions:** La reconnaissance de la douleur induite lors de RP existe essentiellement durant l'acte de soin. L'évaluation de cette douleur reste « basique », les outils d'évaluation n'étant pas utilisés. Les thérapeutiques médicamenteuses sont prescrites avec la situation douloureuse globale du patient, et rarement en prescription anticipative pour RP. Les transmissions restent attachées à l'évolution de la plaie, et il existe peu d'argumentation concernant la douleur induite.

## P11

### USE OF TRANSDERMAL OPIOIDS IN CANCER PATIENTS REFERRED TO A MOBILE PALLIATIVE CARE TEAM

Escher M, Besson N, Piguët V, Pain and Palliative Care Consultation, Division of Clinical Pharmacology and Toxicology, Geneva

**Aim:** Although it is recommended to use short acting opioids to rapidly relieve uncontrolled pain, slow-released morphine can also be used effectively. Transdermal systems are slow-released devices which prolong the apparent half-lives of opioids even more. The aim of this study was to determine if cancer patients receiving transdermal opioids (TO), and referred to our palliative care team for uncontrolled pain could be maintained on TO.

**Methods:** Retrospective chart review of the cancer patients hospitalised in the Geneva University Hospitals between January 1<sup>st</sup>, 2006 and July 31<sup>st</sup>, 2007, and receiving transdermal buprenorphine or fentanyl when first assessed.

**Results:** Among 158 patients, 29 patients (18.3%) were included. Twenty-one were on transdermal fentanyl. Mean age was  $60.5 \pm 14.6$  years. Pain was mainly related to bone metastasis (n=11) and head and neck cancer (n=6). Eight patients had abdominal pain due to peritoneal carcinomatosis or primary cancer. TO were continued in 23 patients (79.3%). Four mainly complained of incident pain. Four had partial pain relief after a recent increase in TO dosis but the delay was too short to assess efficacy properly. For 9 out of the 23 patients (39%), treatment propositions were to start (n=5) or to increase dexamethasone, and for 5 of them (22%) to give morphine as needed. Reasons to stop TO were severe pain (n=3), lack of efficacy of TO (n=2), and simplification of treatment (n=1). Pain tended to be more severe in patients whose TO was stopped (mean VAS 90 vs 72 mm; p=0.09) There was no difference in the time needed to relieve pain.

**Conclusions:** Adequate pain relief can be obtained with transdermal opioids despite their slow-released formulation. Appropriate assessment of the patient's situation and good knowledge of drug pharmacology are key factors for a successful individualised treatment.

## P12

### CARE-RELATED PAIN IN A REHABILITATION HOSPITAL: HOW PATIENTS' AND PROFESSIONALS' PERCEIVE IT?

Favre C, Hanon R, Deriaz O, Luthi F, Clinique romande de réadaptation SuvaCare, Sion

**Aims of investigation:** Care-related pain (CRP) is generally under-estimated and rarely studied in rehabilitation as well as in general medicine. This exploratory study aims to understand patients' and professionals' subjective perceptions of CRP.

**Methods:** Questionnaires about CRP were submitted to 75 members of the interdisciplinary team of a rehabilitation hospital (physicians, physiotherapists, occupational therapists and nurses) and to 50 patients. Twenty of them were also interviewed. The questionnaires addressed: 1. the beliefs and understanding of care-related pain 2. the ways and techniques to help the patient or to cope with CRP.

**Results:** Differences between patients and professionals exist: patients more than professionals see CRP as normal ( $p < .0266$ ), useful ( $p < .0375$ ) and necessary ( $p < .00003$ ). Both of them consider it as acceptable and not serious. For both groups, beliefs about CRP include notions of progress and step. CRP is unavoidable but must not exceed a certain threshold. Professionals more than patients underline the possible risks related to CRP. Regarding the ways of dealing with CRP, professionals insist on the importance of explanations and of collaboration. They agree on the techniques to alleviate pain. Patients perceive quite well the numerous ways used by physiotherapists to help them, they underline pacing activity and explanations. They also have tools to cope with CRP such as to encourage oneself or to give meaning to this pain.

**Conclusions:** This first study in the field of rehabilitation medicine shows that CRP is a common and unavoidable problem in clinical practice. Patients and professionals consider CRP as part of the recovery process and acceptable at least until a certain level. They recognise that if physical rehabilitation provokes lots of painful situations, we also have tools for preventing it. Nevertheless, the vision and perception of CRP seem more complex. These results suggest ways to improve our practice.

**Key words:** care-related pain, rehabilitation, beliefs

## P13

### WHEN PATIENTS TALK ABOUT THEIR KNEE: BETWEEN BELIEFS AND EXPLANATIONS

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**Aim of investigation:** The role of beliefs, especially specific beliefs, in chronic pain is well documented. Beliefs about knee pain have not been studied yet even if traumatism of knee are common and can lead to chronic knee pain. The aims of this study are first to explore patients' views about their suffering knee in identifying their specific explanations, second to compare in and outpatients.

**Methods:** 40 inpatients and 30 outpatients with post-traumatic knee pain (mean age 40) were interviewed. The semi-structured interview addressed patient's personal theories (PT) about his knee dysfunctional symptoms. Patients also completed questionnaires about pain (VAS), knee subjective function (IKDC), quality of life (SF-36), beliefs (TSK, PCS) and mood (HAD). A qualitative analysis, done by two judges (physician and psychologist), categorize the patients' responses according to their nature and their likelihood.

**Results:** Inpatients report significantly more symptoms (mean 6.6) than outpatients (mean 4.0). Regarding PT, there was no difference between the two groups. All patients explain what they feel in their knee (mean of 3.3 PT per patient), 80% describes catastrophic scenarios when thinking on what could happen, 34% reports mental images with intensity of pain. The nature of PT are for 36 % beliefs (general, not very plausible), for 40% explanatory beliefs (mixed of plausible and not plausible elements), for 17% explanations (plausible) and for 7% description (without notion of causality). Compared to outpatients, inpatients report significantly more intensity of pain, more disability, more catastrophising thinking and less quality of life. The two groups do not differ for the remaining psychological factors

**Conclusions** :. Medical explanations are always integrated in the patients' knowledge and beliefs. PT reflect their affective concern. The identification of PT, especially in anxious patient, could be helpful for planning and adjusting the treatment according to the patient's specificity.

**Keywords:** knee pain, belief, catastrophic scenarios

## P14

### DO ILLNESS PERCEPTIONS PREDICT TREATMENT OUTCOMES IN CHRONIC OROFACIAL PAIN PATIENTS?

#### A 3-month follow-up study.

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**Aim of Investigation:** In our study we examined if and to which extent illness perceptions predict treatment outcome in the context of other clinical predictors in order to determine the relative contribution of each in patients with chronic orofacial pain in a 3-month follow-up period.

**Methods:** 152 consecutive patients attending treatment at the orofacial pain unit completed adapted versions of the Illness Perceptions Questionnaire (IPQ-R) and of the German pain questionnaire (german: Deutscher Schmerzfragebogen, DSF) before and 3 months after treatment. Assessment includes measures of pain intensity (VAS), the Graded Chronic Pain Scale (GCPS), Health Related Quality Of Life (SF12) and the Hospital Anxiety and Depression Scale (HADS). Clinical pain diagnosis ranged from myofascial pain, discopathy, arthritis/arthrosis, idiopathic dental and facial pain, trigeminal neuralgia to burning mouth syndrome. Treatment consisted in a tailored multidisciplinary treatment. Stepwise linear regression analysis was performed.

**Results:** Negative illness perceptions (IPQ dimension consequences), baseline depression score (HADS) and baseline pain intensity (VAS) significantly predicts pain related disability in the 3-month assessment and explained 34% of variance.  $F(3/86)=15.9; p<0.000; R^2_{\text{adjust.}}=0.34$ . (consequences:  $\beta=0.30, t=2.92; p=0.004$ ; depression:  $\beta=0.26; t=2.71; p=0.008$ ; pain intensity:  $\beta=.20, t=2.01; p=.047$ ). Analysis indicates that further inclusion of variables did not lead to substantial increase of explained variance. Significant symptom reduction (all  $p<0.001$ ) between baseline to 3-month follow-up was found for pain intensity (VAS), pain disability (GCPS), depression and anxiety (HADS). Changes in mental and physical quality of life (SF12) did not reach level of significance ( $p=.80; .54$ ).

**Conclusions:** The belief that orofacial pain has a profound impact on life (IPQ) together with depressed mood (HADS) are important predictors for treatment outcome. Treatment of orofacial pain should include psychological interventions to improve depressive symptoms focusing on the modification of patients pain related negative beliefs and worries.

## P15

### THERAPIE COGNITIVO-COMPORTEMENTALE DE GROUPE POUR DES PATIENTS AYANT DES DOULEURS CHRONIQUES : EVALUATION QUALITATIVE DES ATTENTES ET DES SATISFACTIONS

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La thérapie cognitivo-comportementale (TCC) fait partie des approches thérapeutiques proposées aux patients souffrant de douleurs chroniques. L'équipe du Centre multidisciplinaire de la douleur des HUG a élaboré une thérapie de groupe structurée se déroulant sur huit séances de 90 minutes à raison d'une fois par semaine. Le travail en groupe est centré sur la modification des pensées (cognitions) et des comportements en lien avec les vécus douloureux, afin d'atténuer les conséquences physiques, psychologiques et sociales des symptômes présentés.

**Buts:** Evaluation de la satisfaction de 22 participants en lien avec leurs attentes.

**Méthodes :** Analyse qualitative des entretiens semi-structurés menés avant le groupe, 3 et 12 mois après le groupe.

**Résultats:** Dans l'ensemble, la plupart des attentes ont été satisfaites, mise à part la diminution de la douleur. Les patients, même ceux qui anticipent négativement la situation groupale, apprécient de se retrouver avec d'autres personnes qui souffrent aussi de douleurs chroniques. Ils se sentent moins seuls et trouvent écoute et compréhension de la part des autres patients et des thérapeutes. La moyenne des notes (sur 10) données par les patients sont de 7.5 à 3 mois et 7.1 à 12 mois. Après 3 mois, 80% des patients ont opérés des changements dans leurs comportements quotidiens. Après 12 mois, 55% des patients témoignent d'un changement durable par rapport à l'emprise que la douleur avait sur leur vie, soit dans leur manière de penser, soit dans celle de faire face à la douleur.

