

ABSTRACTS

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1. LUMBAR SPINE

Morphology of vertebra

Osteoporos Int. 2016 Mar 8.

Vertebral body morphology is associated with incident lumbar vertebral fracture in postmenopausal women. The OFELY study.

Roux JP¹, Belghali S², Wegrzyn J^{2,3}, Rendu ES², Chapurlat R².

Author information

Abstract

We investigate the predictive role of vertebral anterior cortical curvature and height heterogeneity in the occurrence of vertebral fractures in postmenopausal women. Women who will fracture had shorter vertebral height, greater heterogeneity of height than those who will not fracture, and their anterior vertebral body edge was less concave.

INTRODUCTION:

Vertebral morphology has been demonstrated to be associated with further risk of fracture. The aim of this study was to analyze vertebral anterior cortical curvature (Ct.curv) and vertebral height heterogeneity in postmenopausal women before the occurrence of a vertebral fracture.

METHODS:

This case-control study included 29 postmenopausal women who have underwent incident lumbar vertebral fractures (mean age 71 ± 9 years, mean time to fractures 9 ± 4 years), age-matched with 57 controls. From lateral X-rays of lumbar spine radiographs (T12 to L4), the following parameters were measured: (1) the posterior, middle, and anterior vertebral heights; (2) the heterogeneity of heights evaluated by the coefficient of variation of these three variables; (3) antero-posterior width, a 2D estimator of cross-sectional area; and (4) Ct.curv.

RESULTS:

Mean vertebral heights were significantly lower among women who fractured than in controls ($p < 0.05$). The anterior and middle heights were significantly lower at L4 and L3 levels in fracture group ($p = 0.02$). The heterogeneity of vertebral height was significantly greater in the fracture group ($p = 0.003$). In addition, fractured patients had a significantly higher Ct.curv on L3 ($p = 0.04$). After adjustment for bone mineral density (BMD), only the heterogeneity of vertebral height remained significant ($p = 0.005$).

CONCLUSION:

The current case-control study confirmed the association between vertebral height and occurrence of future vertebral fracture in postmenopausal women. The vertebrae with the smallest Ct.curv tended to fracture less often, and the heterogeneity of vertebral heights was associated with future fracture independently of BMD. An additional validation in a prospective study would be needed to confirm these initial results.

KEYWORDS: Bone architecture; Osteoporosis; Spine; Vertebral fracture risk; Vertebral morphometry

PMID: 26957288

2. LBP

4 weeks without pain

Chiropr Man Therap. 2016 Feb 18;24:3. doi: 10.1186/s12998-016-0085-z. eCollection 2016.

Absence of low back pain to demarcate an episode: a prospective multicentre study in primary care.

Eklund A¹, Jensen I¹, Lohela-Karlsson M¹, Leboeuf-Yde C², Axén I³.

Author information

Abstract

BACKGROUND:

It has been proposed that an episode of low back pain (LBP) be defined as: "a period of pain in the lower back lasting for more than 24 h preceded and followed by a period of at least 1 month without LBP". Previous studies have tested the definition in the general population and in secondary care populations with distinctly different results. The objectives of this study (in a primary care population) were to investigate the prevalence of 1) the number of consecutive weeks free from bothersome LBP, 2) the prevalence of at least four consecutive weeks free from bothersome LBP at any time during the study period, and 3) the prevalence of at least four consecutive weeks free from bothersome LBP at any time during the study period among subgroups that reported >30 days or ≤30 days of LBP the preceding year.

METHOD:

In this prospective multicentre study subjects with LBP (n = 262) were consecutively recruited from chiropractic primary care clinics in Sweden. The number of days with bothersome LBP was collected through weekly automated text messages. The maximum number of weeks in a row without bothersome LBP and the number of periods of at least four consecutive weeks free from bothersome LBP was counted for each individual and analysed as proportions.

RESULTS:

Data from 222 recruited subjects were analysed, of which 59 % reported at least one period of four consecutive weeks free from bothersome LBP. The number of consecutive pain free weeks ranged from 82 (at least one) to 31 % (9 or more). In subjects with a total duration of LBP of ≤ 30 days the previous year, 75 % reported a period of 4 consecutive weeks free from bothersome LBP during the study period whereas this was reported by only 48 % of subjects with a total duration of LBP of >30 days the previous year.

CONCLUSION:

Prevalence of four consecutive pain free weeks is found in the majority of subjects in this population logically reflects duration of LBP within the sample and may be applied on patients in primary care to demarcate a LBP episode.

KEYWORDS:

Absence; Chiropractic; Definition; Demarcation; Episode; LBP; Low back pain; Non-episode; Primary care; Recovery

PMID: 26893824

LBP - emotions increases costs

Eur Spine J. 2016 Mar 3.

Emotional distress drives health services overuse in patients with acute low back pain: a longitudinal observational study.

Traeger AC^{1,2}, Hübscher M^{1,2}, Henschke N³, Williams CM^{4,5}, Maher CG⁴, Moseley GL^{1,6}, Lee H^{1,2}, McAuley JH^{7,8}.

Author information

Abstract

PURPOSE:

To determine whether emotional distress reported at the initial consultation affects subsequent healthcare use either directly or indirectly via moderating the influence of symptoms.

METHODS:

Longitudinal observational study of 2891 participants consulting primary care for low back pain. Negative binomial regression models were constructed to estimate independent effects of emotional distress on healthcare use. Potential confounders were identified using directed acyclic graphs.

RESULTS:

After the initial consultation, participants had a mean (SD) of one (1.2) visit for back pain over 3 months, and nine (14) visits for back pain over 12 months. Higher reports of anxiety during the initial consultation led to increased short-term healthcare use (IRR 1.06, 95 % CI 1.01-1.11) and higher reports of depression led to increased long-term healthcare use (IRR 1.04, 95 % CI 1.02-1.07). The effect sizes suggest that a patient with a high anxiety score (8/10) would consult 50 % more frequently over 3 months, and a person with a high depression score (8/10) would consult 30 % more frequently over 12 months, compared to a patient with equivalent pain and disability and no reported anxiety or depression.

CONCLUSIONS:

Emotional distress in the acute stage of low back pain increased subsequent consultation rates. Interventions that target emotional distress during the initial consultation are likely to reduce costly and potentially inappropriate future healthcare use for patients with non-specific low back pain.

KEYWORDS:

Depressive symptoms; Low back pain; Medical overuse; Primary healthcare

PMID: 26940056

LBP rehab

Spine (Phila Pa 1976). 2016 Mar;41(5):412-8. doi: 10.1097/BRS.0000000000001290.

Reporting of Rehabilitation Intervention for Low Back Pain in Randomized Controlled Trials: Is the Treatment Fully Replicable?

Gianola S¹, Castellini G, Agostini M, Bolotta R, Corbetta D, Frigerio P, Gasparini M, Gozzer P, Guariento E, Li LC, Pecoraro V, Sirtori V, Turolla A, Andreano A, Moja L.

Author information

Abstract

STUDY DESIGN:

Methodological review of randomized controlled trials (RCTs).

OBJECTIVE:

To assess the quality of reporting of rehabilitation interventions for mechanical low back pain (LBP) in published RCTs.

SUMMARY OF BACKGROUND DATA:

Reporting of interventions in RCTs often focused on the outcome value and failed to describe interventions adequately.

METHODS:

We systematically searched for all RCTs in Cochrane systematic reviews on LBP published in the Cochrane Database of Systematic Reviews until December 2013. The description of rehabilitation interventions of each RCT was evaluated independently by 2 of the investigators, using an ad hoc checklist of 7 items. The primary outcome was the number of items reported in sufficient details to be replicable in a new RCT or in everyday practice.

RESULTS:

We found 11 systematic reviews, including 220 eligible RCTs, on LBP. Of those, 185 RCTs were included. The median publication year was 1998 (I-III quartiles, 1990 to 2004). The most reported items were the characteristics of participants (91.3%; 95% confidence interval [CI], 87.3-95.4), the intervention providers (81.1%; 95% CI, 75.4-86.7), and the intervention schedule (69.7%; 95% CI, 63-76). Based on the description of the intervention, less than one fifth would be replicable clinically. The proportion of trials providing all essential information about the participants and interventions increased from 14% (n=7) in 1971 to 1980 to 20% (n=75) in 2001 to 2010.

CONCLUSION:

Despite the remarkable amount of energy spent producing RCTs in LBP rehabilitation, the majority of RCTs failed to report sufficient information that would allow the intervention to be replicated in clinical practice. Improving the quality of intervention description is urgently needed to better transfer research into rehabilitation practices.

PMID: 26926164

Mind body program

JAMA Intern Med. 2016 Mar 1;176(3):329-337. doi: 10.1001/jamainternmed.2015.8033.

A Mind-Body Program for Older Adults With Chronic Low Back Pain: A Randomized Clinical Trial.

Morone NE¹, Greco CM², Moore CG³, Rollman BL¹, Lane B⁴, Morrow LA⁵, Glynn NW⁶, Weiner DK⁷.

Author information

Abstract

IMPORTANCE: Treatment of chronic low back pain (LBP) in older adults is limited by the adverse effects of analgesics. Effective nonpharmacologic treatment options are needed.

OBJECTIVE: To determine the effectiveness of a mind-body program at increasing function and reducing pain in older adults with chronic LBP.

DESIGN, SETTING, AND PARTICIPANTS: This single-blind, randomized clinical trial compared a mind-body program (n = 140) with a health education program (n = 142). Community-dwelling older adults residing within the Pittsburgh metropolitan area were recruited from February 14, 2011, to June 30, 2014, with 6-month follow-up completed by April 9, 2015. Eligible participants were 65 years or older with functional limitations owing to their chronic LBP (≥ 11 points on the Roland and Morris Disability Questionnaire) and chronic pain (duration ≥ 3 months) of moderate intensity. Data were analyzed from March 1 to July 1, 2015.

INTERVENTIONS: The intervention and control groups received an 8-week group program followed by 6 monthly sessions. The intervention was modeled on the Mindfulness-Based Stress Reduction program; the control program, on the "10 Keys" to Healthy Aging.

MAIN OUTCOMES AND MEASURES: Follow-up occurred at program completion and 6 months later. The score on the Roland and Morris Disability Questionnaire was the primary outcome and measured functional limitations owing to LBP. Pain (current, mean, and most severe in the past week) was measured with the Numeric Pain Rating Scale. Secondary outcomes included quality of life, pain self-efficacy, and mindfulness. Intent-to-treat analyses were conducted.

RESULTS: Of 1160 persons who underwent screening, 282 participants enrolled in the trial (95 men [33.7%] and 187 women [66.3%]; mean [SD] age, 74.5 [6.6] years). The baseline mean (SD) Roland and Morris Disability Questionnaire scores for the intervention and control groups were 15.6 (3.0) and 15.4 (3.0), respectively. Compared with the control group, intervention participants improved an additional -1.1 (mean, 12.1 vs 13.1) points at 8 weeks and -0.04 (mean, 12.2 vs 12.6) points at 6 months (effect sizes, -0.23 and -0.08, respectively) on the Roland and Morris Disability Questionnaire. By 6 months, the intervention participants improved on the Numeric Pain Rating Scale current and most severe pain measures an additional -1.8 points (95% CI, -3.1 to -0.05 points; effect size, -0.33) and -1.0 points (95% CI, -2.1 to 0.2 points; effect size, -0.19), respectively. The changes in Numeric Pain Rating Scale mean pain measure after the intervention were not significant (-0.1 [95% CI, -1.1 to 1.0] at 8 weeks and -1.1 [95% CI, -2.2 to -0.01] at 6 months; effect size, -0.01 and -0.22, respectively).

CONCLUSIONS AND RELEVANCE: A mind-body program for chronic LBP improved short-term function and long-term current and most severe pain. The functional improvement was not sustained, suggesting that future development of the intervention could focus on durability.

TRIAL REGISTRATION: clinicaltrials.gov Identifier: NCT01405716.

Sleep disturbance

Clin J Pain. 2016 Mar;32(3):254-9. doi: 10.1097/AJP.0000000000000249.

Pain-related Sleep Disturbance: A Prospective Study With Repeated Measures.

Axén I¹.

Author information

Abstract

OBJECTIVES:

Pain has been found to be associated with poor sleep quality, awakenings, and shorter sleep time. There is a need to understand the relationship of pain and sleep over time to adequately manage the pain disorder and its consequences. The objectives of this study were to establish the prevalence of sleep disturbance in patients with acute or persistent low back pain (LBP), to investigate the correlation between pain and sleep disturbance and to explore the influence of pain on sleep disturbance.

MATERIALS AND METHODS:

Data from a prospective observational study of 233 patients with acute and persistent LBP were used. Twenty-six weekly pain reports and monthly (weeks 2, 6, 10, 14, 18, 22, and 26) sleep reports were collected with text messages. The prevalence of sleep disturbance, the correlation of pain and sleep disturbance, and the risk of reporting disturbed sleep after experiencing LBP were calculated.

