the western world. Treatment of low back pain is unsatisfactory for many reasons, not least that an estimated 85% of patients presenting with back pain will not receive an adequate diagnosis. Optimum management relies upon a multimodal approach, where analgesia facilitates active rehabilitation. Recent primary care guidelines recommend that paracetamol should be used initially for treating joint pain, followed by the prescription of non-steroidal anti-inflammatories (NSAIDs).² However, the significant morbidity, mortality³ and pharmacoeconomic implications⁴ associated with long term NSAID prescription, makes this an appropriate time to consider other therapies. Strong opioids have been shown to offer efficacy, safety and tolerability to patients with chronic non-cancer pain.⁵ Furthermore, strong opioids including TTS Fentanyl, have been shown to be effective and well tolerated specifically in patients with low back pain, although in small numbers.^{6,7}

Objectives In a pragmatic, clinical based trial, approximately 600 strong-opioid naïve patients were enrolled in an international (16 European countries), randomised, open-label, parallel, multi-centre (110 investigational centres), 13-month study. The objective of the study was to compare pain relief and the adverse event profile, achieved by TTS Fentanyl and sustained release morphine for chronic low back pain in strong opioid naïve patients. Outcome measures from the study included safety, QOL and outcome (the number of working days lost to chronic back pain) on TTS Fentanyl or sustained release morphine therapy.

Methods Patients were prescribed the lowest dose TTS Fentanyl patch (25 µg/h) every 72 h, with incremental titration of 25 µg/h to achieve adequate pain control. Patients randomised to sustained release morphine started on 30 mg sustained release morphine 12-hourly, titrated up in 30–50% increments after a minimum of 12 h to achieve adequate pain control. Safety assessments were conducted throughout the study.

Results The results of the interim analysis detailing patient demographics, disposition, and characteristics of the chronic pain, will be presented in the poster.

Conclusion

REFERENCES

- 1 Biering-Sorensen F, Bendix AF. *Lancet* 2000;355:1929–30
- 2 Eccles M, et al. *BMJ* 1998;317: 526–30
- 3 Tramer MR, et al. *Pain* 2000;85:169–82
- 4 Moore RA, et al. *J Med Econ.* 1999;2:45–55
- 5 Allan L, et al. *BMJ* 2001, accepted
- 6 Simpson RK, et al. *J Pain Symptom Manage* 1997;14:218–24
- 7 Jamison RN, et al. *Spine* 1998;23:2591–600

FRI0243 SAPHO SYNDROME IN HUNGARY

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Background SAPHO syndrome is an abbreviation according to the suggestion of Chamot (1990) from the words Synovitis, Acne, Pustulosis, Hyperostosis and Osteitis. There are more than 50 synonyms in the first described SAPHO syndrome by Chamot, too. The usage of SAPHO syndrome diagnosis became widespread only in the latest years.

Objectives Authors studied the Hungarian publications examining the appearance and extending of SAPHO syndrome in 1998. Chronic recurrent multifocal osteomyelitis (CRMO) diagnosis is

used also nowadays in the paediatric cases corresponding to SAPHO syndrome. Authors give a review of the SAPHO syndrome cases published and/or presented in Hungary.

Methods There were 8 cases as acne arthritis, 1 case as SNSA, 5 cases as SAPHO syndrome published, 31 cases as sternoclavicular involvement in psoriatic arthritis, 3 CRMO cases, 1 SAPHO syndrome presented in Hungarian Congresses, together 49 case reports.

Results The concomitant skin lesions were: acne conglobata, fulminans or psoriasis vulgaris. Mean age: 33,3 (12–60). Male: female ratio was: 29/20. Almost all the patients had peripheral arthritis, most of them had sacroiliitis and/or SCC arthritis.

Conclusion

OP0077 ULTRASOUND IN THE DIAGNOSIS OF DISC HERNIATION

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Background One major advantage of ultrasound (US) is that it can be performed bedside by the clinician. In an attempt to implement US in the diagnosis of disc herniation some authors have previously described sensitivities and specificities approximating those of the conventional methods. Within the last decade, however, there have only been sparse reports on this subject. So far, the role of US in this area is unclear.

Objectives To evaluate in a blinded fashion US in the diagnosis of disc herniations at the three lower lumbar levels performed by an experienced specialist.

Methods 18 males and 19 females with a mean age of 39.7 years (SD 10.5 years) and no previous back surgery were included due to suspected disc herniation. The US was performed transabdominally with the patient in the supine position. An Acuson Sequoia with a 4 MHz vector transducer was used. MRI or CT was obtained at the three lower lumbar levels. The two modalities (US vs. CT/MRI) were performed and evaluated blinded to each other. The endpoints were existence of herniation or protrusion in contrast to normal findings and the corresponding level of the abnormal finding.

Abstract OP0077 Table 1

	US L3/4 Abnormal	US L3/4 Normal	US L4/5 Abnormal	US L4/5 Normal	US L5/S1 Abnormal	US L5/S1 Normal
CT/MRI, abnormal	2	3	9	13	1	17
CT/MRI, normal	6	19	1	10	4	12

The US findings compared with the corresponding CT/MRI findings.

Results A total of 97 disc levels were visualised by US. Fourteen levels were not visualised. There were 45 disc abnormalities (herniations or protrusions) found by CT/MRI, and of those 12 (26.7%) were also found by US. Fifty two discs were found to be normal by CT or MRI, but of those 11 (21.2%) were suspected to be abnormal by US. A total agreement between US and CT/MRI was found in 53/97 (54.6%) of the cases. The sensitivity of US was 12/45 (26.7%) and the specificity 12/23 (52.2%). The false positive rate was 47.8% and the false negative rate 44.6%. The over all kappa value was 0.18. The findings

stratified at levels are shown in the Table 1. The kappa value for level L5/S1 was -0.18 and the kappa value for the levels L3/4 and L4/5 were 0.13 and 0.25 respectively. At levels L3/4 and L4/5 a total agreement of 40/63 was found.