**Conclusions:** Même si les patients attendent une diminution de leurs douleurs, leur déception n'est pas un obstacle au changement. Du point de vue théorique, une initiation aux techniques de pleine conscience, visant à mettre plus explicitement en évidence le concept d'acceptance, pourrait être un apport utile. Cette modification nécessiterait cependant un remaniement important du programme et davantage de séances.

## P16

### IS IT POSSIBLE TO IDENTIFY MUSCLES AS PRIMARY SOURCE OF PAIN BY INTRAMUSCULAR INJECTION OF ROPIVACAINE ?

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**AIMS:** Muscle pain is commonly observed in patients with cervical and low back pain. However, it is unknown whether muscles are the primary source of pain or if they represent a referred pain area. The origin of pain in a referred pain area is not that area itself, but another anatomic structure such as a joint. To date, there is no validated test for the diagnosis of primary muscle pain.

In order to explore the potential usefulness of local anaesthetic injections for the diagnosis of primary muscle pain, we tested the hypothesis that muscle pain, as induced experimentally in healthy volunteers by Nerve Growth Factor (NGF), can be abolished by intramuscular injection of ropivacaine.

**METHODS:** NGF was infiltrated in the left and right supraspinatus muscle of 11 healthy subjects. 24 hours after injection of NGF pain was measured on a visual analogue scale (VAS) for each side separately. The VAS measurements were repeated 30 min after ultrasound-guided injection of ropivacaine 0.25% or saline into the left or right supraspinatus muscle in a randomized double-blind manner. In a preliminary analysis, VAS changes after saline and ropivacaine injections were evaluated.

**RESULTS:** Mean (SD) of VAS before and after injection of saline was 2.9 (2.1) and 4.1 (2.3) respectively. Mean (SD) of VAS before and after injection of ropivacaine was 3.0 (2.1) and 3.0 (1.9), respectively.

**CONCLUSIONS:** Muscle pain induced by injection of NGF is not abolished by local anaesthetic infiltration of the muscle. This finding questions the validity of intramuscular injections of local anaesthetics for the diagnosis of primary muscle pain.

## P17

### DOWNREGULATION OF GTP CYCLOHYDROLASE 1 EXPRESSION VIA RNA INTERFERENCE : IMPLICATION FOR NEUROPATHIC PAIN

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**AIMS:** Following peripheral nerve injury, changes in gene expression in dorsal root ganglia neurons contribute to neuropathic pain (NP). Among those modifications, the GTP cyclohydrolase 1 (GCH1), a key modulator of pain, is upregulated in primary sensory neurons. This work concerns the downregulation of GCH1 expression *in vitro* using RNA interference, an effective tool to silence gene expression. Our goal is to modulate *in vivo* the expression of GCH1 using viral vectors, and explore the feasibility of a gene therapy treatment for NP.

**METHOD:** PC 12 cells, derived from the rat adrenal medulla, express GCH1. Recombinant adeno-associated viral plasmids were generated that drive the expression of 6 different GCH1 silencers and 2 GCH1 mismatches together with an enhanced green fluorescent protein marker (eGFP). Control conditions consist of the 2 mismatches or the viral plasmid containing the GFP only. Plasmids are incorporated in PC12 by electroporation in triplicate. Three days later, transfected cells are separated using fluorescence-activated cell sorting and analysed for GCH1 expression by Western blot.

**RESULTS:** For each of the transfected plasmid, we obtained specific bands for GCH1 by Western blot analysis. After normalization of GCH1 by tubuline as loading control, we observed a significant decrease in GCH1 expression in 2 constructs out of the 9 plasmids. For the best plasmid, the decreased expression was  $54\% \pm 12\%$  ( $n=3$ ), ( $p<0.05$ ).

**CONCLUSION:** We demonstrated that GCH1 gene expression is downregulated in PC12 cells. Our results suggest that RNA interference may be a tool for silencing genes of interest into the pain pathway. We plan to generate a recombinant adeno-associated virus vector with the most efficient plasmid we obtained and confirm these preliminary results *in vivo* by testing its efficacy in a model of NP.

## P18

### L'EMPLOI EN AUTO-ADMINISTRATION DU NEUROSTIMULATEUR ELECTRIQUE TRANSCUTANE (TENS): QU'EN PENSENT LES PATIENTS?

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**Introduction:** La neurostimulation transcutanée (TENS) est régulièrement utilisée pour soulager divers types de douleurs, notamment les douleurs de type neurogène. Cette technique simple, non invasive et présentant peu de contre-indications et d'effets indésirables, permet une utilisation autonome de la part du patient. Comme dans tout traitement, l'adhésion et la bonne compréhension du patient influencent favorablement l'efficacité du traitement. Ainsi l'information et la période d'apprentissage des patients sont très importantes pour que ceux-ci s'approprient cette méthode et l'appliquent également chez eux.

Le but de l'étude est de tester si l'information et la démonstration faites dans notre pratique permettent un emploi en auto-administration et de définir si une modification de la pratique est nécessaire.

**Méthode:** Après une information orale et une démonstration pratique sur la zone douloureuse, les patients qui ressentent un bénéfice prolongent le test par un essai en auto-administration. Lors de la consultation de contrôle, un questionnaire est distribué ; il comporte 12 questions évaluant l'emploi en auto-administration (modalités pratiques difficultés rencontrées, efficacité) et l'adéquation des explications reçues.

**Résultats:** Sur 22 questionnaires distribués, 18 patients ont répondu. Une majorité des patients a débuté l'utilisation du TENS à l'hôpital et l'ont poursuivi en auto-administration à domicile. Une minorité de patients signalent quelques difficultés (difficulté à placer les électrodes, peur de faire faux). Plus de la moitié décrivent un soulagement des douleurs pendant et/ou après l'application.

La majorité des patients est satisfaite des explications orales et ils sont parvenus à utiliser correctement cet appareil. Cependant certains auraient souhaité avoir à disposition un document écrit.

**Conclusion:** Une bonne compréhension du fonctionnement de l'appareil est déterminante pour la poursuite du traitement en auto-administration. Afin de répondre au mieux aux attentes et aux questions les plus fréquentes, nous avons élaboré une brochure destinée aux patients.

## P19

### EINFÜHRUNG EINER ELEKTRONISCHEN PATIENTENAKTE IN EINER INTERDISZIPLINÄREN SCHMERZKLINIK

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**PROJEKT:** Zwischen Anfang 2004 und März 2005 wurde in einer grossen interdisziplinären Schmerzambulanz eine komplexe elektronische Krankenakte mit Anbindung an die hausinterne EDV implementiert. Voraussetzung war zunächst die Analyse der vorhandenen Strukturen und der ablaufenden Prozesse sowie deren Optimierung.

**VORGEHEN:** Zur Planung und Umsetzung des Projektes „Elektronische Krankenakte“ wurde eine interdisziplinäre Arbeitsgruppe gebildet. Als Ziel wurde die Schaffung eines Werkzeugs definiert, das strukturierten Zugriff auf die Dokumentation aller Fachgruppen erlaubt und das über die Integration codierter auswertbarer Felder Möglichkeiten zur Datenauswertung für klinische, statistische und wissenschaftliche Zwecke erlaubt. Die Daten dienen primär der Verbesserung von Diagnostik und Therapie und damit der Lebensqualität unserer Patienten. Des Weiteren sollte ein mail-gestützter Workflow den Weg von Dokumenten vereinfachen und leicht nachvollziehbar machen. In diesem Kontext wurden alle Diktate digitalisiert und direkt in den PC aufgenommen. Weitere Punkte waren die Möglichkeit einer strukturierten Medikamentenerfassung, direkter Zugriff auf Fremdbefunde (z. B. Röntgen) und die Anbindung an die bestehende EDV des Hauses. Im Laufe von 15 Monaten wurden die verschiedenen Elemente der Akte durch das Team definiert und schrittweise durch die Informatik auf der Basis eines bereits verfügbaren kommerziellen Systems umgesetzt. Nach betriebsbedingten Anpassungen läuft das System weitgehend problemfrei, die gesamte Dokumentation, Anforderungen, Konsile etc. werden elektronisch durchgeführt. Die Akte ermöglicht eine schmerzrelevante Dokumentation und eine Optimierung der Behandlungsqualität. Sie stellt somit ein wichtiges Instrument im Rahmen der Qualitätssicherung dar. Ausserdem erlaubt sie statistische Auswertungen und dient als Basis für wissenschaftliche Projekte.

**SCHLUSSFOLGERUNG:** Die Implementierung einer komplexen elektronischen Krankenakte eröffnet weitgehende Möglichkeiten zur Datenverarbeitung für klinische, statistische und wissenschaftliche Zwecke und stellt ein wichtiges Werkzeug des Qualitätsmanagements und der interdisziplinären Zusammenarbeit in einer multimodal arbeitenden, grossen Schmerzambulanz dar. Es werden dadurch also sowohl die Bedürfnisse der optimierten medizinischen Dokumentation als auch die Notwendigkeiten einer Prozess- und Ergebnisqualität erfüllt.

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**P20**

## **IMPROVING THE QUALITY OF PAIN MANAGEMENT: PATIENTS' REPORTED IMPACT OF A HOSPITAL-WIDE PAIN NETWORK**

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**BACKGROUND:** Repeated surveys have documented the undertreatment of pain during hospitalisation. Integrating “good clinical practices” for pain management into an organization’s everyday life requires a comprehensive approach. This includes the implementation of interdisciplinary groups of health professionals and follow-up through continuous performance evaluation. Few prospective studies have addressed the impact of hospital-wide initiatives to improve pain management.

**OBJECTIVE:** At Geneva University Hospitals, an interdisciplinary network was created in 2003 to develop and coordinate initiatives to improve pain management (e.g. providing standards, as well as documentation, and educational and treatment interventions). We sought to assess the impact of this network by comparing patient reports of processes of care and outcomes, two years before and after its implementation.

**METHODS:** All adult patients discharged during a 1-month period, in 2001 and 2005, were invited to complete a mailed survey that included the Picker patient experience questionnaire, questions on pain relief during hospitalization, and questions on various processes that are recommended as standards of pain management.

**RESULTS:** Participation rates were 70% in 2001 (1518/2156) and 65% in 2005 (1432/2204). In both surveys, about two thirds of patients had experienced pain during their hospital stay, and nearly half of these reported severe pain (Table). Several items showed statistically significant improvements between the two surveys. Regarding pain management processes, the level of pain was more regularly assessed, a pain assessment tool was more widely used, and more patients received a treatment to relieve their pain. As for patient outcomes, we found a statistically significant improvement on self-reported pain relief, and more patients thought that the hospital staff did everything they could to help control their pain.