RESULTS:

Sleep disturbance was reported by 67% of the sample. Among patients with acute and persistent LBP, the prevalence was 55% and 76%, respectively. Measures of pain and sleep disturbance were significantly correlated. Compared with being pain free, the risk of reporting sleep disturbance after experiencing pain the previous week was significantly increased (relative risk=2.1 to 5.8), and a dose-response between the number of days with pain and the risk of sleep disturbance was found.

DISCUSSION:

This study used repeated measures of both pain and sleep disturbance. The results were in line with previous research, confirming that sleep disturbance was found in the majority of patients with LBP. Pain and sleep measures were significantly correlated, and there was an increased risk of reporting sleep disturbance after experiencing LBP.

PMID: 25968449

3. DISC

Caveolin 1

Arthritis Res Ther. 2016 Mar 3;18(1):59. doi: 10.1186/s13075-016-0960-y.

Increased caveolin-1 in intervertebral disc degeneration facilitates repair.

Bach FC¹, Zhang Y², Miranda-Bedate A³, Verdonchot LC⁴, Bergknut N⁵, Creemers LB⁶, Ito K^{7,8}, Sakai D⁹, Chan D¹⁰, Meij BP¹¹, Tryfonidou MA¹².

Author information

Abstract

BACKGROUND:

Preceding intervertebral disc (IVD) degeneration, the cell phenotype in the nucleus pulposus (NP) shifts from notochordal cells (NCs) to chondrocyte-like cells (CLCs). Microarray analysis showed a correlation between caveolin-1 expression and the phenotypic transition of NCs to CLCs. With a clinical directive in mind, the aim of this study was to determine the role of caveolin-1 in IVD degeneration. As a scaffolding protein, caveolin-1 influences several signaling pathways, and transforming growth factor (TGF)- β receptors have been demonstrated to colocalize with caveolin-1. Therefore, the hypothesis of this study was that caveolin-1 facilitates repair by enhancing TGF- β signaling in the IVD.

METHODS:

Protein expression (caveolin-1, apoptosis, progenitor cell markers, extracellular matrix, and phosphorylated Smad2 [pSmad2]) was determined in IVDs of wild-type (WT) and caveolin-1-null mice and canine IVDs of different degeneration grades (immunofluorescence, immunohistochemistry, and TUNEL assay). Canine/human CLC microaggregates were treated with chondrogenic medium alone or in combination with caveolin-1 scaffolding domain (CSD) peptide and/or caveolin-1 silencing RNA. After 28 days, gene and protein expression profiles were determined.

RESULTS:

The NP of WT mice was rich in viable NCs, whereas the NP of caveolin-1-null mice contained more collagen-rich extracellular matrix and fewer cells, together with increased progenitor cell marker expression, pSmad2 TGF- β signaling, and high apoptotic activity. During canine IVD degeneration, caveolin-1 expression and apoptotic activity increased. In vitro caveolin-1 silencing decreased the CLC microaggregate glycosaminoglycan (GAG) content, which could be rescued by CSD treatment. Furthermore, CSD increased TGF- β /pSmad2 signaling at gene and protein expression levels and enhanced the anabolic effects of TGF- β 1, reflected in increased extracellular matrix deposition by the CLCs.

CONCLUSIONS:

Caveolin-1 plays a role in preservation of the NC phenotype. Additionally, it may be related to CLC apoptosis, given its increased expression in degenerated IVDs. Nevertheless, CSD enhanced CLC GAG deposition in vitro, and hence the increased caveolin-1 expression during IVD degeneration may also facilitate an ultimate attempt at repair. Further studies are needed to investigate how caveolin-1 modifies other signaling pathways and facilitates IVD repair.

PMID: 26939667

5. SURGERY

Depression increases failure rate

Depressive symptoms are associated with poor outcome for lumbar spine surgery

Scandinavian Journal of Pain, 03/07/2016Jarvimaki V, et al.

The aim of this study was to determine whether there is a difference in outcome after lumbar spine surgery between non-depressed patients and patients with different subtypes of depressive symptoms: non-melancholic (NmDS) and melancholic depression (MDS). Different types of depressive symptoms are associated with poor outcome after lumbar spine surgery. The outcome was worst in patients suffering from the MDS subtype. This was observed in pain intensity, functional disability and response to pain medication

6. PELVIC GIRDLE

SI joint diffusion

J Magn Reson Imaging. 2016 Feb 21. doi: 10.1002/jmri.25209.

Association of the apparent diffusion coefficient with maturity in adolescent sacroiliac joints.

Bray TJ^{1,2}, Vendhan K¹, Roberts J¹, Atkinson D¹, Punwani S¹, Sen D², Ioannou Y², Hall-Craggs MA¹.

Author information

Abstract

PURPOSE:

To determine the extent to which apparent diffusion coefficient (ADC) values vary with skeletal maturity in adolescent joints.

MATERIALS AND METHODS:

A retrospective study was performed with Institutional Review Board (IRB) approval. We used a picture archiving and communication system (PACS) search to identify and recruit all adolescents who had undergone 1.5T magnetic resonance imaging (MRI) of the sacroiliac joints (SIJs) between January 2010 and June 2015, and had no evidence of sacroiliitis and normal inflammatory markers. In all, 55 individuals were assessed. For each patient, coronal and sagittal images of the sacrum were visually analyzed to determine sacral maturity. Patients were divided into three groups depending on the degree of fusion of the sacral segmental apophyses: "Fused," "Partial," and "Unfused." For each group, SIJ ADC was measured using a linear region-of-interest technique.

RESULTS:

Mean ADC values were $690 \times 10^{-6} \text{ mm}^2/\text{s}$ in the fused group, $720 \times 10^{-6} \text{ mm}^2/\text{s}$ in the partial group, and $842 \times 10^{-6} \text{ mm}^2/\text{s}$ in the unfused group. ADC values were significantly higher in the unfused group than in the fused group ($P = 0.046$). ADC values were also higher in unfused subjects than partially fused subjects ($P = 0.074$).

CONCLUSION:

Joint ADC values are higher in skeletally immature (unfused) patients than in skeletally more mature (fused) patients. ADC values measured in the unfused group overlap with those previously reported in sacroiliitis. These results suggest that ADC measurements in adolescent joints must be interpreted in light of joint maturity. Joint immaturity may lead to misdiagnosis of sacroiliitis, since immature juxta-articular bone may appear similar to inflammation. J. Magn. Reson. Imaging 2016.

KEYWORDS: adolescents; apparent diffusion coefficient; arthritis; diffusion-weighted imaging; inflammation

PMID:26898474

7. PELVIC ORGANS/WOMAN'S HEALTH

IBS and pregnancy

BJOG. 2016 Feb 29. doi: 10.1111/1471-0528.13946.

Inflammatory bowel disease in pregnancy: a population-based study of prevalence and pregnancy outcomes.

Shand AW^{1,2}, Chen JS¹, Selby W^{3,4}, Solomon M⁵, Roberts CL¹.
Author information

Abstract

OBJECTIVE: To determine the prevalence of the inflammatory bowel diseases (IBD), ulcerative colitis (UC) and Crohn's disease (CD), in pregnant women and determine pregnancy and fetal/neonatal outcomes.

DESIGN: Population-based cohort study.

SETTING: New South Wales, Australia, 2001-11.

POPULATION: A total of 630 742 women who delivered at ≥ 20 weeks of gestation.

METHODS: Descriptive and multivariate regression analyses of perinatal data linked to hospital admission data. We compared birth outcomes of women with and without a documented diagnosis of IBD.

MAIN OUTCOME MEASURES: Caesarean section, severe maternal morbidity, preterm birth <37 weeks of gestation, planned preterm birth, small-for-gestational-age (birthweight <10th centile), perinatal mortality (stillbirth/neonatal death ≤ 28 days).

RESULTS: In all, 1960 women (0.31%) with IBD, who had 2781 births (1183 UC, 1287 CD and 311 IBD-indeterminate). Women with IBD were more likely than women without IBD to have a caesarean section [41.5 versus 28.2%, adjusted risk ratio (aRR) 1.38, 95% CI 1.31-1.45], severe maternal morbidity (2.6 versus 1.6%, aRR 1.54, 95% CI 1.17-2.03), preterm birth (9.7 versus 6.6%, aRR 1.47, 95% CI 1.30-1.66), planned preterm birth (5.3 versus 2.9%, aRR 1.74, 95% CI 1.47-2.07), and their infants to be small-for-gestational-age (9.7 versus 9.5%, aRR 1.19, 95% CI 1.04-1.36). There was no evidence of a difference in perinatal mortality.

CONCLUSION: Pregnancy-associated IBD is more common than previously reported.

Pregnancies complicated by IBD at or near the time of birth have significantly higher rates of adverse pregnancy outcomes than pregnancies of women without IBD.

TWEETABLE ABSTRACT: Increased rates preterm birth and caesarean section in women with inflammatory bowel disease.

KEYWORDS: Crohn's disease; inflammatory bowel disease; population-based; pregnancy; ulcerative colitis

PMID: 26924786

Inflammation and pelvic pain

Pain. 2016 Mar;157(3):585-97. doi: 10.1097/j.pain.0000000000000405.

IL-17 is not essential for inflammation and chronic pelvic pain development in an experimental model of chronic prostatitis/chronic pelvic pain syndrome.

Motrich RD¹, Breser ML, Sánchez LR, Godoy GJ, Prinz I, Rivero VE.
Author information

Abstract

Pain and inflammation in the absence of infection are hallmarks in chronic prostatitis and chronic pelvic pain syndrome (CP/CPPS) patients. The etiology of CP/CPPS is unclear, and autoimmunity has been proposed as a cause. Experimental autoimmune prostatitis (EAP) models have long been used for studying CP/CPPS. Herein, we studied prostate inflammation induction and chronic pelvic pain development in EAP using IL-12p40-KO, IL-4-KO, IL-17-KO, and wild-type (C57BL/6) mice. Prostate antigen (PAG) immunization in C57BL/6 mice induced specific Th1 and Th17 immune responses and severe prostate inflammation and cell infiltration, mainly composed of CD4 T cells and macrophages. Moreover, chronic pelvic pain was evidenced by increased allodynia responses. In immunized IL-17-KO mice, the presence of a prominent PAG-specific Th1 immune response caused similar prostate inflammation and chronic pelvic pain. Furthermore, markedly high PAG-specific Th1 immune responses, exacerbated prostate inflammation, and chronic pelvic pain were detected in immunized IL-4-KO mice. Conversely, immunized IL-12p40-KO mice developed PAG-specific Th2 immune responses, characterized by high IL-4 secretion and neither infiltration nor damage in the prostate. As observed in wild-type control animals, IL12p40-KO mice did not evidence tactile allodynia responses.

Our results suggest that, as in patients, chronic pelvic pain is a consequence of prostate inflammation. After PAG immunization, a Th1-associated immune response develops and induces prostate inflammation and chronic pelvic pain. The absence of Th1 or Th2 cytokines, respectively, diminishes or enhances EAP susceptibility. In addition, IL-17 showed not to be essential for pathology induction and chronic pelvic pain development.

PMID: 26882345

Pregnancy and HA

Pregnant women with severe migraine may be at increased risk for labor and delivery complications

Montefiore Medical Center News, 03/07/2016

New study reveals possible link to preterm delivery, preeclampsia and low birthweight, particularly for women over 35.

Women who have acute migraine attacks that are severe enough to prompt them to seek care may be more likely to have complications when giving birth, including preterm delivery, preeclampsia and low birthweight. Women 35 and older were seven times more likely to have these complications. These findings, conducted by researchers at Montefiore Health System, will be presented at the American Academy of Neurology's 68th Annual Meeting. The findings included:

- More than half of these women (54 percent) had at least one complication.
- Nearly 30 percent of the women had a preterm delivery, compared to nearly 10 percent in the general population.
- About 20 percent of the women with migraine had preeclampsia, a condition marked by high blood pressure, compared to between 5 and 8 percent in the general population.
- 19 percent of the women with migraine delivered babies with low birthweight, compared to 8 percent in the general population

8. VISCERA

Vagal nerve stim and Crohn's

Neurogastroenterol Motil. 2016 Feb 27. doi: 10.1111/nmo.12792.

Chronic vagus nerve stimulation in Crohn's disease: a 6-month follow-up pilot study.

Bonaz B^{1,2}, Sinniger V^{1,2}, Hoffmann D³, Clarençon D², Mathieu N¹, Dantzer C⁴, Vercueil L⁵, Picq C², Trocmé C⁶, Faure P⁷, Cracowski JL⁸, Pellissier S^{2,4}.