Conclusion At level L5/S1 US does not seem to be of any diagnostic value. At the levels L3/4 and L4/5 US was in agreement with CT/MRI in about 2/3 of the patients and could be of potential use at these levels. Further investigations are needed to establish the role of US.

REFERENCES

- 1 Hagen A, Tertsch D, Schön R, Richwien R. Die spinale ultraschalltomographie in der diagnostik des lumbalen bandscheibenvorfalles. *Zbl Neurochir* 1987;**48**:280–4
- 2 Tervonen O, Lähde S, Vanharanta H. Ultrasound diagnosis of lumbar disc degeneration. Comparison with computed tomography/discography. *Spine* 1990;**16**(8):951–8

OP0078 ASSESSMENT OF A BIOFEEDBACK PROGRAM TO TREAT CHRONIC LOW BACK PAIN

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Background Low back pain is a common problem that can affect up to 80% of adults during their lives. The symptoms of these chronic pain patients include affective, cognitive and behavioural components. Many interventions have been found to be beneficial in the rehabilitation of chronic low back pain patients, one of them is biofeedback.

Objectives Assess the efficacy of a biofeedback program for chronic low back pain patients and its impact in their pain, disabilities, and depression and anxiety symptoms; and promote higher abdominal muscles contraction levels without increasing paraspinal muscles contraction levels.

Methods Sixty patients with chronic low back pain were randomly assigned into a control and a treatment group and were oriented to take analgesics when necessary. The treatment group participated in a biofeedback program (8 weeks) that included: global relaxation training and abdominal strength exercises with and without biofeedback and cognitive restructuring techniques. The outcome measures used were Visual Analogue Scale (VAS), Roland-Morris questionnaire, Schöber Index, Beck Depression Inventory (BDI) and State-trait Anxiety Inventory (STAI) in the beginning and at the end of the observation period. Contraction (EMG) levels of abdominals and paraspinal muscles were registered in the beginning, after 1 month and at the end of the observation period.

Results At the end of the observation period treatment group patients improved significantly on VAS ($p = 0,012$) and STAI ($p = 0,003$). Roland-Morris questionnaire improved in both groups without differences between them (treatment $p = 0,0001$ and control $p = 0,006$). The control group improved significantly on BDI ($p = 0,013$). There were no differences in the contraction levels of abdominals and paraspinals muscles, and neither in the Shöber Index.

Conclusion Our biofeedback program reduced pain and anxiety symptoms of chronic low back pain patients. The disabilities improved in both groups. The program didn't change depression symptoms and the paraspinal contraction levels while contracting abdominal muscles

REFERENCES

- 1 Flor H, Haag G, Turk DC, Koehler H. Efficacy of EMG biofeedback, pseudotherapy, and conventional medical treatment for chronic rheumatic back pain. *Pain* 1983;**17**: 21–31
- 2 Helewa A, Goldsmith CH, Lee P, Smythe HA, Forwell L. Does strengthening the abdominal muscles prevent low back pain – A randomized controlled trial. *J Rheumatol*. 1999;**26**(8):1808–15
- 3 Malone MD, Strube MJ. Meta-analysis of non-medical treatment for chronic pain – Review article. *Pain* 1988;**34**:231–44
- 4 Newton-John TR, Spence SH, Schotte D. Cognitive-behavioural therapy versus emg biofeedback in the treatment of chronic low back pain. *Behav Res Ther*. 1995;**33**:691–7
- 5 Turner JA, Jensen MP. Efficacy of cognitive therapy for chronic low back pain. *Pain* 1993;**52**:169–77

OP0080 A RANDOMISED CLINICAL TRIAL OF THREE BACK MUSCLE REHABILITATION PROGRAMS FOR CHRONIC LOW BACK PAIN

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Background

Objectives The purpose of this study was to determine the efficacy (pain relief and functional outcome) and the effect on the cross-sectional area (CSA) of the lumbar multifidus in chronic low back pain patients (CLBP).

Methods To achieve this goal, fifty-nine patients were randomised into a 10-week stabilisation training (group 1, N = 19), a 10-week stabilisation training combined with dynamic resistance training (group 2, N = 20) and a 10-week stabilisation training combined with dynamic-static resistance training (group 3, N = 20). Prior to and after 10 weeks of training, the multifidus CSA's, were derived from standard CT images at three different levels (upper endplate of L3 and upper and lower endplate of L4). Pain relief and functional outcome were evaluated.

Results Comparing pre-post training, the CSA of the multifidus statistically increased in group 3 at all levels. In contrast, no statistical differences over time were found in group 1 and 2. Comparing the increases in CSA during the study, a statistical significant greater increase was observed in group 3 compared to group 1 and 2. After intervention, all groups showed a statistically significant reduction in pain and functional disability levels, without statistically significant difference among the three intervention groups.

Conclusion The results of this study suggest that stabilisation exercises and dynamic intensive lumbar resistance training have no significant effect on the CSA of the lumbar multifidus in CLBP patients. The static holding component, between the concentric and eccentric phase was found to be critical in inducing muscle hypertrophy during the first 10 weeks. On the basis of the pain and disability improvements all of the treatments were equally beneficial.