**CONCLUSIONS:** Following implementation of the hospital-wide pain network, patients reported improved satisfaction on various recommended processes of care. Our study also showed encouraging improvements on patient outcomes. Strong support from nursing/medical staff and the involvement of important stakeholders in the process were some of the keys to success.

## P21

### IMPLEMENTING A PROGRAM OF SUPPORTIVE CARE IN CANCER THROUGH COLLABORATIVE ACTION

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**Aim:** Confronted with cancer patients undergoing multiple treatments, we describe an in-hospital supportive care program to improve the quality of care and the management of pain.

**Setting & Method:** The program was implemented at the Division of General Medical Rehabilitation of the Geneva University Hospitals, in collaboration with the Division of Oncology. The following priorities regarding quality of care and pain management were identified: 1) reduce the morbidity related to the disease and the treatment; 2) improve hospital coordination of care and psychosocial support; 3) provide continued education and supervision for the team; 4) develop patient-centered indicators (systematic documentation in the physicians and nurses charts).

**Description of the program:** Various actions were taken: initiating regular multidisciplinary staff meetings; developing new strategies to organize day-to-day patients' care (pain management, nutrition, psychological support); implementing guidelines and improved data collection forms for the healthcare providers; elaborating leaflets for patients. A database has been implemented to allow for the patients' characterization.

Educational interventions were conducted. Special off-site seminars and tutorials were offered to the medical and nursing team in collaboration with expert partners (e.g. training for specific devices, administration of chemotherapy, massage, psychological supervision). A particular emphasis was put on sharing information in order to promote collaborative work within the team.

**Discussion:** The implementation of such a supportive care program highlights some of the challenges faced by health professionals when attempting to improve the quality of care and pain management in this field. Clinical mentors have proven to be a key factor in effecting day-to-day practice and to empower nurses. Such a program requires considerable time and energy to plan actions and tasks according to the available knowledge and know-how, to acknowledge and positively reinforce these competences and to develop them where and when necessary and possible.

## P22

### IS PAIN A SHARED PRIORITY BETWEEN REFERRING AND HOSPITAL PHYSICIANS AT ADMISSION IN A SUPPORTIVE CARE UNIT? - COMPARISON WITH CANCER PATIENTS' POINT OF VIEW

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**Aim:** Patients admitted in a supportive care unit often present with intricate somatic and psychosocial problems. This study assessed the congruence between referring and hospital physicians regarding the reasons for hospitalization in a supportive care unit, and compared these reasons with the main symptoms patients identify.

**Methods:** The reasons for admission of 83 consecutive patients according to the referring physician and the physician in charge of the unit were collected by means of a structured questionnaire. Patients completed a questionnaire evaluating their main symptoms at the admission. Kappa statistics were used to assess the agreement between physicians; and between physicians and patients.

**Results:** 67% of the patients were men; mean age was 65 years (SD=14). A wide range of cancer diagnoses were represented. Median time since diagnosis was 1.8 years (range=0.1-12.5 years). Main reasons for admission were similar in both groups of physicians and Kappa values indicated a fair (K between 0.4-0.7) to good (K>0.7) congruence. Asthenia was the most frequently mentioned reason (33% in referring physicians vs 55% in physicians in charge, K=.49), followed by pain (37% vs 49%, K=.71), functional problems (30% vs 53%, K=.48), nutrition (19% vs 38%, K=.47), dyspnoea (17% vs 20%, K=.78). Fatigue was the main symptom reported by the patients, although with a much higher prevalence (85%), followed by pain (44%), nutrition (40%), anxiety (38%), and dyspnoea (35%). Congruence between patients' evaluation and physicians was poor (K<0.4), except for pain where it was fair (K= 0.47).

**Conclusions:** Congruence between referring and hospital physicians regarding reasons for admission was satisfactory and it was good for pain. However, patients put a different emphasis on the symptoms they experience. Pain was the symptom with the best congruence between patients and physicians, contrary to fatigue which had a very high priority according to the patients and a low level of congruence between patients and physicians. These results illustrate the need to go beyond standard evaluation in order to respond to the patients' preoccupations.

## P23

### TRAVAIL ET DOULEURS DANS LES REPRESENTATIONS DE PATIENS SOUFFRANT DE LOMBALGIES NON-SPECIFIQUES

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**Objectifs:** nous avons exploré les représentations de patients souffrant de lombalgies non-spécifiques persistantes quant aux causes des douleurs, de manière à contribuer à l'élaboration d'objectifs réalistes et de projets de soins partagés entre les patients et leurs thérapeutes.

**Matériel et Méthode:** entretiens semi-structurés centrés sur les causes des lombalgies auprès de 67 patients consécutifs hospitalisés pour une exacerbation de lombalgies non-spécifiques. Analyse de contenu effectuée par deux codeurs indépendants, sur la base de la retranscription des entretiens (accord inter-codeurs: Kappa=0.90).

**Résultats:** l'âge moyen des patients était de 58 ans ( $\pm 17$ ); 52% étaient des femmes; les douleurs duraient depuis >3 mois dans 84% des cas. L'analyse des entretiens a mis en évidence des représentations attribuant fréquemment les douleurs au travail, principalement sous la forme d'une impression d'usure du corps (21%), d'un surmenage et/ou du port de charges lourdes (14%), qui rendent compte d'accidents ou de faux-mouvements (24%). La notion d'une apparition brutale de la douleur est présente dans deux-tiers des entretiens, presque toujours accompagnée de l'évocation d'une date précise pour situer l'événement. Si d'autres attributions causales qui renvoient à une atteinte du corps spécifiée par une appellation biomédicale ("hernie discale", "lumbago", "arthrose") tiennent également une place significative (26%), l'évocation de causes psychologiques ("problèmes relationnels", "deuils") demeure très marginale (<10%). Par ailleurs, le caractère "non guérissable" et "chronique" de l'atteinte est exprimé dans plus de la moitié des entretiens.

**Conclusion:** les représentations des patients lombalgiques sont très majoritairement celles d'une atteinte somatique, souvent liée au travail. Les vécus d'apparition brutale, d'usure et de surmenage, ainsi que de douleurs décrites comme non-guérissables, évoquent l'idée d'une perte de contrôle du corps. Ces aspects méritent d'être explorés lors de la rencontre entre le patient et le thérapeute, en particulier avant de déterminer les objectifs de soins et les modalités de traitement.

## P24

### IMPORTANCE DES ATTRIBUTONS CAUSALES TRAUMATIQUES CHEZ LES PATIENTS FIBROMYALGIQUES

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**Introduction:** La fibromyalgie est un syndrome douloureux chronique restant actuellement inexpliqué. Pour améliorer la prise en charge de ce syndrome, nous avons exploré les causes auxquelles les patients souffrant de fibromyalgie attribuent à leurs troubles.

**Méthodes:** Des entretiens semi-structurés ont été menés auprès de 65 patients souffrant de fibromyalgie (86% de femmes ; âge moyen 50 ans  $\pm$  9,8 ans; durée moyenne des douleurs: 9 ans – de 6 mois à 34 ans; score myalgique à 28  $\pm$  9.7, EVA moyenne à 6 $\pm$ 1.8 sur 10). Une analyse de contenu des réponses à la question: «Parlez-moi de votre fibromyalgie ; comment est-ce que cela a commencé» a été effectuée par 2 codeurs indépendants.

**Résultats:** L'accord inter-juges était élevé (Kappa=0.90). Plusieurs attributions causales sont évoquées par la plupart des patients; en moyenne: 7.8  $\pm$  2.2 causes.

Les attributions causales primaires ou principales évoquées étaient: deuil d'un proche (15%), violence ou trauma dans l'enfance (12%), accident (9%), problèmes obstétricaux (9%), problèmes relationnels (8%), épuisement au travail (6%), faiblesse constitutionnelle (6%), choc psychologique (6%), licenciement (5%), divorce(5%), dépression (5%). La moitié des patients évoquaient une date précise de début de leurs symptômes.

**Conclusions:** L'étude met en évidence une haute prévalence d'événements traumatiques, notamment d'ordre psychologique, dans les récits des patients fibromyalgiques dont le vécu d'apparition brutale des symptômes renforce la tonalité traumatique. Ces données soulignent l'association entre douleurs chroniques et traumatismes. Elles indiquent également l'intérêt qu'il peut y avoir à rendre explicites les attributions causales lors de la prise en charge de patients souffrant de douleurs chroniques et en particulier de fibromyalgie.

## P25

### EINFLUSSFAKTOREN AUF DAS KURZZEITERGEBNIS DER DIAGNOSTISCHEN WURZELBLOCKADE BEI PATIENTEN MIT KREUZBEINSCHMERZEN

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**Ziel der Untersuchung:** Retrospektive Untersuchung der Zusammenhänge zwischen der Schmerzlinderung durch Wurzelblockaden, den Mainzer Stadien der Schmerzchronifizierung (MPSS) dem Chronic Pain Status von v. Korff (CPS), dem Gesundheitszustand (SF-12) und Angst- und Depressivitätssymptomen (HADS).

**Einleitung:** Wurzelblockaden gehören in vielen Schmerztherapieeinrichtungen zu den diagnostisch - therapeutischen Standardverfahren bei Patienten mit Rücken-Bein-Schmerzen, bei Radikulopathie.

**Methode:** In unserem Klinikum werden allen Patienten mittels eines ausführlichen Selbstbewertungsfragebogens zur Schmerzanamnese, inkl.

Schmerzchronifizierung und Schmerzschweregrad, nach Angst und Depressivitätssymptomen und zum Gesundheitszustand (SF12) befragt. Aus der Datenbank „Dokumentation der Regionalanästhesie“ wurden alle Patienten herausgefiltert, die in der Zeit vom Juli 2005 bis Mai 2008 zervikale, thorakale oder lumbosakrale Wurzelblockaden erhalten hatten. Die Patienten beurteilten ihre aktuelle Schmerzintensität vor und 30 Minuten nach der Wurzelblockade mittels einer elfstufigen numerischen Ratingskala (NRS 0-10). Alle Wurzelblockaden wurden mit Lidocain (2%, 2 ml) durchgeführt. Die Injektionskanüle wurde unter Röntgenkontrolle an das Foramen intervertebrale herangeführt und ihre endgültige Lage mit Röntgekontrastmittel Iopamidol (Iopamiro® 300) überprüft.