Author information

Abstract

The vagus nerve (VN) is a link between the brain and the gut. The VN is a mixed nerve with anti-inflammatory properties through the activation of the hypothalamic-pituitary-adrenal axis by its afferents and by activating the cholinergic anti-inflammatory pathway through its efferents. We have previously shown that VN stimulation (VNS) improves colitis in rats and that the vagal tone is blunted in Crohn's disease (CD) patients. We thus performed a pilot study of chronic VNS in patients with active CD. Seven patients under VNS were followed up for 6 months with a primary endpoint to induce clinical remission and a secondary endpoint to induce biological (CRP and/or fecal calprotectin) and endoscopic remission and to restore vagal tone (heart rate variability). Vagus nerve stimulation was feasible and well-tolerated in all patients. Among the seven patients, two were removed from the study at 3 months for clinical worsening and five evolved toward clinical, biological, and endoscopic remission with a restored vagal tone. These results provide the first evidence that VNS is feasible and appears as an effective tool in the treatment of active CD.

KEYWORDS: Crohn's disease; cholinergic anti-inflammatory pathway; heart rate variability; vagus nerve; vagus nerve stimulation

PMID: 26920654

Vit D and IBS

Am J Gastroenterol. 2016 Mar 8. doi: 10.1038/ajg.2016.53.

Association of Vitamin D Level With Clinical Status in Inflammatory Bowel Disease: A 5-Year Longitudinal Study.

Kabbani TA¹, Koutroubakis IE¹, Schoen RE¹, Ramos-Rivers C¹, Shah N¹, Swoger J¹, Regueiro M¹, Barrie A¹, Schwartz M¹, Hashash JG¹, Baidoo L¹, Dunn MA¹, Binion DG¹.

Author information

Abstract

OBJECTIVES:

Emerging data suggest that vitamin D has a significant role in inflammatory bowel disease (IBD). Prospective data evaluating the association of vitamin D serum status and disease course are lacking. We sought to determine the relationship between vitamin D status and clinical course of IBD over a multiyear time period.

METHODS:

IBD patients with up to 5-year follow-up from a longitudinal IBD natural history registry were included. Patients were categorized according to their mean serum 25-OH vitamin D level. IBD clinical status was approximated with patterns of medication use, health-care utilization, biochemical markers of inflammation (C-reactive protein (CRP) and erythrocyte sedimentation rate (ESR)), pain and clinical disease activity scores, and health-related quality of life.

RESULTS:

A total of 965 IBD patients (61.9% Crohn's disease, 38.1% ulcerative colitis) formed the study population (mean age 44 years, 52.3% female). Among them, 29.9% had low mean vitamin D levels. Over the 5-year study period, subjects with low mean vitamin D required significantly more steroids, biologics, narcotics, computed tomography scans, emergency department visits, hospital admissions, and surgery compared with subjects with normal mean vitamin D levels ($P<0.05$). Moreover, subjects with low vitamin D levels had worse pain, disease activity scores, and quality of life ($P<0.05$). Finally, subjects who received vitamin D supplements had a significant reduction in their health-care utilization.

CONCLUSIONS:

Low vitamin D levels are common in IBD patients and are associated with higher morbidity and disease severity, signifying the potential importance of vitamin D monitoring and treatment. Am J Gastroenterol advance online publication, 8 March 2016; doi:10.1038/ajg.2016.53.

PMID: 26952579

Abdominal migraine

BMC Gastroenterol. 2016 Feb 29;16(1):26. doi: 10.1186/s12876-016-0435-2.

Abdominal migraine in children: association between gastric motility parameters and clinical characteristics.

Devanarayana NM¹, Rajindrajith S², Benninga MA³.
Author information

Abstract

BACKGROUND:

Approximately 0.2-1 % of children suffers from abdominal migraine (AM). Pathophysiology of AM has not been adequately studied. This study evaluated gastric motility in children with AM.

METHODS:

Seventeen children (6 boys), within an age range of 4-15 years, referred to a tertiary care paediatric unit, North Colombo Teaching Hospital Ragama, Sri Lanka, from 2007 to 2012, were screened. Those fulfilling Rome III criteria for AM were recruited after obtaining parental consent. None had clinical or laboratory evidence of organic disorders. Twenty healthy children (8 boys), with an age range of 4-14 years, were recruited as controls. Liquid gastric emptying rate (GE) and antral motility parameters were assessed using an ultrasound method.

RESULTS:

Average GE (41.6 % vs. 66.2 %, in controls), amplitude of antral contractions (A) (57.9 % vs. 89.0 %) and antral motility index (MI) (5.0 vs. 8.3) were lower and fasting antral area (1.8 cm²) vs. 0.6 cm²) was higher in children with AM ($p < 0.01$). No significant difference in the frequency of antral contractions (F) (8.8/3 min vs. 9.3/3 min, $p = 0.08$) was found between the two groups. Scores obtained for severity of abdominal pain had a negative correlation with A ($r = -0.55$, $p = 0.03$). Average duration of abdominal pain episodes correlated with GE ($r = -0.58$, $p = 0.02$). Negative correlations were observed between duration of AM and A ($r = -0.55$), F ($r = -0.52$), and MI ($r = -0.57$) ($p < 0.05$).

CONCLUSIONS:

GE and antral motility parameters were significantly lower in children with AM. A significant correlation was found between symptoms and gastric motility. These findings suggest a possible role of abnormal gastric motility in the pathogenesis of AM.

PMID: 26924750

Prostate CA

Br J Cancer. 2016 Mar 1. doi: 10.1038/bjc.2016.38.

Is birthweight associated with total and aggressive/lethal prostate cancer risks? A systematic review and meta-analysis.

Zhou CK¹, Sutcliffe S², Welsh J³, Mackinnon K⁴, Kuh D⁴, Hardy R⁴, Cook MB¹.
Author information

Abstract

BACKGROUND:

It has been hypothesised that intrauterine exposures are important for subsequent prostate cancer risk. Prior epidemiological studies have used birthweight as a proxy of cumulative intrauterine exposures to test this hypothesis, but results have been inconsistent partly because of limited statistical power.

METHODS:

We investigated birthweight in relation to prostate cancer in the Medical Research Council (MRC) National Survey of Health and Development (NSHD) using Cox proportional hazards models. We then conducted a meta-analysis of birthweight in relation to total and aggressive/lethal prostate cancer risks, combining results from the NSHD analysis with 13 additional studies on this relationship identified from a systematic search in four major scientific literature databases through January 2015.

RESULTS:

Random-effects models found that per kg increase in birthweight was positively associated with total (OR=1.02, 95% confidence interval (95% CI)=1.00, 1.05; I²=13%) and aggressive/lethal prostate cancer (OR=1.08, 95% CI=0.99, 1.19; I²=40%). Sensitivity analyses restricted to studies with birthweight extracted from medical records demonstrated stronger positive associations with total (OR=1.11, 95% CI=1.03, 1.19; I²=0%) and aggressive/lethal (OR=1.37, 95% CI=1.09, 1.74; I²=0%) prostate cancer. These studies heavily overlapped with those based in Nordic countries.

CONCLUSIONS:

This study provides evidence that heavier birthweight may be associated with modest increased risks of total and aggressive/lethal prostate cancer, which supports the hypothesis that intrauterine exposures may be related to subsequent prostate cancer risks. British Journal of Cancer advance online publication, 1 March 2016; doi:10.1038/bjc.2016.38 www.bjcancer.com.

PMID:26930450

Functional bowel disorder

Aliment Pharmacol Ther. 2016 Feb 24. doi: 10.1111/apt.13573.

Systematic review with meta-analysis: diagnostic overlap of microscopic colitis and functional bowel disorders.

Guagnozzi D¹, Arias Á², Lucendo AJ³.
Author information

Abstract

BACKGROUND:

Microscopic colitis shares certain common clinical manifestations with functional bowel disorders, especially diarrhoea-dominant irritable bowel syndrome (IBS) and functional diarrhoea. However, the exact relationship between microscopic colitis and functional bowel disorders has not been systematically assessed.

AIM:

To conduct a systematic review and meta-analysis on the diagnostic overlap between functional bowel disorders and microscopic colitis.

METHODS:

We searched MEDLINE, EMBASE and SCOPUS databases, as well as the abstract books of the major gastroenterology meetings, to investigate the prevalence of microscopic colitis among patients with functional bowel disorders (considering all subtypes of both disorders) and vice versa. Data were pooled with a random-effects model.

RESULTS:

Of 227 references identified, data were collected from 26 studies and a total of 5,099 adult patients. The pooled prevalence any type of functional bowel disorders in patients who present diagnostic criteria of microscopic colitis was 39.1% (95% CI: 22.8-56.6%; I² : 97%) and was higher for lymphocytic colitis than for collagenous colitis (40.7% vs. 28.4%, respectively; P = 0.58). The prevalence of microscopic colitis in functional bowel disorders patients was 7% (95% CI: 3.6-11.4%), reaching 9.8% (95% CI: 4.4-17.1%; I² : 95%) in patients exhibiting diarrhoea-dominant IBS, nonsignificantly higher than microscopic colitis rates among patients with constipation-dominant IBS (1.3%) or mixed-dominant IBS (1.9%).

CONCLUSIONS:

There is a significant overlap of symptoms between microscopic colitis and functional bowel disorders, especially in diarrhoeal subtypes. The high proportion of microscopic colitis among diarrhoea-dominant functional syndromes should serve as a call for more active diagnosis in selected patients.

PMID: 26913568

Bone degeneration and CD

Curr Osteoporos Rep. 2016 Feb 13.

Bone and Celiac Disease.

Zanchetta MB^{1,2}, Longobardi V^{3,4}, Bai JC⁵.
Author information

Abstract

More than 50 % of untreated patients with celiac disease (CD) have bone loss detected by bone densitometry (dual-energy X-ray absorptiometry:DXA). Moreover, patients with CD are more likely to have osteoporosis and fragility fractures, especially of the distal radius. Although still controversial, we recommend DXA screening in all celiac disease patients, particularly in those with symptomatic CD at diagnosis and in those who present risk factors for fracture such as older age, menopausal status, previous fracture history, and familial hip fracture history. Bone microarchitecture, especially the trabecular network, may be deteriorated, explaining the higher fracture risk in these patients. Adequate calcium and vitamin D supplementation are also recommended to optimize bone recovery, especially during the first years of gluten free diet (GFD). If higher fracture risk persists after 1 or 2 years of GFD, specific osteoactive treatment may be necessary to improve bone health.

KEYWORDS: Bone disorders; Bone microarchitecture; Celiac disease; Fractures; Gluten-free diet; HRp-QCT; Osteoporosis
PMID: 26875096

13. CRANIUM/TMJ

Malocclusion and quality of life

Oral Health Prev Dent. 2016;14(1):63-9. doi: 10.3290/j.ohpd.a35003.

Untreated Gross Dental Malocclusion in Adolescents: Psychological Impact and Effect on Academic Performance in School.

Basha S, Mohamed RN, Swamy HS, Parameshwarappa P.

Abstract

PURPOSE:

To evaluate the psychological impact and effect on academic performance of untreated gross dental malocclusion in adolescents.

MATERIALS AND METHODS:

A total of 366 (181 girls and 185 boys) adolescents with gross dental malocclusion were selected for the study group. A modified oral aesthetic subjective impact scale questionnaire was applied in face-to-face interviews. Similar data were collected from parents, schoolteachers and one friend of each adolescent selected for the study. Academic performance was evaluated from school records and compared with a control group of 400 adolescents (200 girls and 200 boys) having normal occlusion and an aesthetically pleasing facial appearance. The Kruskal-Wallis H and chi-square tests were used to analyse the data. The correlation between the academic performance of adolescents and the psychological impact of malocclusion was assessed using the Spearman rank correlation.

RESULTS:

Significant numbers of adolescents (81.1%) were concerned about the appearance of their teeth, with significant gender variation (0.02). 88.5% of the adolescents received comments from others about their appearance. The results differed significantly by gender for 'avoiding smiling' ($p = 0.02$) and 'participation in social activities' ($p = 0.02$). The evaluation of academic performance showed that 42.1% of the adolescents with gross dental malocclusion performed below average; this also differed statistically significantly by gender ($p = 0.04$).

CONCLUSION:

Untreated gross dental malocclusion significantly affects the psychosocial well-being of adolescents, who may avoid participating in social activities and tend to underperform in school.

PMID: 26525128

Impact of malocclusion

Am J Orthod Dentofacial Orthop. 2016 Mar;149(3):384-90. doi: 10.1016/j.ajodo.2015.08.019.

Effect of malocclusion severity on oral health-related quality of life and food intake ability in a Korean population.

Choi SH¹, Kim JS², Cha JY³, Hwang CJ⁴.

Author information

Abstract

INTRODUCTION:

The aim of this study was to evaluate the effect of malocclusion severity on oral health-related quality of life and food intake ability in adult patients, controlling for sex, age, and the type of dental clinic visited.