Alle sukzessiven diagnostischen Wurzelblockaden der Patienten wurden analysiert; bei Mehretagenblockaden in einer Sitzung wurden diese als eine Blockade bewertet und zusammen analysiert. Als positiver diagnostische Blockadeeffekt wurde eine Schmerzreduktion von  $\geq 75\%$  auf der NRS-Skala gewertet. Die Datenauswertung erfolgte mittels SPSS 14.0.2 für Windows.

**Schlussfolgerung:** Die ermittelten Angst- und Depressionswerte und die Schmerzschweregrade nach v. Korff weisen negative Beziehungen zum Ausmaß der Schmerzlinderung nach Wurzelblockaden auf. Bei ausgeprägten Angst- und depressiven Störungen ist die Indikation zur Wurzelblockade eventuell enger zu stellen.

## P26

### STRESS ET DOULEURS CHRONIQUES: LA SANTE SOUMISE AUX CONDITIONS DE TRAVAIL

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**Buts de l'étude:** Dans le cadre d'un travail de thèse de psychologie clinique sur «la douleur, nouveau symptôme du lien social»:

- 1- Repérer les facteurs de stress liés au contexte professionnel.
- 2- Identifier les effets observables sur les comportements et la chronicisation des douleurs.
- 3- Libérer la parole. Écouter la souffrance exprimée et comprendre celle qui est difficile ou non exprimée. Envisager un travail d'élaboration psychique des conflits.
- 4 - Proposer des actions à visée thérapeutique basées sur le modèle transactionnel du stress (Lazarus et Folkman) et l'éducation à la santé.

**Méthodes:** Lors des consultations douleurs chroniques, un questionnaire semi-directif systématique aborde le repérage des facteurs de stress liés au contexte professionnel :

- 1 - Facteurs liés à la tâche ;
- 2 - Facteurs liés à l'organisation du travail ;
- 3 - Facteurs psychosociaux (liés aux relations de travail) ;
- 4 - Facteurs liés à l'environnement physique et technique ;
- 5 - Facteurs liés à l'environnement socio-économique.

Afin d'identifier les effets observables du stress sur les émotions, les comportements et les pensées de la personne souffrant de douleurs rebelles non cancéreuses et l'incidence probable sur ses douleurs selon : Implications psychologiques, Santé physique, Bien-être, Productivité, Désocialisation.

Programme d'actions basées sur le modèle transactionnel du stress et l'éducation thérapeutique à la conduite des soins.

Interactions en réseau de soins (médecin généraliste, médecin du travail, médecin interniste, psychologue, relaxologue, ergothérapeute, kiné...).

**Conclusion:** La recherche d'une optimisation des conditions favorables au rétablissement et au bien-être du patient pris dans son contexte bio-psycho-social semble favoriser l'acceptation du ressenti douloureux, l'adaptation des traitements et un retour dans la vie sociale, grâce notamment à une réflexion par anticipation et des actions de prévention.

## P27

### PREVALENCE OF BACK PAIN AND JOB CHARACTERISTICS IN HOSPITAL HEALTH CARE PROVIDERS

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**Introduction:** back pain (BP) has been acknowledged as a major source of health-care costs. Its prevalence is high among nurses. Knowledge is scarce regarding BP in other categories of care-providers.

**Objective:** This study aimed to assess the prevalence of non-specific BP and job characteristics in hospital care-providers of a teaching hospital (10'669 employees).

**Methods:** a mailed survey was carried out in a random sample stratified for professional categories (administration, nurse-assistants, logistics, medico-technical/ therapeutic personnel, nurses, physicians). The questionnaire included socio-demo-graphic data, characteristics of BP, and job characteristics.

**Results:** 1280/2700 questionnaires were returned. Response rate was similar across professions. BP life-time prevalence was 74% and peaked in nurses (82.2%) and administration (81.5%). Point-prevalence was 34%, mainly located in the lumbar area, highest in nurses (40.2%) and administration (38.5%); physicians reported less BP (22.7%). Regarding frequency and duration, between-group differences were significant ( $p=0.007$ ) with physicians (38.6%) and nurses (42.7%) reporting less chronic BP than nurse-assistants (50.8%). Chronic BP was also significantly associated with female gender and age $>40$ . There was no significant relationship between lifting, patient handling, material handling, or working on nightshift, and BP frequency. However, a test for trend across ordered groups showed a positive gradient for self-reported maintained positions and chronic BP (from maintained positions 'never'=30.3% of chronic BP to 'very often'=56.5%;  $p<0.001$ ) and for self-reported maladapted workplace (from 'never'=43% to 'very often'=51.3%;  $p=0.009$ ).

**Conclusion:** nurse-assistants more often reported chronic BP. Other professional categories reported significant rates of BP. Among self-reported job characteristics, only maintained positions and maladapted workplace were associated with chronic BP.

## P28

### BACK PAIN AND PERCEPTION OF WORK CONDITIONS AMONG CARE-PROVIDERS IN A HOSPITAL SETTING

Monnin D, Grandjean R, Griesser AC, Genevay S, Kupper D, Perneger TV, Cedraschi C, Geneva

**Introduction:** Back pain (BP), a common condition among hospital employees, may be related to work conditions. Knowledge is scarce regarding BP and work characteristics in hospital settings.

**Objective:** This study aimed to assess the relationship between persistent (recurrent or chronic) BP and work conditions at a teaching hospital (10'669 employees).

**Methods:** A mailed survey was conducted in a random sample of hospital employees (n=2700) stratified for professional category (administration, nurse-assistants, logistics, medico-technical/therapeutic personnel, nurses, physicians). The questionnaire included socio-demographic data, characteristics of BP [never, acute/subacute, chronic, recurrent (1-3 episodes/year)], job characteristics, and perception of work conditions (Karasek Job Content Questionnaire).

**Results:** Out of 1280 responders (response rate=48%), 21.5% never suffered BP, and the others reported acute/subacute (5.5%), chronic (35.5%) and recurrent (38%) BP. Perception of work conditions was significantly better in recurrent BP than in chronic BP on four out six scales: 'decision latitude' (69.1 vs 65.2) ['skill discretion' (68.4 vs 65.0) and 'decision authority' (70.6 vs 65.4)], and 'physical demands' (36.3 vs 42.9). Recurrent and chronic BP were mainly women (70%), aged 31-50 years (75%). Physicians were over-represented and nurses under-represented in recurrent BP; nurse-assistants were over-represented and physicians under-represented in chronic BP. Work absence rates were significantly lower in recurrent BP (11% vs 19%). Causal attributions were similar; however, recurrent BP considered significantly less often BP as a lifetime problem (25% vs 46%).

**Conclusion:** Recurrent BP sufferers seem to constitute a specific sub-group in terms of perception of work conditions and work absence rates. They also have a more positive view of the prognosis, in that they did not consider their BP as a chronic problem.

## **P29**

### **ANTINOCICEPTIVE EFFECT OF ASCORBIC ACID AND ITS INTERACTION WITH NMDA RECEPTORS**

Farinaz Nasirinezhad, Sepideh Safarpour, Terhan/Iran

Neuropathic pain is a chronic pain condition which is resistant to therapy with traditional analgesics. Reactive oxygen species (ROS) are critically involved in chronic pain conditions. Vitamin C is a well-known antioxidant but its antinociceptive effect on chronic pain is not known. To investigate the efficacy of vitamin C in neuropathic pain condition male rats were undertaken to chronic constriction injury (CCI) of sciatic nerve. Thermal and mechanical nociceptive thresholds were assessed with paw withdrawal latency to radiant heat and paw withdrawal threshold in response to linearly increasing pressure. Chronic intraperitoneal injection of 3 mg/kg vitamin C for three weeks increase pain threshold from the second week after CCI. Acute administration of 1mg/kg vitamin C did not produce any changes in pain threshold of neuropathic rats but acute injection of 5 and 10 mg/kg of vitamin C significantly alleviate pain 15 and 30 min after injection in the second week following CCI which is the maximum pain period in CCI model. Ascorbic acid (1mg/Kgi.p.) also produced significant inhibition of MK-801 (0.01mg/kg i.p.) and ketamin (5mg/kg i.p.) - induced antinociception response. These data suggest that vitamin C produces analgesia in neuropathic rats and this effect seems to be mediated through its interaction with NMDA receptors.

**Keywords:** Ascorbic acid, NMDA, chronic constriction injury, pain

## P30

### NOCICEPTIVE RECEPTIVE FIELDS: NORMAL VALUES IN THE PAIN-FREE POPULATION

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**Aim of Investigation:** Expansion of the receptive fields of spinal neurones is an important manifestation of central plasticity leading to amplification of pain. No validated model for such an assessment in patients exists. The purpose of this study was to investigate a new method to assess receptive fields in humans based on reflex responses and set reference values of the normal population for future research and clinical applications.

**Methods:** We studied 300 healthy subjects (151 males and 149 females, 18 – 80 years old). Nociceptive withdrawal reflexes (NWR) were evoked by applying painful electrical stimulation at intensity of 1.5 times higher than the pain threshold at ten spots of the foot sole. The reflexes were measured as electromyographic response from the muscles tibialis anterior (TA), soleus (SOL), biceps femoris (BF) and quadriceps vastus lateralis (VL). The area of nociceptive reflex receptive field (RRF) was defined as the skin area from which a NWR could be evoked in a specific muscle, expressed as proportion of the total foot sole area. The volume of the RRF was defined as the integrated reflex size within the detected RRF area.

**Results:** The area and volume of the receptive fields were quantified in all cases. The mean values (standard deviations) of the areas were: TA 0.44 (0.28), SOL 0.66 (0.34), BF 0.68 (0.28), VL 0.63 (0.33). The volumes were: TA 0.40 (0.50), SOL 0.10 (0.14), BF 0.17 (0.19), VL 0.10 (0.17).

**Conclusions:** We could quantify receptive fields in all subjects. The areas are associated with much less variability than the volumes. This method is the first one that allows a quantification of normal values of receptive fields in humans. The method has important potential applications in research to explore aspects of central plasticity in patients. Furthermore, it may be utilized as a diagnostic tool for central hypersensitivity, as a prognostic tool to predict the course of the disease or screen patients for treatment options, and to analyze the mechanisms of action of therapeutic interventions.

## P31

### QUELLE INFORMATION SUR LE PARACETAMOL D'UN SIMPLE CLIC SUR INTERNET?

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**Contexte:** Internet offre un volume énorme d'informations sur les médicaments largement utilisées par le public. La qualité des sites concernant les médicaments n'est pas bien définie alors qu'Internet joue un rôle croissant dans l'information et la prise de décision des patients au sujet de leur traitement. Cette étude évalue, selon des critères de qualités reconnus, les informations concernant le paracétamol fournies sur les sites facilement accessibles sur Internet.

**Méthode:** évaluation de la qualité de 155 sites obtenus par le moteur de recherche Google à partir du terme « paracétamol » seul et associé à douleur et fièvre ainsi que de 12 noms de spécialités contenant du paracétamol vendus en Suisse. Des scores ont été établis sur la base des échelles DISCERN et NETSCORING, développées dans le contexte de l'évaluation des informations destinées aux patients à propos de la santé et des traitements. Ces scores jugent d'une part le contenu en termes d'objectifs et de crédibilité et d'autre part des aspects liés au design et à l'interactivité du site, au moyen d'échelles de Likert. Deux codeurs indépendants ont procédé à l'évaluation, l'accord s'est avéré très bon ( $K > 0.85$ ).

**Résultats:** Les sites sont d'origine diverses : 52% commerciale et/ou à but lucratif ; 15% association non lucrative ; 15% blogs et forums ; 7% gouvernementale ; 7% universitaire. Les scores mesurant la qualité du contenu et de la forme des sites sont statistiquement inférieurs pour les sites commerciaux.

Sites	Score total DISCERN médiane (min-max)	Score total NETSCORING médiane (min-max=282)
Commerciaux	35 (18-65) *	104.5 (43-214)*
Universitaires et gouvernementaux	54 (35-66)	175 (116-210)
Associatifs	48 (30-64)	163 (105-201)

\*Test de Kruskal Wallis  $p < 0.05$

Des inexactitudes voire des erreurs pharmacologiques ont été relevées dans 5% des sites (e.g. mode d'action, posologie et interactions).

**Conclusion:** selon les critères définis, la majorité des sites offrent une information de qualité moyenne voire anecdotique et bombardent les visiteurs de publicités diverses sans relation avec l'information recherchée. Aucun site ne présente une information de qualité intégrant tous les potentiels originaux offerts par cette nouvelle technologie de communication.

## P32

### INTRATHEKALE PUMPEN UND MRI - EIN UNERFORSCHTES FELD

Reck T, Schleinzner W, Nottwil

**Ziel der Studie:** Seit etwa 20 Jahren werden zur Therapie chronischer Schmerzzustände oder therapieresistenter Spastik implantierbare Pumpen zur intrathekalen Medikamentenabgabe eingesetzt.

Immer wieder kommt es vor, dass Patienten mit einer implantierten Pumpe eine MRI-Untersuchung aus diagnostischen Gründen benötigen.

Sehr häufig stellt sich dann die Frage nach der Vereinbarkeit eines implantierten technischen Gerätes auf der einen Seite und dem bei der Untersuchung wirksamen Magnetfeldes auf der anderen Seite.

**Methode:** Durch Kontakt der unterschiedlichen Hersteller wurde versucht, die Bezeichnungen und Modelle aller im deutschsprachigen Raum implantierten Pumpensysteme zu erfassen.

Mit Hilfe einer systematischen Literaturrecherche (MEDLINE) wurde die vorhandene Literatur zur Beantwortung der Frage nach der Vereinbarkeit von implantierter Pumpe und MRI gesucht. Es wurden ausserdem die Angaben der Hersteller sowie ein radiologisches Referenzwerk analysiert.

**Ergebnisse:** Wir erstellten eine für den deutschsprachigen Raum mindestens annähernd vollständige Aufstellung der in Betrieb befindlichen Pumpensysteme. Insbesondere baugleiche Modelle mit unterschiedlichen Bezeichnungen konnten identifiziert werden.

Es zeigte sich, dass keine wissenschaftlichen Untersuchungen zu diesem Thema bestehen. Informationen ergeben sich aus den Angaben der Hersteller, diese sind allerdings nicht für alle Pumpenmodelle vorhanden. Das Standard-Referenzwerk für die radiologische Diagnostik bezieht sich ebenfalls auf die Angaben der Hersteller und ist für den deutschsprachigen Raum nicht vollständig.

**Schlussfolgerungen:** Eine Aufstellung der implantierbaren Pumpensysteme, die vor allem auch baugleiche Modelle mit unterschiedlichen Bezeichnungen benennt, dient zur Beseitigung von Unklarheiten bei akutmedizinisch tätigen Kollegen, die keine Routine im Umgang mit diesen Systemen haben. Zur Vereinbarkeit implantierbarer Pumpensysteme zur intrathekalen Medikamentenabgabe und MRI-Untersuchungen sind systematische wissenschaftliche Untersuchungen nötig. Dies insbesondere vor dem Hintergrund, dass in Zukunft vermehrt Geräte mit einem stärkeren Magnetfeld (3 Tesla und mehr) zum Einsatz kommen werden.

#### Literatur

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## P33

### DEPRESSION ET VARIABILITE DU SYMPTOME DOULOUREUX

Rentsch D<sup>1</sup>, Rubovzsky G<sup>1</sup>, Andreoli A<sup>1</sup>, Allaz AF<sup>2</sup>, Luthy C<sup>2</sup>, Cedraschi C<sup>3</sup>, Besson M<sup>3</sup>, Desmeules J<sup>3</sup>, Escher-Imhof M<sup>3</sup>, Piguët V<sup>3</sup>, <sup>1</sup>Service de Psychiatrie de Liaison et Intervention de Crise, HUG Genève; <sup>2</sup>Service de Médecine Interne de Réhabilitation, HUG; <sup>3</sup>Centre multidisciplinaire de la douleur, HUG

**But de l'étude:** Les liens entre dépression et douleur sont complexes, multiples et bien documentés. Nous cherchons à démontrer que la dépression a une influence sur l'amplitude de la variation des symptômes douloureux en plus de l'augmentation connue de leur intensité.

**Méthode:** Un questionnaire d'auto-évaluation est distribué à tous les patients adressés à notre consultation multidisciplinaire d'évaluation et traitement de la douleur, complété avant le premier rendez-vous. L'intensité des douleurs est évaluée dans les pires et les meilleurs moments du mois écoulé par échelle visuelle analogique (EVA, 0 à 10cm). Nous comparons ces valeurs ainsi que l'amplitude les séparant (Delta EVA entre pires et meilleurs moments) entre des patients déprimés (score de Beck supérieur ou égal à 19) et des patients contrôles non déprimés (Beck < 19).

**Résultats:** 556 patients inclus, présentant une douleur depuis 7 mois en moyenne, 262 déprimés (47%) et 294 contrôles, comparables pour l'âge et le sexe. L'intensité de la douleur dans les pires moments était de  $9.10 \pm 0.07$  cm chez les patients déprimés versus  $8.71 \pm 0.08$  cm chez les contrôles ( $p=0.000$ ). L'intensité dans les meilleurs moments était de  $5.51 \pm 0.18$  cm pour les déprimés versus  $5.05 \pm 0.13$  cm chez les contrôles ( $p=0.000$ ). L'amplitude de la différence d'intensité entre les pires et les meilleurs moments était de  $3.59 \pm 0.16$  cm chez les déprimés versus  $4.08 \pm 0.16$  chez les contrôles ( $p=0.03$ ).

**Conclusion:** La dépression, présente chez près de la moitié des patients douloureux chroniques référés à notre centre, est associée à une augmentation de l'intensité de la douleur, conformément aux données de la littérature. Nous montrons qu'elle est également associée à une diminution significative de la variabilité des symptômes. Ce paramètre enrichit la connaissance des liens entre douleur et dépression, confirme la nécessité d'une approche bio-psycho-sociale et pourrait constituer une cible thérapeutique spécifique.

## P34

### STIMULATION OF THE PAINFUL INTERVERTEBRAL DISC MAY PRODUCE INCREASE IN CENTRAL HYPERSENSITIVITY IN PATIENTS WITH DISCOGENIC PAIN

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**Aim of Investigation:** To test the hypothesis that increase in nociceptive input from the source of pain increases hypersensitivity of the central nervous system. The study is running. Preliminary data are presented.

**Methods:** Pressure pain detection thresholds (PPDT) and pressure pain tolerance thresholds (PPTT) were assessed before and 30 min after painful disc stimulation (provocation discography) in 16 patients with discogenic pain. The assessments were made at a painful point of the back, a non-painful point of the back (both as markers of regional central hypersensitivity) and the ipsilateral great toe (as a marker of widespread central hypersensitivity). Decreases in pain thresholds would reflect increases in central hypersensitivity. So far, 16 patients have completed the experiment. Data were analyzed by two-way repeated measures ANOVA on ranks.

**Results:** Mean changes in PPDT at the painful, the non-painful point of the back and the toe were -26% ( $p=0.014$ ), -23% ( $p=0.011$ ) and -9% ( $p=0.58$ ). Mean changes in PPTT at the same sites were -17% ( $p=0.014$ ), -13% ( $p=0.071$ ) and +7% ( $p=0.454$ ), respectively.

**Conclusion:** These preliminary results suggest that central hypersensitivity responsible for regional hyperalgesia is a dynamic condition that is modulated by the magnitude of nociceptive input arising from the damaged tissue. Conversely, widespread central hypersensitivity does not seem to be influenced by short-term increases in nociceptive input. It may therefore reflect mechanisms of central hypersensitivity that are different from those responsible for regional central hypersensitivity.

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## P35

### Der Einfluss des Rentenstatus auf die Effizienz einer strukturierten Gruppentherapie bei chronischen Schmerzpatienten aus der Türkei

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Die meisten Kliniken in der Schweiz nehmen Patienten mit hängigem IV-Verfahren nicht in eine Therapie auf. Das Begehren einer IV-Rente gilt als kontraproduktiv für den therapeutischen Erfolg. Die aktuelle Rechtsprechung in der Schweiz verlangt allerdings von Patienten im IV-Verfahren, dass sie soweit zumutbar eigene Initiative zur Verbesserung ihres Gesundheitszustandes zeigen; der Besuch einer Therapiegruppe gehört zu diesen zumutbaren Eigenleistungen. Daher *müssen* wir letztlich dieser Patientengruppe eine Therapie anbieten. In der vorliegenden Arbeit wird die Frage untersucht, ob der Rentenstatus zu Beginn der Behandlung eine Aussage darüber erlaubt, wie zuverlässig Patienten an der Therapie teilnehmen und ob sie von der Therapie in Bezug auf ihre Lebensqualität profitieren.