METHODS:

The sample consisted of 472 Korean patients (156 male, 316 female) with a mean age of 21.1 (SD, 8.6) years in a dental hospital and a private clinic. The correlations between the Korean version of the Oral Health Impact Profile-14 (OHIP-14K), subjective food intake ability (FIA) for 5 key foods, and Index of Orthodontic Treatment Need-Dental Health Component (IOTN-DHC) were investigated.

RESULTS:

The mean IOTN-DHC and OHIP-14K scores were significantly higher for the dental hospital patients than for the private clinic patients (IOTN-DHC, $P < 0.001$; OHIP-14K, $P < 0.05$). Malocclusion severity was significantly higher in male than in female subjects ($P < 0.001$). Older patients perceived their oral health-related quality of life more negatively than did the teens ($P < 0.001$). As the severity of the malocclusion increased, oral health-related quality of life and masticatory function worsened (OHIP-14K, $P < 0.001$; FIA, $P < 0.05$).

CONCLUSIONS:

As the severity of the malocclusion and the age of the patients increased, oral health-related quality of life and masticatory function relatively deteriorated. This finding provides evidence that severe malocclusions are associated with lower quality of life and less masticatory efficiency in older patients.

PMID:26926026

Coconut oil pulling**Effect of oil pulling in promoting oro dental hygiene: A systematic review of randomized clinical trials**

Oghenekome Gbinigie Igho Onakpoya Elizabeth Spencer Marcy McCall MacBain,
Carl Heneghan

Highlights

- Oil pulling originates from ancient Ayurvedic medicine.
- Studies have demonstrated its beneficial effect on some indices of oral hygiene.
- Oil pulling may be as effective as chlorhexidine on certain oral hygiene markers.
- Oil pulling could serve as a low cost adjunct to tooth brushing.
- The safety profile and medium to long term benefits are not known.

Abstract**Aim**

To critically appraise and evaluate the evidence from randomized clinical trials (RCTs) examining the effectiveness of oil pulling on oro dental hygiene.

Methods

We conducted electronic searches in Medline, Embase, Amed, The Cochrane Library and Cinahl databases from inception to February 2015, and assessed reporting quality using the Cochrane risk of bias criteria. We included RCTs that compared oil pulling using conventional cooking oils with a control intervention. Our primary outcomes were measures of oro dental hygiene using validated scales.

Results

Electronic searches yielded 26 eligible studies, of which five RCTs comprising a total of 160 participants were included. The studies varied in reporting quality, lasted between 10 and 45 days, and compared oil pulling with chlorhexidine, placebo or routine dental hygiene practice. Three studies reported no significant differences in post intervention plaque index scores between oil pulling and control groups (Chlorhexidine mouthwash +/- Placebo): $p = 0.28$, 0.94 , and 0.38 , respectively. Two studies reported no significant difference in post-intervention modified gingival index score between oil pulling and Chlorhexidine mouthwash groups ($p = 0.32$ and 0.64).

Conclusion

The limited evidence to date from clinical trials suggests that oil pulling may have beneficial effects on oro dental hygiene as seen for the short period of time investigated. Given that this is a potentially cost-effective intervention, this practice might be of particular benefit. Future clinical trials should be more rigorous and better reported.

Keywords:

Oil pulling, Dental hygiene, Oral health, Periodontitis, Ayurvedic medicine

Management of TMJ

Clin J Pain. 2016 Mar;32(3):260-78. doi: 10.1097/AJP.0000000000000247.

The Effectiveness of Noninvasive Interventions for Temporomandibular Disorders: A Systematic Review by the Ontario Protocol for Traffic Injury Management (OPTIMA) Collaboration.

Randhawa K¹, Bohay R, Côté P, van der Velde G, Sutton D, Wong JJ, Yu H, Southerst D, Varatharajan S, Mior S, Stupar M, Shearer HM, Jacobs C, Taylor-Vaisey A.
Author information

Abstract

OBJECTIVE:

To determine the effectiveness and cost-effectiveness of noninvasive interventions for temporomandibular disorders (TMD).

METHODS:

We systematically searched MEDLINE, EMBASE, CINAHL, PsycINFO, and Cochrane Central register from 1990 to 2014 for effectiveness studies and the Cochrane Health Technology Assessment Database, EconLit, NHS Economic Evaluation Database, and Tufts Medical Center Cost-Effectiveness Analysis Register from 1990 to 2014 for cost-effectiveness studies. Random pairs of independent reviewers critically appraised eligible studies using the Scottish Intercollegiate Guidelines Network criteria. Evidence from eligible studies was synthesized using best-evidence synthesis methodology.

RESULTS:

Our search for effectiveness studies yielded 16,995 citations; 31 were relevant and 7 randomized controlled trials (published in 8 articles) had a low risk of bias. We found no relevant cost-effectiveness studies. The evidence suggests that for persistent TMD: (1) cognitive-behavioral therapy and self-care management lead to similar improvements in pain and disability but cognitive-behavioral therapy is more effective for activity interference and depressive symptoms; (2) cognitive-behavioral therapy combined with usual treatment provides short-term benefits in pain and ability to control pain compared with usual treatment alone; (3) intraoral myofascial therapy may reduce pain and improve jaw opening; and (4) structured self-care management may be more effective than usual treatment. The evidence suggests that occlusal devices may not be effective in reducing pain and improving motion for TMD of variable duration. Evidence on the effectiveness of biofeedback is inconclusive.

DISCUSSION: The available evidence suggests that cognitive-behavioral therapy, intraoral myofascial therapy, and self-care management are therapeutic options for persistent TMD.

Radiofrequency in trigeminal neuralgia effective

Stereotact Funct Neurosurg. 2016 Feb 17;94(1):24-32.

The Very Long-Term Outcome of Radiosurgery for Classical Trigeminal Neuralgia.

Régis J¹, Tuleasca C, Resseguier N, Carron R, Donnet A, Yomo S, Gaudart J, Levivier M.
Author information

Abstract

BACKGROUND:

Radiosurgery is one of the neurosurgical alternatives for intractable trigeminal neuralgia (TN).

OBJECTIVE:

Although acceptable short-/mid-term outcomes have been reported, long-term results have not been well documented.

METHODS:

We report the long-term results in 130 patients who underwent radiosurgery for classical TN and were subsequently monitored through at least 7 years (median = 9.9, range = 7-14.5) of follow-up.

RESULTS:

The median age was 66.5 years. A total of 122 patients (93.8%) became pain free (median delay = 15 days) after the radiosurgery procedure (Barrow Neurological Institute, BNI class I-IIIa). The probability of remaining pain free without medication at 3, 5, 7 and 10 years was 77.9, 73.8, 68 and 51.5%, respectively. Fifty-six patients (45.9%) who were initially pain free experienced recurrent pain (median delay = 73.1 months). However, at 10 years, of the initial 130 patients, 67.7% were free of any recurrence requiring new surgery (BNI class I-IIIa). The new hypesthesia rate was 20.8% (median delay of onset = 12 months), and only 1 patient (0.8%) reported very bothersome hypesthesia.

CONCLUSIONS:

The long-term results were comparable to those from our general series (recently published), and the high probability of long-lasting pain relief and rarity of consequential complications of radiosurgery may suggest it as a first- and/or second-line treatment for classical, drug-resistant TN.

PMID: 26882097

14. HEADACHES

Impact of migraines

Neurol Sci. 2016 Feb 15.

Fatigue, sleep-wake pattern, depressive and anxiety symptoms and body-mass index: analysis in a sample of episodic and chronic migraine patients.

Lucchesi C¹, Baldacci F², Cafalli M², Dini E², Giampietri L², Siciliano G², Gori S².
Author information

Abstract

Migraine clinical presentation and life-time course can be highly heterogeneous, with a subgroup of patients developing chronic migraine; moreover, migraine clinical spectrum is expanded by the association with different coexisting conditions and interictal dysfunctions. The aim of this study was to systematically evaluate migraine clinical features, daily functioning parameters, sleep pattern, presence of depressive-anxiety symptoms and body mass index (BMI) in a sample of 75 episodic and 75 chronic migraine without aura patients. Migraine-related disability, fatigue, daily sleepiness, subjective sleep quality, anxiety and depressive symptoms were, respectively, evaluated using the following questionnaires: Fatigue Severity Scale (FSS), Epworth Sleepiness Scale, Pittsburgh Sleep Quality Index (PSQI), Generalized Anxiety Disorder 7-item Scale (GAD-7), Patient Health Questionnaire 9-item Scale (PHQ-9). Mean FSS score ($p < 0.001$), PSQI score ($p = 0.015$), GAD-7 score ($p = 0.019$), PHQ-9 score ($p < 0.001$) and BMI score ($p = 0.012$) were significantly higher in chronic compared to episodic migraineurs. Additionally, a correlation analysis carried out in the total sample of 150 migraine patients documented a statistically significant, positive correlation between monthly frequency of migraine attacks and FSS score ($p < 0.001$), PSQI score ($p = 0.006$), GAD-7 score ($p = 0.019$), PHQ-9 score ($p < 0.001$) and BMI score ($p = 0.049$).

Data from the present report seem to expand the concept of migraine as a continuum or spectrum, with greater occurrence of fatigue, poor sleep quality, anxiety-depressive symptoms and higher BMI score in chronic compared to episodic migraine patients; further investigation is certainly necessary to better define the biological basis and mechanisms associated with migraine transformation from episodic to chronic pattern.

KEYWORDS: Body-mass index; Chronic migraine; Episodic migraine; Fatigue; Psychiatric disorders; Sleep quality

PMID:26879311

Sleep and fatigue and HA's

Neurol Sci. 2016 Feb 15.

Fatigue, sleep-wake pattern, depressive and anxiety symptoms and body-mass index: analysis in a sample of episodic and chronic migraine patients.

Lucchesi C¹, Baldacci F², Cafalli M², Dini E², Giampietri L², Siciliano G², Gori S².

Author information

Abstract

Migraine clinical presentation and life-time course can be highly heterogeneous, with a subgroup of patients developing chronic migraine; moreover, migraine clinical spectrum is expanded by the association with different coexisting conditions and interictal dysfunctions. The aim of this study was to systematically evaluate migraine clinical features, daily functioning parameters, sleep pattern, presence of depressive-anxiety symptoms and body mass index (BMI) in a sample of 75 episodic and 75 chronic migraine without aura patients. Migraine-related disability, fatigue, daily sleepiness, subjective sleep quality, anxiety and depressive symptoms were, respectively, evaluated using the following questionnaires: Fatigue Severity Scale (FSS), Epworth Sleepiness Scale, Pittsburgh Sleep Quality Index (PSQI), Generalized Anxiety Disorder 7-item Scale (GAD-7), Patient Health Questionnaire 9-item Scale (PHQ-9). Mean FSS score ($p < 0.001$), PSQI score ($p = 0.015$), GAD-7 score ($p = 0.019$), PHQ-9 score ($p < 0.001$) and BMI score ($p = 0.012$) were significantly higher in chronic compared to episodic migraineurs. Additionally, a correlation analysis carried out in the total sample of 150 migraine patients documented a statistically significant, positive correlation between monthly frequency of migraine attacks and FSS score ($p < 0.001$), PSQI score ($p = 0.006$), GAD-7 score ($p = 0.019$), PHQ-9 score ($p < 0.001$) and BMI score ($p = 0.049$). Data from the present report seem to expand the concept of migraine as a continuum or spectrum, with greater occurrence of fatigue, poor sleep quality, anxiety-depressive symptoms and higher BMI score in chronic compared to episodic migraine patients; further investigation is certainly necessary to better define the biological basis and mechanisms associated with migraine transformation from episodic to chronic pattern.

KEYWORDS: Body-mass index; Chronic migraine; Episodic migraine; Fatigue; Psychiatric disorders; Sleep quality

PMID: 26879311

Depression and anxiety

J Headache Pain. 2016 Dec;17(1):15. doi: 10.1186/s10194-016-0603-3. Epub 2016 Feb 27.

Impact of depression and anxiety on burden and management of episodic and chronic headaches - a cross-sectional multicentre study in eight Austrian headache centres.

Zeberholz K¹, Lechner A², Broessner G³, Lampl C⁴, Luthringshausen G⁵, Wuschitz A⁶, Obmann SM⁷, Berek K⁸, Wöber C⁹.

Author information

Abstract

BACKGROUND:

Recurrent and especially chronic headaches are associated with psychiatric comorbidities such as depression and anxiety. Only few studies examined the impact of depression and anxiety on episodic (EH) and chronic headache (CH), and data for Austria are missing at all. Therefore, the aim of the present study was to assess the impact of depression and anxiety on burden and management of EH and CH in patients from eight Austrian headache centres.

METHODS:

We included 392 patients (84.1 % female, mean age 40.4 ± 14.0 years) who completed the Eurolight questionnaire. The treating physician recorded details about ever-before prophylactic medications. We used Hospital Anxiety and Depression Scale to assess depression and anxiety and compared patients with anxiety and/or depression to those without.

RESULTS:

Depression and anxiety were more common in CH than in EH (64 % vs. 41 %, $p < 0.0001$). Presence compared to absence of depression and anxiety increased the prevalence of poor or very poor quality of life from 0.7 % to 13.1 % in EH and from 3.6 % to 40.3 % in CH ($p = 0.001$; $p < 0.0001$). Depression and anxiety had a statistically significant impact on employment status and on variables related to the burden of headache such as reduced earnings, being less successful in career, or feeling less understood. Neither in EH nor in CH health care use and the ever-before use of prophylactic medication was correlated with anxiety and/or depression.

CONCLUSION:

Depression and anxiety have a significant impact on quality of life and increase the burden in patients with EH and CH. Improved multidimensional treatment approaches are necessary to decrease disability on the personal, social and occupational level in these patients.

KEYWORDS:

Anxiety; Burden; Chronic headache; Depression; Episodic headache; Medication overuse headache; Migraine; Psychiatric comorbidity; Quality of life; Tension-type headache

PMID: 26920681

Behaviors control HA

J Headache Pain. 2015 Dec;17(1):16. doi: 10.1186/s10194-016-0601-5. Epub 2016 Feb 27.

Patients' experiences of a behavioural intervention for migraine headache: a qualitative study.

Morgan M¹, Cousins S², Middleton L², Warriner-Gallyer G², Ridsdale L².
Author information

Abstract

BACKGROUND:

Migraine headache has a high prevalence and a severe impact on personal, social and work life, forming a significant burden on patients, service providers and society. There is some evidence of the effectiveness of behavioural interventions to supplement drug therapy but a recognised need to identify an effective minimal contact approach to enhance access and provide a model for use in publicly funded health systems. This study uses in-depth interviews to examine patients' experience and responses to a behavioural intervention with relaxation and CBT components delivered in three individual therapist sessions with follow-up.

METHODS:

Qualitative study of 20 adults aged 18-75 years in London, UK, with clinically diagnosed migraine and at least four headache days per month. Semi-structured and tape recorded interviews were held post intervention based on a topic guide. Transcripts were coded and charted for all participants and analysed thematically.

RESULTS:

The majority of participants cited the impacts of migraine and a desire for additional non-drug treatment as their main reasons for taking part and almost all completed the course. They valued contact with the therapist and almost all reported benefiting from the therapy. Post intervention they used those techniques they found most beneficial and implemented them flexibly in their daily life to reduce stress and risks of migraine or to respond to migraine. Relaxation training (deep breathing) was easily adopted and often used post intervention. The CBT components were mainly viewed positively but regarded as more challenging to learn and implement.

CONCLUSIONS:

Patients' selectively identified and employed the techniques learned as 'tools' to assist in preventing and managing their migraines, with reported benefits supporting the development of minimal contact behavioural therapy to increase accessibility for adults with migraine headache and the conduct of a definitive trial.

KEYWORDS: Behavioural intervention; Cognitive-behavioural therapy (CBT); Headache; Migraine; Qualitative; Relaxation; Self-management

PMID: 26922332

19. GLENOHUMERAL/SHOULDER**Emotion and genetics**

Arthritis Care Res (Hoboken). 2016 Mar 4. doi: 10.1002/acr.22876.

Biopsychosocial influence on shoulder pain: Genetic and psychological combinations are predictive of 12 month post-operative pain and disability outcomes.

George SZ¹, Wu SS², Wallace MR³, Moser MW⁴, Wright TW⁴, Farmer KW⁴, Greenfield WH 3rd¹, Dai Y², Li H³, Fillingim RB⁵.

Author information

Abstract

OBJECTIVE:

The current study identified novel combinations of genetic and psychological factors that predicted 12-month post-operative pain and disability outcomes following arthroscopic shoulder surgery.

METHODS:

A prospective pre-surgical cohort (n = 150) was recruited to complete validated psychological questionnaires and have their DNA collected from saliva. DNA was genotyped for a priori selected genes involved with pain modulation (ADRB2, OPRM1, AVPR1A, GCH1, and KCNS1) and inflammation (IL1B, TNF/LTA, and IL6). The outcome measures of interest were the Brief Pain Inventory (BPI) and Disabilities of the Arm, Shoulder, and Hand (DASH) questionnaire. Follow up for the cohort was at 3, 6, and 12 months post-operatively. After controlling for age, sex, race, and pre-operative status, genetic and psychological factors were entered as main effects and interaction terms in separate general linear models for predicting post-operative pain and disability outcomes.

RESULTS:

Seven interactions involving pain modulatory genes were identified. Three provided strong statistical evidence for different outcomes including; 1) KCNS1 and kinesiophobia for pre-operative pain intensity, 2) ADRB2 and depressive symptoms for post-operative course, and 3) GCH1 and anxiety symptoms for 12 month pain intensity outcome. Ten interactions involving inflammatory genes were identified. Three provided strong statistical evidence for the 12 month post-operative course outcome including; 1) 2 different IL6 SNP's and pain catastrophizing, and 2) IL6 and depressive symptoms.

CONCLUSION:

The current study identified novel genetic and psychological interactions that can be used in future studies to further understand the development of persistent post-operative pain and investigate the effectiveness of tailored treatment. This article is protected by copyright. All rights reserved.

PMID: 26945673

Long head of biceps

Arthroscopy. 2016 Feb 23. pii: S0749-8063(15)01005-1. doi: 10.1016/j.arthro.2015.11.048.

Qualitative Assessment and Quantitative Analysis of the Long Head of the Biceps Tendon in Relation to the Pectoralis Major Tendon Humeral Insertion: An Anatomic Study.

Nossov SB¹, Ross JR², Robbins CB³, Carpenter JE³.

Author information

Abstract

PURPOSE:

To qualitatively assess and to quantitatively analyze the long head of the biceps tendon (LHBT) in the region of the pectoralis major (PM).

METHODS:

From 11 fresh cadaveric donors, 20 cadaveric shoulders without operative scars were dissected—mean age, 76.9 years (range, 61 to 93 years); male, 75%; left-sided, 55%; mean height, 67.8 inches (range, 61 to 71 inches); mean weight, 148.1 pounds (range, 106 to 176 pounds). Two specimens with discovered ruptures were excluded. The LHBT circumference was measured at the anterior edge of supraspinatus, suprapectorally, midpectorally, and subpectorally. The muscle was then removed from the LHBT and the circumference was again measured at the supra-, mid-, and subpectoral levels. These data were used to calculate the area of the tendon. All measurements were performed by two independent observers. Statistical analysis was performed to assess reliability of data and the difference between serial measurements.

RESULTS:

The mean calculated percentage tendon decreased from 86.7% at the superior edge of the PM to 49.8% at the midpoint of the PM and to 17.5% at the inferior edge of the PM.

CONCLUSIONS:

Distal to the PM, the LHBT was composed of a small percentage of tendon to muscle, which may have implications for the mechanical strength of fixation of tenodesis. The anatomic location of the musculotendinous junction of the LHBT began proximal to the superior edge of the PM tendon, which implies that restoration of anatomic tensioning may require a more proximal docking site than previously described. Tenodesis performed between the midpoint of the PM insertion and more distal points involves a significant portion of muscle, which may not be optimal.

CLINICAL RELEVANCE:

Tenodesis performed between the midpoint of the PM insertion and more distal points involves a significant portion of muscle, which may affect the mechanical strength or optimal choice of fixation location.

PMID: 26921125

20 A. ROTATOR CUFF**Long head of biceps tear**

J Shoulder Elbow Surg. 2016 Mar;25(3):384-9. doi: 10.1016/j.jse.2015.12.015.

Predictive factors of long head of the biceps tendon disorders-the bicipital groove morphology and subscapularis tendon tear.

Urita A¹, Funakoshi T², Amano T³, Matsui Y¹, Kawamura D¹, Kameda Y¹, Iwasaki N¹.
Author information

Abstract

BACKGROUND:

Disorders of the long head of the biceps (LHB) tendon contribute to anterior shoulder pain. Although LHB tendon disorders are associated with rotator cuff disease, distinguishing between biceps and rotator cuff pathology is difficult. The objective was to identify the predictors of LHB tendon disorders associated with a supraspinatus tear.

METHODS:

In 55 patients (average age, 65 years) undergoing arthroscopic rotator cuff repair, bicipital groove morphology were assessed using computed tomography, and subscapularis tear and bicipital groove effusion were assessed using magnetic resonance imaging, retrospectively. The LHB tendon was evaluated arthroscopically according to the Lafosse classification. Univariate and multivariate ordinal logistic regression analyses were conducted for injury grade with all covariates.

RESULTS:

The arthroscopic evaluation of the LHB tendon showed that there were 23 shoulders classified as grade 0, 15 as grade 1, and 17 as grade 2. Univariate logistic regression analysis showed that the width and depth, a medial spur of the bicipital groove, and a subscapularis tear were significantly associated with LHB tendon disorders. Multivariate ordinal logistic regression analysis identified a medial spur and subscapularis tear as significant predictors of LHB tendon disorders.

CONCLUSIONS:

The preoperative computed tomography and magnetic resonance images, notably the presence of a spur on the bicipital groove or a subscapularis tear, were useful for identifying LHB tendon disorders. When these are found in preoperative images, the clinician should evaluate the patient for the presence of an LHB tendon disorder as a pain generator.

KEYWORDS: bicipital groove morphology; long head biceps tendon; multivariate ordinal logistic regression; rotator cuff tear; shoulder pain; subscapularis tendon

PMID: 26927434

Tears and retractions

J Shoulder Elbow Surg. 2016 Feb 19. pii: S1058-2746(15)00622-9. doi: 10.1016/j.jse.2015.11.008.

Tendon retraction with rotator cuff tear causes a decrease in cross-sectional area of the supraspinatus muscle on magnetic resonance imaging.

Fukuta S¹, Tsutsui T², Amari R², Wada K³, Sairyo K³.
Author information

Abstract

BACKGROUND:

Muscle atrophy and fatty degeneration of the rotator cuff muscles have been reported as negative prognostic indicators after rotator cuff repair. Although the Y-shaped view is widely used for measuring the cross-sectional area of the supraspinatus muscle, the contribution of retraction of the torn tendon as well as muscle atrophy must be considered. The purpose of this study was to clarify the relationship between cross-sectional area and tendon retraction or size of the tear.

METHODS:

This study included 76 shoulders that were evaluated arthroscopically for the presence and size of tears. Cross-sectional areas of rotator cuff muscles were measured from the Y-shaped view to 3 more medial slices. The occupation ratio and tangent sign were evaluated on the Y-shaped view. The retraction of torn tendon was also measured on the oblique coronal images.

RESULTS:

On the Y-shaped view, the cross-sectional area of the supraspinatus and the occupation ratio decreased in conjunction with the increase in tear size. A significant decrease in cross-sectional area was noted only in large and massive tears on more medial slices from the Y-shaped view. Significant decreases in the cross-sectional area of the infraspinatus were observed in large and massive tears on all images. A negative correlation was found between tendon retraction and cross-sectional area, which was strongest on the Y-shaped view.

CONCLUSIONS:

To avoid the influence of retraction of the supraspinatus tendon, sufficient medial slices from the musculotendinous junction should be used for evaluation of muscle atrophy.

KEYWORDS:

Rotator cuff tear; cross-sectional area; magnetic resonance imaging; muscle atrophy; tendon retraction
PMID:26908171

20 B. LABRUM**Management of**

Arthroscopy. 2016 Feb 23. pii: S0749-8063(15)00971-8. doi: 10.1016/j.arthro.2015.11.036.

Comparison of Treatments for Superior Labrum-Biceps Complex Lesions With Concomitant Rotator Cuff Repair: A Prospective, Randomized, Comparative Analysis of Debridement, Biceps Tenotomy, and Biceps Tenodesis.

Oh JH¹, Lee YH², Kim SH¹, Park JS³, Seo HJ⁴, Kim W⁵, Park HB⁶.

Author information

Abstract

PURPOSE:

To compare the clinical outcomes in patients with concomitant superior labrum-biceps complex (SLBC) lesions and rotator cuff tears who underwent arthroscopic rotator cuff repair, according to 3 different treatment methods (simple debridement, biceps tenotomy, or biceps tenodesis) for the SLBC lesions.

METHODS:

One hundred twenty patients who underwent arthroscopic rotator cuff repair with SLBC lesions (biceps partial tears <50%, partial pulley lesions, and type II SLAP lesions) were enrolled in this prospective comparative study and randomly assigned to 1 of 3 treatment groups (simple debridement [Deb], biceps tenotomy only [BTo], or biceps tenodesis with one suture anchor [BTd]). Patients with isolated subscapularis tears or osteoarthritis were excluded. Finally, 86 patients (Deb in 28, BTo in 27, and BTd in 31) were analyzed (mean follow-up, 22.1 ± 7.72 months; mean age, 58.98 ± 7.8 years). Pain; functional, clinical, and radiologic outcomes; and the strength index of elbow flexion and forearm supination were analyzed.