Methodik: Patienten wurden aus einer laufenden Evaluationsstudie zur Behandlung chronisch schmerzkranker türkisch-sprachiger Patienten rekrutiert. Zu Beginn der Behandlung wurde untersucht, inwieweit sich Patienten mit und ohne Invalidenrente und Patienten mit einem laufenden Antrags-Verfahren hinsichtlich der Beeinträchtigung ihrer Lebensqualität im SF-36 (türkische Version) unmittelbar nach der Behandlung (25 wöchentliche Sitzungen à 90 Minuten) und im 12 Monate Follow-Up unterscheiden. .

Ergebnisse: Es wurden insgesamt 54 Patientendaten analysiert. Vor und unmittelbar nach der Intervention berichten die Patienten in allen drei Gruppen über eine ähnliche Lebensqualität. Im 12-Monate Follow-up geben Patienten ohne Rentenbegehren eine signifikant bessere Lebensqualität in vier der acht Skalen des SF-36 ( $p < 0.05$ ) an. Patienten mit Invalidenrente schätzen ihre Schmerzen geringer ein als Patienten mit laufendem IV-Verfahren.

Patienten ohne Rentenbegehren bei Einschluss in die Therapie profitieren stärker als Patienten mit laufendem Antragsverfahren oder bereits zugesprochener Rente. Der Rentenstatus hatte keinen Einfluss auf die Anzahl absolvierter Therapiesitzungen.

**Keywords:** Rentenstatus, chronische Schmerzen, Gruppenbehandlung, Migration, Compliance

## **P36**

### **WENN DIE VERMITTLUNG VON INFORMATIONEN AUF EINE SPRACH-BARRIERE TRIFFT – ZUR ZUSAMMENARBEIT MIT DOLMETSCHERINNEN**

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Die Arzt-Patient Kommunikation mit ausländischen Patienten ohne Sprachkenntnisse kann durch die Anwesenheit einer dritten Person sowohl „gestört“ als auch unterstützt werden. Wie eine Literaturübersicht zeigt, können unprofessionelle Dolmetscher die medizinische Behandlung durch fehlerhafte Übersetzung negativ beeinflussen, was zu klinisch relevanten negativen Folgen für den Patienten führen kann. Die Arbeit mit professionellen Dolmetschern wird demnach deutlich vorgezogen. Andere Studien zeigen, dass professionelle Übersetzung die Behandlung und die Zufriedenheit des Patienten mit der Behandlung positiv verändert.

Es gibt verschiedene Rollen, die der Dolmetscher übernehmen kann. Diese Rollen werden dargestellt und diskutiert. Die klassische Vorstellung von der Konfrontation zweier verschiedener Kulturen in einem Gespräch wird von uns kritisch hinterfragt und durch eine dritte, die des Übersetzers, ergänzt. Wir stützen diese Sichtweise durch den Vergleich der soziodemographischen Daten der Dolmetscher und der Patienten und erklären anhand konkreter Fallbeispielen, warum wir für die wortwörtliche Übersetzung plädieren und auf die ‚transkulturelle Mediation‘ durch Dolmetscher verzichten.

**Keywords:** Migration, Dolmetscher im Gesundheitswesen, Professionalisierung der Dolmetscher, Rollenverständnis der Dolmetscher

## P37

### GENE MODULATIONS EXERTED BY CAPSAICIN IN SYNOVIAL FIBROBLASTS FROM PATIENTS WITH OA AND RA: RESULTS OF A STUDY WITH GENE ARRAYS

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**Aim of investigation:** During the last years, the TRPV1 receptor has emerged as a key molecule in pain modulation. Recently, our group identified the presence of functional TRPV1 in synovial fibroblasts from arthritis patients. In this study, we used gene arrays to explore the effects of the classical TRPV1 ligand capsaicin on gene-expression levels in synovial fibroblasts from patients with osteoarthritis (OA) and rheumatoid arthritis (RA).

**Methods:** Cultured synovial fibroblasts, obtained by tissue biopsies from patients with knee OA (n=3) and knee RA (n=3) were stimulated with 100  $\mu$ M capsaicin. In additional experimental settings, pre-treatment with the antagonist capsazepine was performed 30 min prior the capsaicin stimulation. After 24 h, total RNA was isolated from cells and samples were treated with DNase to eliminate genomic DNA contamination. RNA was reverse transcribed employing the RT first strand kit (SuperArray). Gene expression levels were assessed by using qPCR arrays (SuperArray) containing 2 customized sets of 49 genes/plate, in the ABI Prism 7700 Sequence detection system (Applied Biosystems). Ct values were normalized using GAPDH as endogenous control. Gene modulations were calculated by the ddCt method, and fold changes of around 2 and higher were considered to be of possible clinical relevance.

**Results:** Several gene regulations produced by capsaicin were detected. Two genes were induced in both OA and RA synovial fibroblasts: interleukin 6 (IL6) up to 21.3 fold in OA and up to 7.6 fold in RA; the purinergic receptor P<sub>2</sub>X<sub>4</sub> in 2 of 3 cases with OA (fold change up to 4.6), and in all cases with RA (fold change up to 2.1). Two genes were found to be exclusively induced in OA: prostaglandin-endoperoxide synthase 1 (PTGS1, fold change around 3), and the purinergic receptor P<sub>2</sub>X<sub>3</sub>, which was significantly induced in 2 of 3 cases from undetectable levels to dCt values around 10. For both PTGS1 and P<sub>2</sub>X<sub>3</sub>, capsazepine prevented the gene induction by capsaicin, suggesting a direct involvement of the TRPV1 receptor. Two genes were induced rather in RA than in OA: the arachidonate 5-lipoxygenase (ALOX5) in 2 of 3 cases with RA (by 7.1 and 13.4 fold changes), and TRPV1 in the 3 RAs (fold changes around 2).

**Conclusion:** Our study reveals for the first time gene modulations by capsaicin in synovial fibroblasts. These findings point to interesting molecular mechanisms with particular relevance for pain genesis in OA and/or RA.

## P38

### DIFFERENTIAL GENE EXPRESSION IN SYNOVIAL FIBROBLASTS FROM PATIENTS WITH OSTEOARTHRITIS AND RHEUMATOID ARTHRITIS

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**Background:** Osteoarthritis (OA) and rheumatoid arthritis (RA) are both chronic and painful rheumatic diseases. However, specific molecular pathways involved in pain in both conditions are still insufficiently understood.

**Objectives:** We used customized “SuperArray” gene arrays to explore the expression levels in a set of genes with possible relevance for the modulation of pain in synovial fibroblasts from patients with OA in comparison to patients with RA.

**Methods:** Synovial fibroblasts were obtained from synovial tissue biopsies removed from the knee by open surgery from patients with OA (n=8) and RA (n=9). Cell cultures were performed, and passages >3 were used for the experiments. Total RNA was isolated from synovial fibroblasts using RNeasy Mini kit (Qiagen), and cell samples were treated with DNase to eliminate genomic DNA contamination. Total RNA was transcribed using the RT first strand kit. Quantification was performed in 96-well PCR array-plates, containing 2 sets of 49 customized genes/plate, using pre-formulated qPCR reagents from SuperArray, in the ABI PRISM 7700 Sequence Detector System (Applied Biosystems). Ct values for individual genes were normalized using GAPDH as endogenous control. Groups were compared by the ddCt method, considering RA as reference. Results are presented as mean fold difference  $\pm$  SEM.

**Results:** The expression levels of 8 genes were found to be more than 2 fold changed in OA as compared to RA. Of these, 2 genes had a higher expression level in OA than in RA: the endothelin receptor type B ( $5.1\pm 0.7$ ) and the calcitonin gene-related poly-peptide beta ( $4.8\pm 1.0$ ). For endothelin receptor type B the results were also reproduced by qPCR (TaqMan). Genes with a lower expression level in OA than in RA were the opioid receptor delta ( $4.3\pm 2.6$ ), the nitric oxide synthase 3 ( $3\pm 2.1$ ), the interleukin 6 ( $2.8\pm 0.8$ ), the arachidonate 12-lipoxygenase type B ( $2.4\pm 0.9$ ), the arachidonate 15-lipoxygenase type B ( $2.4\pm 1.1$ ), and the opioid receptor kappa ( $2.2\pm 1.8$ ).

## P39

### DIFFERENTIAL EXPRESSION OF PROENKEPHALIN mRNA IN SYNOVIAL TISSUE OF PATIENTS WITH OSTEOARTHRITIS AND RHEUMATOID ARTHRITIS

Engler a<sup>1</sup>, Toma v<sup>1</sup>, Mousa sa<sup>2</sup>, Stein c<sup>2</sup>, Simmen BR<sup>3</sup>, Gay RE<sup>1</sup>, Michel BA<sup>1</sup>, Gay S<sup>1</sup>, Sprott H<sup>1</sup>  
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**Aim of investigation:** Molecular mechanisms of pain in osteoarthritis (OA) are currently still insufficiently understood. In parallel to other pain modulating systems, the opioid system - including opioid peptide ligands and opioid receptors - plays a major role in controlling pain. Recently, opioid receptors have also been detected outside the nervous system, and their expression was found to be down-regulated in synovial fibroblasts of patients with rheumatoid arthritis (RA) and OA. In this study, we explored the gene expression levels of proenkephalin (PENK) in cultured synoviocytes and the presence of enkephalin (ENK) in joint tissues from patients with OA and with RA on the protein level.

**Methods:** Knee synovial fibroblasts were used, from tissue biopsies removed by open surgery from patients with OA (n=7) and RA (n=7). Cell culture was performed, and passages >3 were used for the experiments. Total RNA was isolated from synovial fibroblasts using RNeasy Mini Kit (Qiagen) and all samples were treated with DNase to eliminate genomic DNA contamination. Total RNA was reverse transcribed, and quantification was performed using a TaqMan assay for PENK (Applied Biosystems). The amounts of loaded cDNA were normalized using GAPDH as an endogenous control. Fluorescence immunohistochemistry was applied on paraffin sections of synovial tissues to allow localization and quantification of ENK in different cell types. Double stainings were performed, namely ENK/P4H for synovial fibroblasts and ENK/CD68 for macrophages.

**Results:** Gene expression of PENK was detected in all synovial fibroblasts from OA and RA. PENK mRNA was expressed with dCt values of  $5.86 \pm 1.47$  for OA and  $4.12 \pm 1.30$  for RA. Between groups, dCt values showed significant differences between OA and RA ( $p=0.018$ ), corresponding to a lower expression level of PENK in synovial fibroblasts from OA patients compared to RA (mean fold change = 4.9). In synovial tissues, the opioid enkephalin was detected by fluorescence immunostaining in all OA and RA patients. We observed no different RA/OA expression for ENK within cell populations of either synovial fibroblasts or macrophages. However, due to the presence of a higher number of macrophages, RA joint-tissues appeared to express relatively more ENK than OA tissues.

**Conclusion:** The endogenous opioid ENK is relatively more present in the RA than in the OA synovium, in line with the significantly lower expression of PENK mRNA in OA synovial fibroblasts. This fact might be of interest for pain modulation by opioids outside the nervous system and deserves more detailed investigation.

## P40

### ABDOMINAL MUSCLE SIZE AND SYMMETRY AT REST AND DURING ABDOMINAL HOLLOWING EXERCISES IN HEALTHY CONTROL SUBJECTS

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Sponsor: Ulla Kellner.

**Aim of Investigation:** In recent years, growing interest has focused on the contribution to spinal stability of the deep-lying trunk muscle, transversus abdominis (TrA). Specific exercises to train TrA have been implemented as a physiotherapeutic treatment for low back pain (LBP), with performance being assessed by ultrasound-determined changes in muscle thickness. However, muscle size (thickness) itself is typically dependent on factors such as gender, age, and anthropometry; individual variations in these factors may obscure any abnormalities or asymmetries associated with LBP per se. This study quantified the influence of these potential confounders on TrA thickness in healthy subjects.

**Methods:** 57 volunteers participated (20 men, 37 women; aged 22 - 62 years). M-mode ultrasound images superimposed with tissue Doppler imaging (TDI) data were recorded from the abdominal muscles at rest and during abdominal hollowing exercises in hook-lying. The fascial lines bordering the TrA, obliquus internus (OI)

and obliquus externus (OE) were digitized and the absolute thickness, relative thickness (% total lateral thickness) and contraction ratio (ratio of thickness when hollowing to the thickness at rest), as well as the symmetry (% side difference) for each of these parameters, were determined for each muscle.

**Results:** Both at rest and during hollowing, OI was the thickest and TrA the thinnest muscle. There were no significant differences between left and right sides for group mean thicknesses of any muscle; however, individual asymmetries were evident, with mean values for the different muscles ranging from 11 to 26% (11-20% for relative thickness); symmetry was much better for the contraction ratios (mean % side differences, 5-14% depending on muscle). Body mass was the most significant positive predictor of absolute muscle thickness (for all muscles, at rest and during hollowing), accounting for 30-44% variance. BMI explained 20-30% variance in TrA contraction ratio (negative relationship).

**Conclusions:** The influence of these confounders must be considered in comparative studies of healthy controls and back pain patients, unless groups are very carefully matched. Asymmetries observed in patients should be interpreted with caution, as they are also common in healthy subjects.

**Acknowledgements:** Supported by a grant from the Swiss National Science Foundation NFP53-405340-104787/2.

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## P41

### GENE MODULATIONS EXERTED BY CAPSAICIN IN SYNOVIAL FIBROBLASTS FROM PATIENTS WITH OA AND RA: RESULTS OF A STUDY WITH GENE ARRAYS

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**Aim of investigation:** During the last years, the TRPV1 receptor has emerged as a key molecule in pain modulation. Recently, our group identified the presence of functional TRPV1 in synovial fibroblasts from arthritis patients. In this study, we used gene arrays to explore the effects of the classical TRPV1 ligand capsaicin on gene-expression levels in synovial fibroblasts from patients with osteoarthritis (OA) and rheumatoid arthritis (RA).

**Methods:** Cultured synovial fibroblasts, obtained by tissue biopsies from patients with knee OA (n=3) and knee RA (n=3) were stimulated with 100  $\mu$ M capsaicin. In additional experimental settings, pre-treatment with the antagonist capsazepine was performed 30 min prior the capsaicin stimulation. After 24 h, total RNA was isolated from cells and samples were treated with DNase to eliminate genomic DNA contamination. RNA was reverse transcribed employing the RT first strand kit (SuperArray). Gene expression levels were assessed by using qPCR arrays (SuperArray) containing 2 customized sets of 49 genes/plate, in the ABI Prism 7700 Sequence detection system (Applied Biosystems). Ct values were normalized using GAPDH as endogenous control. Gene modulations were calculated by the ddCt method, and fold changes of around 2 and higher were considered to be of possible clinical relevance.

**Results:** Several gene regulations produced by capsaicin were detected. Two genes were induced in both OA and RA synovial fibroblasts: interleukin 6 (IL6) up to 21.3 fold in OA and up to 7.6 fold in RA; the purinergic receptor P<sub>2</sub>X<sub>4</sub> in 2 of 3 cases with OA (fold change up to 4.6), and in all cases with RA (fold change up to 2.1). Two genes were found to be exclusively induced in OA: prostaglandin-endoperoxide synthase 1 (PTGS1, fold change around 3), and the purinergic receptor P<sub>2</sub>X<sub>3</sub>, which was significantly induced in 2 of 3 cases from undetectable levels to dCt values around 10. For both PTGS1 and P<sub>2</sub>X<sub>3</sub>, capsazepine prevented the gene induction by capsaicin, suggesting a direct involvement of the TRPV1 receptor. Two genes were induced rather in RA than in OA: the arachidonate 5-lipoxygenase (ALOX5) in 2 of 3 cases with RA (by 7.1 and 13.4 fold changes), and TRPV1 in the 3 RAs (fold changes around 2).

**Conclusion:** Our study reveals for the first time gene modulations by capsaicin in synovial fibroblasts. These findings point to interesting molecular mechanisms with particular relevance for pain genesis in OA and/or RA.

## P42

### ATP INDUCES GENE EXPRESSION AND EXTRACELLULAR RELEASE OF BDNF BY CULTURED OSTEOARTHRITIS SYNOVIAL FIBROBLASTS

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**Aim of investigation:** During the last years, ATP has been incriminated as important signaling molecule involved in pain modulation, and purinoceptors have been detected in synovial fibroblasts from arthritic patients. Recently, it has been demonstrated that - *via* ATP induction - the brain derived neurotrophic factor (BDNF) has crucial signaling functions between microglia and neurons. We explored the effects exerted by ATP *in vitro* on gene expression and production of BDNF by synovial fibroblasts from patients with osteoarthritis (OA).

**Methods:** Cultured synovial fibroblasts, from tissue biopsies obtained by open surgery from patients with knee OA (n=3) were used for stimulation experiments with different concentrations of ATP and for various time periods. Total RNA was isolated from cells using RNeasy Mini kit (Qiagen) and samples were treated with DNase to eliminate genomic DNA contamination. Total RNA was reverse transcribed, and quantification was performed by using an assay for real-time PCR (TaqMan) specific for BDNF (Applied Biosystems). The amounts of loaded cDNA were normalized using GAPDH as endogenous control (dCt value) and gene modulations produced by ATP were calculated by the ddCt method. BDNF production by ATP stimulated cells was quantified in cell culture supernatants employing the human BDNF DuoSet ELISA kit (R&D). The results are presented as mean fold change  $\pm$  SEM.

**Results:** ATP caused a systematic and time-dependent induction of BDNF gene expression. The induction reached its maximum at 1 h ( $14 \pm 2.7$ ), and was still measurable at 5 h ( $8.2 \pm 2.6$ ). The stimulation was dose-dependent as well, with the strongest effect produced by 100  $\mu$ M ATP. Extracellular release of BDNF was also induced by ATP, the strongest increase being measured after 1 h stimulation (from 18 pg/ml to 37 pg/ml, mean dConc =  $19 \pm 2.1$  pg/ml).

**Conclusions:** Increased BDNF production and release appears to be a direct effect of ATP at physiological concentrations in peripheral joint tissues, with possible consequences in the generation of pain.

## P43

### DIFFERENTIAL EXPRESSION OF PROENKEPHALIN mRNA IN SYNOVIAL TISSUE OF PATIENTS WITH OSTEOARTHRITIS AND RHEUMATOID ARTHRITIS

Engler a<sup>1</sup>, Toma v<sup>1</sup>, Mousa sa<sup>2</sup>, Stein c<sup>2</sup>, Simmen BR<sup>3</sup>, Gay RE<sup>1</sup>, Michel BA<sup>1</sup>, Gay S<sup>1</sup>, Sprott H<sup>1</sup>  
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**Aim of investigation:** Molecular mechanisms of pain in osteoarthritis (OA) are currently still insufficiently understood. In parallel to other pain modulating systems, the opioid system - including opioid peptide ligands and opioid receptors - plays a major role in controlling pain. Recently, opioid receptors have also been detected outside the nervous system, and their expression was found to be down-regulated in synovial fibroblasts of patients with rheumatoid arthritis (RA) and OA. In this study, we explored the gene expression levels of proenkephalin (PENK) in cultured synoviocytes and the presence of enkephalin (ENK) in joint tissues from patients with OA and with RA on the protein level.

**Methods:** Knee synovial fibroblasts were used, from tissue biopsies removed by open surgery from patients with OA (n=7) and RA (n=7). Cell culture was performed, and passages >3 were used for the experiments. Total RNA was isolated from synovial fibroblasts using RNeasy Mini Kit (Qiagen) and all samples were treated with DNase to eliminate genomic DNA contamination. Total RNA was reverse transcribed, and quantification was performed using a TaqMan assay for PENK (Applied Biosystems). The amounts of loaded cDNA were normalized using GAPDH as an endogenous control. Fluorescence immunohistochemistry was applied on paraffin sections of synovial tissues to allow localization and quantification of ENK in different cell types. Double stainings were performed, namely ENK/P4H for synovial fibroblasts and ENK/CD68 for macrophages.

**Results:** Gene expression of PENK was detected in all synovial fibroblasts from OA and RA. PENK mRNA was expressed with dCt values of  $5.86 \pm 1.47$  for OA and  $4.12 \pm 1.30$  for RA. Between groups, dCt values showed significant differences between OA and RA ( $p=0.018$ ), corresponding to a lower expression level of PENK in synovial fibroblasts from OA patients compared to RA (mean fold change = 4.9). In synovial tissues, the opioid enkephalin was detected by fluorescence immunostaining in all OA and RA patients. We observed no different RA/OA expression for ENK within cell populations of either synovial fibroblasts or macrophages. However, due to the presence of a higher number of macrophages, RA joint-tissues appeared to express relatively more ENK than OA tissues.