RESULTS:

Pain, range of motion, and functional scores significantly improved postoperatively in all 3 groups, with no significant differences across groups. At the 6-month follow-up, 8 patients reported cramping pain (5 Deb patients, 2 BTo patients, and 1 BTd patient), but the pain improved in most patients over time (with cramping pain reported by zero Deb patients, 1 BTo patient, and 1 BTd patient at final follow-up). Bicipital groove tenderness significantly improved in the BTo group postoperatively (P = .006). The Popeye deformity was noted in 10 patients (37.0%) in the BTo group, 8 (25.8%) in the BTd group, and only 2 (7.1%) in the Deb group (P = .029). On radiologic examination, the presence of tenodesis of the biceps tendons on the bicipital groove showed low agreement with the presence of the Popeye deformity (observed in 13 of 20 patients with the deformity, 65%). On strength index analysis, the BTo group showed lower forearm supination strength (0.877 ± 0.44) compared with that in the other groups (1.29 ± 0.525 in the Deb group and 1.12 ± 0.451 in the BTd group, P = .049).

CONCLUSIONS:

All 3 treatments improved pain and function. Simple debridement showed the lowest risk of the Popeye deformity and preserved forearm supination strength. Biceps tenotomy and tenodesis may be preferable for selected patients: biceps tenotomy for patients with definite bicipital groove tenderness and biceps tenodesis for patients, especially male patients, with bicipital groove tenderness who want to preserve supination strength.

22 A. IMPINGMENT**Kinesio taping effective**

Clin Rheumatol. 2016 Mar;35(3):741-6. doi: 10.1007/s10067-014-2824-7. Epub 2014 Nov 18.

Comparison of efficacy of kinesiological taping and subacromial injection therapy in subacromial impingement syndrome.

Subaşı V¹, Çakır T², Arıca Z³, Sarıer RN⁴, Bilgilişoy Filiz M², Koldaş Doğan Ş², Toraman NF².
Author information

Abstract

The aim of the study was to compare the efficacy of kinesiological taping and subacromial injection therapy in patients with subacromial impingement syndrome (SIS). Seventy patients diagnosed with SIS were randomly assigned to group 1 (n = 35, injection group) or group 2 (n = 35, kinesiological taping group). Betamethasone plus prilocaine was injected to subacromial space in the patients in group 1. In group 2, tape was applied three times for a period of five consecutive days with a 2-day recovery interval. A 3-month exercise program was prescribed for both groups including stretching and strengthening exercises. All patients were assessed at baseline and at 1 and 3 months post-intervention. Assessments were made by visual analog scale (VAS) for pain, range of motion (ROM) measurements, specific tests, and Shoulder Pain and Disability Index (SPADI). Significant differences were detected in VAS and SPADI scores as well as ROM measurements in both groups when compared to baseline ($p > 0.05$). No significant differences were detected between the groups except for active flexion degree in favor of group 1 ($p = 0.004$). Both kinesiological taping and steroid injection in conjunction with an exercise program were found to be effective in the treatment of SIS. Kinesio taping may be an alternative treatment option in the rehabilitation of SIS especially when a non-invasive technique is needed.

KEYWORDS: Athletic tape; Exercise; Injections; Physical therapy; Shoulder; Shoulder impingement syndrome

PMID:25403253

24. ELBOW

LE and changes in the motor cortex

Eur J Pain. 2016 Feb 12. doi: 10.1002/ejp.841.

Altered function of intracortical networks in chronic lateral epicondylalgia.

Burns E¹, Chipchase LS¹, Schabrun SM¹.

Author information

Abstract

BACKGROUND:

Lateral epicondylalgia (LE) is a musculotendinous condition characterized by persistent pain, sensorimotor dysfunction and motor cortex reorganization. Although there is evidence linking cortical reorganization with clinical symptoms in LE, the mechanisms underpinning these changes are unknown. Here we investigated activity in motor cortical (M1) intracortical inhibitory and facilitatory networks in individuals with chronic LE and healthy controls.

METHODS:

Surface electromyography was recorded bilaterally from the extensor carpi radialis brevis (ECRB) muscle of 14 LE (4 men, 41.5 ± 9.9 years) and 14 control participants (4 men, 42.1 ± 11.1 years). Transcranial magnetic stimulation of M1 was used to evaluate resting and active motor threshold, corticomotor output, short- (SICI) and long-latency intracortical inhibition (LICI) and intracortical facilitation (ICF) of both hemispheres.

RESULTS:

In individuals with LE, SICI ($p = 0.005$), ICF ($p = 0.026$) and LICI ($p = 0.046$) were less in the M1 contralateral to the affected ECRB muscle compared with healthy controls. Motor cortical threshold (rest: $p = 0.57$, active: $p = 0.97$) and corticomotor output ($p = 0.15$) were similar between groups. No differences were observed between individuals with LE and healthy controls for the M1 contralateral to the unaffected ECRB muscle.

CONCLUSIONS:

These data provide evidence of less intracortical inhibition mediated by both GABA_A and GABA_B receptors, and less intracortical facilitation in the M1 contralateral to the affected ECRB in individuals with LE compared with healthy controls. Similar changes were not present in the M1 contralateral to the unaffected ECRB. These changes may provide the substrate for M1 reorganization in chronic LE and could provide a target for future therapy.

WHAT DOES THIS STUDY ADD:

Lateral epicondylalgia (LE) is a common musculoskeletal condition characterized by elbow pain and sensorimotor dysfunction. The excitability and organization of the motor cortical representation of the wrist extensor muscles is altered in LE, but the mechanisms that underpin these changes are unknown. Evidence of less intracortical inhibition mediated by both GABA_A and GABA_B receptors, and less intracortical facilitation mediated by NMDA receptors, in the M1 contralateral to the affected extensor carpi radialis brevis muscle in chronic LE compared with healthy controls. Altered activity in intracortical networks may contribute to altered motor cortex organization in LE and could provide a potential target for future treatments. PMID: 26871462

30 A. IMPINGEMENT**Pelvic angulation**

Arthroscopy. 2016 Mar 1. pii: S0749-8063(15)01004-X. doi: 10.1016/j.arthro.2015.11.047.

Radiographic Signs of Femoroacetabular Impingement Are Associated With Decreased Pelvic Incidence.

Weinberg DS¹, Gebhart JJ², Liu RW², Salata MJ².

Author information

Abstract

PURPOSE:

To investigate the relation between cam, acetabular version, and pelvic incidence.

METHODS:

This was a retrospective analysis of 65 patients with symptomatic hip pain and radiographic signs of femoroacetabular impingement (FAI). Twenty-seven patients were used as a control. All patients received a CT scan of the pelvis that included the sacral endplate. Alpha angle, acetabular version, and pelvic incidence (PI) were measured on 2D CT. Patients were then assigned to one of four groups: control, cam (alpha angle > 55°, version > 15°), retroverted (alpha angle < 55°, version < 15°), or mixed (alpha angle > 55°, version < 15°).

RESULTS:

The PI in mixed-type FAI was 46.7° ± 3.7°, which showed a statistically significant decrease from the PI of the control group, 56.1° ± 4.4° (P = .01). The PI for cam-only deformity was 50.8° ± 4.6°, and the PI for retroverted-only deformity was 51.0° ± 4.6°. Neither was statistically different from the control.

CONCLUSIONS:

This study suggests that mixed-type FAI may develop as a response to decreased PI. This result is consistent with previous reports showing decreased PI associated with cam and retroversion deformities. Although the cause of FAI remains controversial, the potential impact of sagittal balance of the pelvis, and specifically, decreased PI, should not be ignored.

LEVEL OF EVIDENCE:

Level IV, therapeutic case series.

PMID: 26947741

ASIS morphology**Anterior Inferior Iliac Spine bone morphology in hip dysplasia and its effect on hip range of motion in total hip arthroplasty**

Takeshi Shoji, MD, PhD Yuji Yasunaga, MD, PhD Takuma Yamasaki, MD, PhD Soutarou Izumi, MD, PhD Nobuo Adachi, MD, PhD Mitsuo Ochi, MD, PhD

DOI: <http://dx.doi.org/10.1016/j.arth.2016.02.018>

Abstract**Background**

Despite the fact that femoral impingement against the anterior inferior iliac spine (AIIS) are increasingly recognized, there is no description of morphological features of the AIIS in hip dysplasia and their effect on hip range of motion (ROM) in total hip arthroplasty (THA). The purpose is to evaluate the bone morphology of the AIIS in hip dysplasia and whether its morphology affects hip ROM in THA.

Methods

CT-based simulation software was used to create 3D bone models and to perform virtual simulations. Using the CT data of 85 patients (male; 25, female; 60, mean age; 60.9) with hip osteoarthritis due to dysplasia, we measured the straight, vertical and horizontal distances between the anteroinferior edge of the AIIS and the center of rotation in sagittal and axial view. The anterior and lateral version of the AIIS were also measured. We calculated the ROM of flexion (Flex), and internal rotation (Int-R) in THA in the software, and analyzed the correlations among them.

Results

The AIIS prominence is bigger and extends more anteriorly and laterally in males than in females. Furthermore, the taller the patient, the more the AIIS extends anteriorly and laterally. We found that Flex and Int-R decreased inversely proportional to the size and lateral version of the AIIS.

Conclusions

Our results demonstrated that the AIIS bone morphology substantially affects the ROM of Flex and Int-R especially in patients with laterally large AIIS bony anatomy in THA. Furthermore, our result indicates that the morphological features of AIIS in hip dysplasia may be different between male and female.

Key words:

anterior inferior iliac spine, bone morphology, total hip arthroplasty, 3-dimensional motion analysis,impingement

31. KNEE

Fibular head

Radiographical definition of the proximal tibiofibular joint - A cross-sectional study of 2984 knees and literature review

Injury, 03/07/2016Hwee Weng Dennis H, et al.

Proximal tibiofibular joint (PTFJ) injuries are not uncommon but relatively understudied. This study evaluates the effectiveness of 2 radiographic methods in assessing the integrity of the PTFJ. The direction in which the fibula is pointing and the percentage of tibiofibular overlap are highly specific radiographic methods useful in defining the PTFJ. The first method requires a weight-bearing view on AP assessment and >20degrees of flexion on lateral assessment. True orthogonal AP and lateral views are required for the second method to be used

32 A. KNEE/ACL**Return to play**

Am J Sports Med. 2016 Mar;44(3):580-4. doi: 10.1177/0363546515618381. Epub 2015 Dec 15.

Return-to-Sport Outcomes After Revision Anterior Cruciate Ligament Reconstruction Surgery.

Anand BS¹, Feller JA¹, Richmond AK¹, Webster KE².

Author information

Abstract

BACKGROUND:

There are limited and inconsistent data regarding return-to-sport outcomes after revision anterior cruciate ligament reconstruction (ACLR).

HYPOTHESIS:

Return-to-sport rates will be lower after revision ACLR when compared with primary ACLR.

STUDY DESIGN:

Case series; Level of evidence, 4.

METHODS:

The study cohort consisted of 136 eligible patients who had undergone their first revision ACLR between March 2006 and March 2010. Of these, 109 patients (80%) completed a sports activity survey at a mean 5-year follow-up (range, 3-7 years). Follow-up also included the International Knee Documentation Committee (IKDC) subjective form, Marx Activity Scale, and Knee injury and Osteoarthritis Outcome Score-quality of life (KOOS-QOL) form. Operative details were obtained from the clinical record.

RESULTS:

After revision ACLR, 46% (95% CI, 37%-55%) of patients returned to their preinjury level of sport, compared with 50% (95% CI, 41%-59%) after the primary reconstruction in the same patients. Of the patients who were not able to return to their preinjury level of sport after primary reconstruction, 33% improved to the point that they were able to do so after revision. Younger patients were more likely to have returned to their same level of sport (58% vs 38%, $P < .05$), while the rate of return was the same between male and female patients. Those who returned to their preinjury level of sport scored higher Marx ($P < .01$), KOOS-QOL ($P < .001$), and IKDC scores ($P < .01$) than those who did not. Patients with $<50\%$ thickness articular cartilage lesions at revision surgery were more likely to have returned to their preinjury level (52% vs 31%, $P < .05$) and had significantly better Marx ($P < .01$), KOOS-QOL ($P < .01$), and IKDC scores ($P < .01$) at follow-up. The status of the menisci at the time of revision surgery was not associated with rates of return to sport, but patients with an intact medial meniscus had significantly higher KOOS-QOL ($P < .05$) scores at follow-up.