**Conclusion:** The endogenous opioid ENK is relatively more present in the RA than in the OA synovium, in line with the significantly lower expression of PENK mRNA in OA synovial fibroblasts. This fact might be of interest for pain modulation by opioids outside the nervous system and deserves more detailed investigation.

## P44

### EFFECT OF RESINIFERATOXIN ON PAIN-RELATED BEHAVIOR AND MICROGLIAL ACTIVATION IN THE SPARED NERVE INJURY MODEL

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The current neuron-targeting treatments for neuropathic pain are often ineffective. Microglial activation (increased expression of specific marker such as Iba1, proliferation and morphological changes) is an important feature in neuropathic pain models. Preventing microglial activation has been shown to reduce pain symptoms in animal models of neuropathic pain. Peripheral nerve activity in nociceptive fibers leads to central sensitization and could play a role in glial activation in the spinal cord.

Resiniferatoxin (RTX) is an ultrapotent capsaicin analogue selectively targeting C-type nociceptive fibers.

**Purpose:** We here investigated the effect of preemptively and selectively blocking the activation of nociceptors with RTX on microglial activation.

**Method:** In the Spared Nerve Injury (SNI) model in the rat, we blocked locally the nociceptive afferents by injecting RTX around the sciatic nerve 3 hours before performing the injury. We studied pain related behavior to mechanical (von Frey filaments) and to noxious heat stimulation (paw withdrawal latency) for the following 2 days. We then measured microglial activation (intensity of Iba1 immunofluorescence and number of proliferating cells using bromodeoxyuridine staining) in the spinal cord dorsal horn.

**Results:** RTX blocked the response to noxious heat stimulation but had no effect on mechanical allodynia that developed 2 days after SNI. It had no effect on functional test for proprioception. There was a marked increase in Iba1 staining and proliferation of Iba1 positive cells after SNI. RTX had no effect on these activation features.

**Conclusion:** Peripheral activity from nociceptive fibers is not a major contributor to microglial activation 2 days after SNI. RTX could still be useful to attenuate nociceptive driven pain in acute setting (post operative pain for example) without

interfering with proprioception. Its effect on long-term pain such as neuropathic pain

needs further investigation.

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## P45

### ACUTE PAIN MANAGEMENT IN THE EMERGENCY DEPARTMENT: IMPACT OF A RESEARCH-ACTION STUDY WITH NEW RECOMMEN- DATIONS OF PRACTICE

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**Aim of Investigation:** Pain is the most frequent symptom patients present in emergency rooms (ER) but remains often neglected. The purpose of this study was to improve quality of our ER by consensual guidelines implementation for analgesic delivery.

**Methods:** Prospective study in 4 phases: (1) during 4 weeks all patients with pain arriving in the ER were enrolled. Pain assessment and treatment administered during the stay was evaluated by afterward screening at patient discharge. Additional questions for the patient were included such as pain location, intensity and patient satisfaction with pain therapy. Nurses satisfaction with pain management was also assessed (2) new evidence-based guidelines were elaborated then validated by several medical and surgical specialists (3) printed guidelines were distributed to nurses and residents (pocket format, posters) during teaching seminars (4) after a latency period a second record was performed during another four weeks period.

**Results:** 249 and 192 patients were involved for phase 1 and 4 respectively. VAS assessment was significantly increased after guidelines distribution (physicians recorded it in 19.3% of patients vs. 7.6% before and in 38% vs. 27% by nurses,  $p < 0.05$ ). An increase of systemic analgesics prescription was observed (67.6% vs. 32.4% before,  $p < 0.01$ ) with a significative increase of paracetamol (34% vs. 22%,  $p < 0.01$ ) and intravenous morphine administration (18% vs. 2%,  $p < 0.01$ ). Preventive analgesia before painful medical evaluations also increased (4.2% vs. 1.6%,  $p < 0.01$ ). Patient reported greater satisfaction with treatment (69% vs. 13% fully satisfied,  $p < 0.01$ ) and nurses estimated to better fulfil their "pain mission" (76% vs. 15%,  $p < 0.01$ ). A greater VAS decrease during the stay was recorded (2.92 vs. 2.07,  $p < 0.01$ ) resulting in a discharge mean pain intensity inferior to 3.00 after guidelines.

**Conclusions:** Pain relief was greatly ameliorated in our ER by guidelines development and implementation. These encouraging results opened the door to new ways and tools to improve pain management in our ER.

**Acknowledgements:** Lausanne University Hospital Quality Project Fund, Bristol-Myers-Squibb/UPSA, Switzerland

## P46

### EFFECTIVENESS OF TAILORED PAIN MANAGEMENT IN MULTIDIMENSIONAL PAIN INVENTORY (MPI) SUBGROUPS OF PATIENTS WITH CHRONIC BACK PAIN: STUDY DESIGN OF A RANDOMIZED CONTROLLED TRIAL

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**Aims of investigation:** The biopsychosocial model assumes that loss of functional abilities results from both the deconditioning and the cognitive-behavioural model. Several recent studies in the field of (sub-) acute “non-specific” low back pain and acute neck pain have provided preliminary evidence that using specific inclusion criteria to identify more homogenous subgroups of subjects and attempting to match treatment to the subgroup has the potential to enhance treatment effects. The purpose of this randomized clinical trial is to examine the effectiveness of combinations of graded activity (GA) with individual cognitive behavioural therapy (CBT) in subgroups of persons with chronic “non-specific” back pain (cBP) who are hypothesized to benefit from these treatments compared with similar persons who will receive strengthening and stretching exercises and CBT in a group setting (CO).

**Methods:** 120 persons with cBP will be included and a priori classified into one of the 3 empirically derived subgroups based on the Multidimensional Pain Inventory (MPI). The MPI differentiates three subgroups of people labelled as adaptive copers or minimizers (AC), dysfunctional (DYS), and interpersonally distressed (ID). The ID cluster is mainly characterized by lower levels of solicitous and distraction responses from significant others and higher levels of punishing responses. The subjects will be randomly assigned to tailored or non-tailored subgroup-specific interventions comprising either a combination of GA and CBT or CO. All subjects are participants in a 4 week inpatient pain program and attend 20 physiotherapy sessions and 12 sessions with a clinical psychologist. Follow-up data will be obtained at 1, 3, and 12 months after randomisation. Primary outcome measures are disability (Oswestry Disability Index) and global perceived effect.

**Disclosure of relationships:** This study will be supported by the Zurzach Rehabilitation Foundation SPA, Bad Zurzach, Switzerland.

## P47

### DOES CLASSIFICATION OF PERSONS WITH CHRONIC “NON-SPECIFIC” BACK PAIN INTO MULTIDIMENSIONAL PAIN INVENTORY SUBGROUPS DETECT DIFFERENCES IN OUTCOME FROM A STANDARD PAIN MANAGEMENT PROGRAM?

Verra ML<sup>1,2,3</sup>, Angst F<sup>1</sup>, Brioschi R<sup>1</sup>, Lehmann S<sup>1</sup>, Aeschlimann A<sup>1</sup>, Staal JB<sup>2</sup>, de Bie RA<sup>2</sup>

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**Aims of investigation:** Classification of people with chronic “non-specific” back pain (cBP) into homogeneous subgroups is an important objective in order to tailor interventions and to control for subgroup differences when evaluating treatment outcome. This study aims to replicate and validate the empirically derived subgroup classification based on the Multidimensional Pain Inventory (MPI) and examine effect differences between subgroups.

**Methods:** One hundred and seventy-three persons with cBP, participating in a standard 4 week in-patient pain program, were assessed at entry and discharge on the MPI, the Short Form-36 (SF-36), the Hospital Anxiety and Depression Scale (HADS), and the Coping Strategies Questionnaire (CSQ). Subgroup classification was conducted by cluster analysis using the MPI subscale scores.

**Results:** The scores of the MPI subgroups showed almost the same pattern as described by other studies. The same patterns were consistently shown when using scales with similar constructs from other instruments, e.g. the dysfunctional subgroup (DYS: 29% of the sample) showed highest depression, the interpersonally distressed subgroup (ID: 35%) modest, and the adaptive copers / minimizers subgroup (AC: 32%) lowest depression scores in the MPI (negative mood), SF-36 (mental health), HADS (depression), and CSQ (catastrophizing). Large and partly significant differences in effects were observed for all three subgroups, e.g. MPI pain severity effect sizes: 0.84 for DYS, 1.22 for AC, and 0.53 for ID ( $p=0.006$  for pair wise comparison of ID-AC;  $p=0.055$  for pair wise comparison of AC-DYS).

**Conclusions:** The MPI-subgroup classification was replicable and valid. Significant differences in outcome effects between subgroups after a standard pain program indicate the potential to individualize patient management.

**Acknowledgments:** This study was supported by the Zurzach Rehabilitation Foundation SPA, Bad Zurzach, Switzerland.

**P48**

## **PREVALENCE OF MEDICATION OVERUSE HEADACHE IN AN INTERDISCIPLINARY PAIN CLINIC**

Wanner Schmid C., Maurer K., Alon E., Spahn D.R., Sándor PS

**Background:** Medication overuse headache (MOH) has been recognized as a major problem in patients with primary headaches taking analgesics on a regular basis, the mechanism still being unclear. Patients with chronic pain syndromes other than headache are prone to regular analgesic consumption. Our aim was to study the prevalence of MOH in these patients.

**Methods:** We retrospectively analyzed 184 consecutive patients who had been examined in the interdisciplinary clinic of the University Hospital of Zurich by an anesthesiologist, a rheumatologist, a psychiatrist and a neurologist from September 2005 to December 2007. The classification of headaches was made according to ICHD 2 criteria.

**Results:** Of 179 of 184 patients with chronic pain syndromes other than headache, 138 of 179 (77%) had an intake of either opioids, NSAR, paracetamol, triptans, ergotamin or a combination of these on more than 10 (triptans) or 15 days per month and 132 (73%) of them daily. Fifty-four (39% of 138) of these patients had MOH. Forty-eight (89% of 54) patients with MOH had a diagnosis of a primary headache syndrome, mostly migraine (79% of 48). In 6 of 54 (11%) patients with MOH no primary headache was documented.

**Conclusions:**

In patients with chronic pain syndromes other than headache, daily analgesic intake is prevalent. Medication overuse headache was a frequent finding and occurred mostly in patients with comorbid primary headaches. We hypothesize that in patients with pain syndromes, comorbid primary headache might predispose to the development of medication overuse headache and must be considered. Prospective studies are needed.