CONCLUSION:

Return-to-sport rates of patients after revision ACLR were similar to those after their primary surgery but were still lower than the reported rates of ACLR patients who did not need revision surgery. Greater chondral pathologic abnormalities at revision surgery were associated with reduced function at follow-up.

33. MENISCUS

Surgery

Am J Sports Med. 2016 Mar;44(3):625-32. doi: 10.1177/0363546515621763. Epub 2016 Jan 6.

Is Sport Activity Possible After Arthroscopic Meniscal Allograft Transplantation? Midterm Results in Active Patients.

Zaffagnini S¹, Grassi A², Marcheggiani Muccioli GM¹, Benzi A¹, Roberti di Sarsina T¹, Signorelli C³, Raggi F¹, Marcacci M¹.

Author information

Abstract

BACKGROUND: Meniscal allograft transplantation (MAT) has produced good to excellent results in the general population; however, few investigations have examined MAT in athletes and sport-related outcomes.

PURPOSE: To report midterm clinical outcomes of MAT and the rate of return to sport in a physically active population.

STUDY DESIGN: Case series; Level of evidence, 4.

METHODS: The study included all physically active patients who underwent arthroscopic MAT without bone plugs and had a minimum of 2 years of follow-up at a single institution. Clinical evaluation was performed with the Knee injury and Osteoarthritis Outcome Score (KOOS), the Tegner activity scale, and a 0- to 100-point subjective scale for knee function and satisfaction. Outcomes evaluated included ability to return to sport, time to return to sport, level of sport activity upon return compared with preinjury level, and level of decrease in sport participation or reasons for not returning to sport participation. Comparisons were made between patients who did or did not return to sport and between patients who returned to the same level or a decreased level. Regression analysis was performed to determine the variables affecting the outcomes.

RESULTS: Eighty-nine patients, whose mean \pm SD age at surgery was 38.5 ± 11.2 years, were evaluated to a mean follow-up of 4.2 ± 1.9 years. Total KOOS improved from a mean \pm SD of 39.5 ± 18.5 preoperatively to 84.7 ± 14.8 at the latest follow-up ($P < .001$). The Tegner score improved significantly from a median of 2 (interquartile range [IQR], 1-4) preoperatively to a median of 4 (IQR, 3-6) at the latest follow-up ($P < .001$), although it did not reach the preinjury level of 6 (IQR, 5-7) ($P < .001$). Older age at surgery was correlated with the worst clinical results. Sixty-six patients (74%) were able to return to sport after 8.6 ± 4.1 months. Forty-four (49%) returned to the same level as preinjury. Patients who did not return to sport activity and those who reduced their activity level at follow-up had inferior subjective outcomes compared with those who returned to sport and those who returned to their preinjury levels, respectively. Only 11 patients (12%) underwent a surgical procedure during the follow-up period.

CONCLUSION: Arthroscopic MAT without bone plugs improved knee function and reduced pain, allowing sport resumption in 74% of patients and return to the preinjury activity level in 49% of patients at midterm follow-up. Of all the demographic and surgical variables, only age at surgery seemed to affect outcomes.

34. PATELLA**Rehab**

J Sport Rehabil. 2016 Feb 26.

Patient-Reported Outcomes Remain Improved 6-Months Post Patellofemoral Pain Rehabilitation.

Hamstra-Wright KL¹, Aydemir B, Earl-Boehm J, Bolgla L, Emery C, Ferber R.
Author information

Abstract

BACKGROUND/OBJECTIVE:

Hip and knee muscle strengthening programs are effective in improving short-term patient-reported and disease-oriented outcomes in individuals with patellofemoral pain (PFP), but little to no data exists on moderate to long-term post-rehabilitative outcomes. The first purpose of our study was to assess differences in pain, function, strength, and core endurance in individuals with PFP pre-, post-, and 6-months post- successful hip or knee muscle strengthening rehabilitation. The second purpose of our study was to prospectively follow these subjects for PFP recurrence at 6-months, 12-months, and 24-months post-rehabilitation.

METHODS:

For 24-months post-rehabilitation, we followed 157 physically active subjects with PFP who reported treatment success. Six-months post-rehabilitation, we measured pain, function, hip and knee strength, and core endurance. Six-, 12-, 18-, and 24-months, we measured PFP recurrence via electronic surveys.

RESULTS:

Sixty-eight subjects (43%) returned to the laboratory at 6-months. Regardless of rehabilitation program, subjects experienced significant improvements in pain and function, strength, and core endurance pre- to post-rehabilitation and maintained improvements in pain and function 6-months post-rehabilitation (Visual Analog Scale/Pain - pre: 5.12+1.33, post: 1.28+1.14, 6-mos: 1.68+2.16 cm, $P<0.05$; Anterior Knee Pain Scale/Function - pre: 76.38+8.42, post: 92.77+7.36, 6-mos: 90.27+9.46 points, $P<0.05$). Over the 24- months post-rehabilitation, 5.10% of subjects who responded to our surveys reported PFP recurrence.

CONCLUSIONS:

Our findings support clinicians implementing a hip or knee muscle strengthening program for the treatment of PFP. Both programs improve pain, function, strength, and core endurance in the short-term with moderate- and long-term benefits of improved pain, function, and low PFP recurrence.

PMID: 26918936

Bone marrow lesions

Arthritis Care Res (Hoboken). 2016 Mar 4. doi: 10.1002/acr.22871.

Patellofemoral bone marrow lesions: Natural history and associations with pain and structure.

Zhu Z^{1,2}, Ding C^{1,2,3}, Jin X¹, Antony B¹, Han W¹, Laslett LL¹, Cicuttini F², Jones G¹.
Author information

Abstract

OBJECTIVE:

To describe the natural history of patellofemoral joint (PFJ) bone marrow lesions (BMLs) over 2.6 years and associations between change in PFJ BMLs, knee pain and knee cartilage morphology in older adults over 5 years.

METHODS:

Prospective population-based cohort study of men and women aged 50-80 years (mean age 63 years, n=406) was performed. PFJ BMLs, knee cartilage volume and cartilage defect scores (0-4) were measured using Whole-Organ Magnetic Resonance Imaging Score (WORMS) system at baseline and 2.6 years. Knee pain was assessed by Western Ontario and McMaster Universities Osteoarthritis (WOMAC) scores at baseline and 5 years.

RESULTS:

At baseline, 27% (n=109) had PFJ BMLs, 24% of these increased (change in score of ≥ 1) at follow-up, 44% persisted, 32% decreased and 21% resolved completely. Of those without PFJ BMLs at baseline, 20% of participants developed PFJ BMLs over 2.6 years. In multivariable analyses, change in PFJ BMLs was deleteriously associated with change in total knee pain (β : 0.67, 95% CI: 0.03-1.31) and knee pain when going up/down stairs (β : 0.24, 95% CI: 0.04-0.44) over 5 years. Baseline PFJ and tibiofemoral joint (TFJ) cartilage volume were protective for PFJ BMLs (RR: 0.69, 95% CI: 0.52-0.90 for PFJ) while baseline PFJ cartilage defects were associated with an increase in PFJ BMLs (RR: 1.73, 95% CI: 1.38-2.17) over 2.6 years. TFJ cartilage defects were not associated with increases in PFJ BMLs.

CONCLUSIONS:

PFJ BMLs are not static and change is clinically relevant. PFJ cartilage morphology predicts increases in PFJ BMLs. This article is protected by copyright. All rights reserved.

KEYWORDS: bone marrow lesions; cartilage morphology; osteoarthritis; pain; patellofemoral joints

Nail patella syndrome

Knee Surg Sports Traumatol Arthrosc. 2016 Feb 12.

Management of patellar problems in skeletally mature patients with nail-patella syndrome.

Louboutin L¹, Wascher D², Neyret P³.

Author information

Abstract

PURPOSE:

Nail-patella syndrome (NPS) or hereditary onychoosteodysplasia is a rare autosomal dominant disease, characterized by a tetrad of findings, which include fingernail abnormalities, hypoplasia of the patellae, radial head dislocation and prominent iliac horns. Most of the literature on the treatment of patellar problems in NPS concerns paediatric patients, and there is no standard treatment algorithm for adult patients.

METHODS:

We reviewed the charts of skeletally mature patients with NPS who presented to our clinic. We reviewed the presenting complaints, the physical examination findings and the radiographic imaging.

RESULTS:

We identified seven skeletally mature patients with NPS who presented with patellofemoral complaints. Their symptoms were instability, pain, or a combination of the two. Examination and imaging revealed a wide range of severity but included patellar instability and patellar arthritis. In our series, milder forms of the disease were treated with non-operative measures, but the majority of our patients required surgery including medial patellofemoral ligament reconstruction, tibial tuberosity transposition, patellofemoral and total knee arthroplasty. At midterm follow-up, most patients had good results.

CONCLUSION:

Nail-patella syndrome has a wide range of presentations and severity in skeletally mature patients. Knee surgeons should be familiar with the spectrum of clinical presentation and the range of treatment options available in order to provide optimum treatment for patients with this disorder.

LEVEL OF EVIDENCE: IV.

KEYWORDS: Knee; Knee instability; Nail-patella syndrome; Patella resurfacing
PMID: 26872454

40. ANKLE SPRAINS AND INSTABILITY

Predictors of instability

Recovery From a First-Time Lateral Ankle Sprain and the Predictors of Chronic Ankle Instability**A Prospective Cohort Analysis**

Am J Sports Med; 2016 Feb 24; Epub Ahead of Print; C Doherty, C Bleakley, J Hertel, et a

Abstract

Background: Impairments in motor control may predicate the paradigm of chronic ankle instability (CAI) that can develop in the year after an acute lateral ankle sprain (LAS) injury. No prospective analysis is currently available identifying the mechanisms by which these impairments develop and contribute to long-term outcome after LAS.

Purpose: To identify the motor control deficits predicating CAI outcome after a first-time LAS injury.

Study Design: Cohort study (diagnosis); Level of evidence, 2.

Methods: Eighty-two individuals were recruited after sustaining a first-time LAS injury. Several biomechanical analyses were performed for these individuals, who completed 5 movement tasks at 3 time points: (1) 2 weeks, (2) 6 months, and (3) 12 months after LAS occurrence. A logistic regression analysis of several “salient” biomechanical parameters identified from the movement tasks, in addition to scores from the Cumberland Ankle Instability Tool and the Foot and Ankle Ability Measure (FAAM) recorded at the 2-week and 6-month time points, were used as predictors of 12-month outcome.

Results: At the 2-week time point, an inability to complete 2 of the movement tasks (a single-leg drop landing and a drop vertical jump) was predictive of CAI outcome and correctly classified 67.6% of cases (sensitivity, 83%; specificity, 55%; $P = .004$). At the 6-month time point, several deficits exhibited by the CAI group during 1 of the movement tasks (reach distances and sagittal plane joint positions at the hip, knee and ankle during the posterior reach directions of the Star Excursion Balance Test) and their scores on the activities of daily living subscale of the FAAM were predictive of outcome and correctly classified 84.8% of cases (sensitivity, 75%; specificity, 91%; $P < .001$).

Conclusion: An inability to complete jumping and landing tasks within 2 weeks of a first-time LAS and poorer dynamic postural control and lower self-reported function 6 months after a first-time LAS were predictive of eventual CAI outcome.

Exercise for ankle instability

J Sport Rehabil. 2016 Feb 26.

Randomized Controlled Trial Comparing Rehabilitation Efficacy in Chronic Ankle Instability.

Wright CJ¹, Linens SW, Cain MS.
Author information

Abstract

CONTEXT: There is minimal patient-oriented evidence regarding the effectiveness of interventions targeted to reduce symptoms associated with chronic ankle instability (CAI). Additionally, clinicians aiming to prioritize care by implementing only the most effective components of a rehabilitative program have very little evidence on comparative efficacy.

OBJECTIVE: To assess the comparative efficacy of two common ankle rehabilitation techniques [wobble board (WB) balance training and ankle strengthening using resistance tubing (RT)] using patient-oriented outcomes.

DESIGN: Randomized controlled trial.

SETTING: Laboratory.

PATIENTS: Forty patients with CAI were randomized into two treatment groups: RT and WB. CAI inclusion criteria included a history of an ankle sprain, recurrent giving way, and a Cumberland Ankle Instability Tool (CAIT) score ≤ 25 .

INTERVENTIONS: Participants completed 5 clinician-oriented tests (Foot lift test, Time-in-balance, Star Excursion Balance Test, Figure of 8 hop, and Side hop) and 5 patient-oriented questionnaires [CAIT, Foot and Ankle Ability Measure (FAAM) Activities of Daily Living (ADL) and FAAM Sport scale, Short-Form 36 (SF-36), and Global Rating of Function (GRF)]. Following baseline testing, participants completed 12 sessions over 4 weeks of graduated WB or RT exercise, then repeated baseline tests.

MAIN OUTCOME MEASURES: For each patient- and clinician-oriented test, separate 2x2 RMANOVAs analyzed differences between groups over time (alpha set at $P=0.05$).

RESULTS: There was a significant interaction between group and time for the FAAM-ADL ($P=0.043$). Specifically, the WB group improved post intervention ($P<0.001$) whereas the RT group remained the same ($P=0.294$). There were no other significant interactions or significant differences between groups (all $P>0.05$). There were significant improvements post-intervention for the CAIT, FAAM-Sport, GRF, SF-36 and all 5 clinician-oriented tests (all $P<0.001$).

CONCLUSIONS: A single exercise 4-week intervention can improve patient-and clinician-oriented outcomes in individuals with CAI. Limited evidence indicates that WB training was more effective than RT.

LEVEL OF EVIDENCE: *Therapy, level 1b.*

41 B. COMPARTMENT SYNDROME**Prevalence of****July 2016** Volume 12, Pages 7–12**Prevalence of chronic compartment syndrome of the legs: Implications for clinical diagnostic criteria and therapy**Jan Roar Orlin Ingvild Haabesland Lied Einar Stranden Henrik Underthun Irgens
John Roger Andersen**Highlights**

- Leg pain and cramps at night was reported by 24% of 2308 persons.
- The estimated population prevalence of chronic compartment syndrome was 7.6%.
- Chronic compartment syndrome occurs in persons of all ages and levels of activity.

Abstract

Introduction: Poorly defined musculoskeletal disorders are a common clinical problem and have considerable psychosocial impact. Chronic compartment syndrome (CCS) of the legs has primarily been noted in young athletes and soldiers. The epidemiology of CCS in the general population has not been studied previously. The aim of this study was to establish the prevalence of CCS of the legs in the general population and to study its association with possible etiological factors.

Methods: A two-stage population survey was performed, using a questionnaire followed by clinical examination. A sample of 3000 individuals aged 25–75 years was randomly selected from the general population. A clinical examination was offered to those answering “Yes” to the following question: “Do you wake up at nights due to leg pains or cramps, causing you to walk around?” Intracompartmental pressures in the leg were measured in 13 persons randomly selected from among those diagnosed with CCS after the clinical examination.

Results: Of the 3000 persons contacted, 2308 (76.9%) responders were included in the study. Leg pain or cramps at night was reported by 24% of the respondents. Age, rheumatic disease, use of hormone medication, heart failure, leg oedema, and peripheral arterial disease were all significantly associated with leg pain or cramps ($P < 0.05$). Among 286 persons with leg pain who underwent a subsequent clinical examination, 91 persons (31.9%) were classified as definite CCS. This suggests a CCS prevalence of 7.6% in the total sample ($[24\% \times 31.9\%/100]$). In 13 of the individuals with CCS intracompartmental pressure was measured before and after performance of the step test exercise. One individual had a post-exercise pressure >15 mmHg. None had post-exercise pressure past the conventional threshold of >30 mmHg.

Conclusion: Nocturnal leg pain or cramps is a common symptom. A significant part of the general population (7.6%) may have CCS of the legs, with symptoms ranging from very mild to severe.

Implications: Considering the high prevalence of CCS found in this study, it is likely that a large proportion of those presenting with muscular pain actually have CCS. These persons are usually advised to increase their physical training to achieve some degree of pain relief. However, CCS patients may instead experience both increased leg pain and a proximal myalgia, which is possibly a referred pain. A demanding “gold standard” test (requiring identification of elevated intracompartmental pressures), unclear diagnostic criteria, poor long-term results from incomplete surgery, and an uncertain explanation for what may be termed referred pain seem to have delayed the acceptance of CCS as a common cause of leg pain/cramps and numbness. At the same time, the enormous costs to society and the reduced quality of life of patients require that such disease entities are correctly diagnosed as they can be effectively treated by simple, low-risk surgical procedures.

Nighttime spasms

Prevalence of chronic compartment syndrome of the legs: Implications for clinical diagnostic criteria and therapy

Jan Roar Orlin Ingvild Haabesland Lied Einar Stranden Henrik Underthun Irgens, John Roger Andersen

Highlights

- Leg pain and cramps at night was reported by 24% of 2308 persons.
- The estimated population prevalence of chronic compartment syndrome was 7.6%.
- Chronic compartment syndrome occurs in persons of all ages and levels of activity.

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Introduction Poorly defined musculoskeletal disorders are a common clinical problem and have considerable psychosocial impact. Chronic compartment syndrome (CCS) of the legs has primarily been noted in young athletes and soldiers. The epidemiology of CCS in the general population has not been studied previously. The aim of this study was to establish the prevalence of CCS of the legs in the general population and to study its association with possible etiological factors.

Methods A two-stage population survey was performed, using a questionnaire followed by clinical examination. A sample of 3000 individuals aged 25–75 years was randomly selected from the general population. A clinical examination was offered to those answering “Yes” to the following question: “Do you wake up at nights due to leg pains or cramps, causing you to walk around?” Intracompartmental pressures in the leg were measured in 13 persons randomly selected from among those diagnosed with CCS after the clinical examination.

Results Of the 3000 persons contacted, 2308 (76.9%) responders were included in the study. Leg pain or cramps at night was reported by 24% of the respondents. Age, rheumatic disease, use of hormone medication, heart failure, leg oedema, and peripheral arterial disease were all significantly associated with leg pain or cramps ($P < 0.05$). Among 286 persons with leg pain who underwent a subsequent clinical examination, 91 persons (31.9%) were classified as definite CCS. This suggests a CCS prevalence of 7.6% in the total sample ($[24\% \times 31.9\%/100]$). In 13 of the individuals with CCS intracompartmental pressure was measured before and after performance of the step test exercise. One individual had a post-exercise pressure >15 mmHg. None had post-exercise pressure past the conventional threshold of >30 mmHg.

Conclusion Nocturnal leg pain or cramps is a common symptom. A significant part of the general population (7.6%) may have CCS of the legs, with symptoms ranging from very mild to severe.

Implications Considering the high prevalence of CCS found in this study, it is likely that a large proportion of those presenting with muscular pain actually have CCS. These persons are usually advised to increase their physical training to achieve some degree of pain relief. However, CCS patients may instead experience both increased leg pain and a proximal myalgia, which is possibly a referred pain. A demanding “gold standard” test (requiring identification of elevated intracompartmental pressures), unclear diagnostic criteria, poor long-term results from incomplete surgery, and an uncertain explanation for what may be termed referred pain seem to have delayed the acceptance of CCS as a common cause of leg pain/cramps and numbness. At the same time, the enormous costs to society and the reduced quality of life of patients require that such disease entities are correctly diagnosed as they can be effectively treated by simple, low-risk surgical procedures.

Keywords: Chronic compartment syndrome, Prevalence, Leg pain, Leg cramps

43. HALLUX VALGUS**Depression and HV**

Int J Ment Health Nurs. 2016 Feb 19. doi: 10.1111/inm.12196.

Influence of depression in a sample of people with hallux valgus.

López DL¹, Fernández JM², Iglesias ME³, Castro CÁ¹, Lobo CC⁴, Galván JR⁵, de Bengoa Vallejo RB⁶.

Author information

Abstract

Hallux valgus (HV) is a highly-prevalent forefoot deformity associated with progressive subluxation and osteoarthritis of the first metatarsophalangeal joint; it is believed to be associated with depression. The aim of the present study was to determine the association of patients with varying degrees of HV involvement to depression using the Beck Depression Inventory (BDI). The sample consisted of 102 participants (mean age: 45.1 ± 1.6), who attended an outpatient centre where self-report data were recorded. The degree of HV deformity was determined in both feet, and the scores on the BDI were compared. A total of 38.24% of the sample had depression, with an average BDI score of 10.55 ± 12.36 points. There was a statistically-significant association between the degree and presence of HV in both feet ($P = 0.0001$). People with a greater degree of HV deformity in any foot also have a significant increase in depression based on BDI scores, regardless of sex.

KEYWORDS: depression; foot deformity; hallux valgus; musculoskeletal disease
PMID: 26892262

48 A. STM

Cupping with neck pain

The effect of traditional wet cupping on shoulder pain and neck pain: A pilot study
Complementary Therapies in Clinical Practice , 03/08/2016 Arslan M, et al.

In this pilot study, the possible effects of wet cupping therapy on nonspecific neck and upper shoulder pain were investigated. It can be stated that Wet cupping therapy (WCT) has potential therapeutic effect in nonspecific neck and upper shoulder pain. Future full-scale randomized controlled trials will be needed to provide firm evidence of the effectiveness of this intervention.
Methods

- Sixty one eligible volunteer participants with nonspecific neck and upper shoulder pain for at least 3 months were allocated.
- The Numeric Rating Scale (NRS) was used to assess pain scores.
- Pain scores were recorded before and after wet cupping therapy.

Results

- The mean scores of neck pain in study group were 7.02 (SD = 1.8) before and 3.70 (SD = 2.2) after cupping therapy.
- The decrease of pain scores between pre- and post-test was statistically significant ($p < 0.05$)

51. CFS/BET**Sit to stand equipment for LBP**

J Occup Environ Med. 2016 Mar;58(3):287-93. doi: 10.1097/JOM.0000000000000615.

Impact of a Sit-Stand Workstation on Chronic Low Back Pain: Results of a Randomized Trial.

Ognibene GT¹, Torres W, von Eyben R, Horst KC.
Author information

Abstract**OBJECTIVE:**

The aim of the study was to determine whether chronic low back pain (LBP) might be attenuated through the introduction of a sit-stand workstation (SSW) in office employees.

METHODS:

Participants were randomized to receive a SSW at the beginning or at the end of a 3-month study period. Participants responded to a short survey at the end of each workday and a comprehensive survey at weeks 1, 6, and 12. Surveys consisted of a modified brief pain inventory and the Roland Morris Disability Questionnaire.

RESULTS:

Forty-six university employees with self-reported chronic LBP were enrolled. Participants who were given access to a SSW reported a significant reduction in current ($P=0.02$) and worst ($P=0.04$) LBP over time.

CONCLUSIONS:

Our findings support the hypothesis that chronic LBP might be improved by the introduction of a SSW in an office environment.

PMID:26735316

54. POSTURE**Sagittal and balance**

Spine (Phila Pa 1976). 2016 Mar;41(5):399-403. doi: 10.1097/BRS.0000000000001231.

Lumbar Lordosis Minus Thoracic Kyphosis: A Novel Regional Predictor for Sagittal Balance in Elderly Populations.

Yang C¹, Yang M, Wei X, Shao J, Chen Y, Zhao J, Zhu X, He D, Li M.
Author information

Abstract

STUDY DESIGN:

A retrospective study.

OBJECTIVE:

The aim of this study is to introduce a novel regional predictor for sagittal balance in elderly populations and explore its effectiveness of evaluating sagittal balance.

SUMMARY OF BACKGROUND DATA:

Sagittal balance is getting increasing recognition of importance due to its significant association of health-related quality of life. However, no regional parameters could well reflect and predict the whole sagittal balance.

METHODS:

Medical records of elderly patients in our outpatient clinic from January 2012 to January 2014 were reviewed with standing full-spine lateral radiograph. Radiological parameters were evaluated, including max thoracic kyphosis (maxTK), max lumbar lordosis (maxLL), LL minus TK(LL-TK), PI minus LL (PI-LL), sacrum slope (SS), pelvic tilt (PT), pelvic incidence (PI), and SVA (sagittal vertical axis). Correlation analysis between SVA, LL-TK, and other radiological spinopelvic parameters and was pursued. Patients were divided into two groups according to whether patients were well-aligned in sagittal plane: Group A (well-aligned, SVA ≤ 50 mm) and Group B (poorly aligned, SVA > 50 mm), and demographic and sagittal parameters were compared. LL-TK $\geq 0^\circ$ and PI-LL $\leq 13^\circ$ were used as a threshold value to evaluate their effectiveness of prediction for sagittal balance.

RESULTS:

A total of 129 patients (M: 25 and F: 104) were included in this study. SVA was significantly correlated with NRS (numeric rating scales), age, maxLL, PT, LL-TK, and PI-LL (all, $P < 0.05$). Age, maxTK, maxLL, SS, PT, PI, SVA, and NRS were significantly correlated with LL-TK (all $P < 0.05$). Significant differences were found in age, maxLL, PT, LL-TK, PI-LL, SVA, and NRS between Group A (M: 15 and F: 72) and Group B (M: 10 and F: 32) (all $P < 0.05$). Furthermore, both LL-TK $\geq 0^\circ$ and PI-LL $\leq 13^\circ$ were observed in 75 patients, among which SVA ≤ 50 mm was found in 67 patients (89%). Among patients whose LL-TK and PI-LL were $< 0^\circ$ and $> 13^\circ$, 34 patients were poorly aligned (34/39, 87%).

CONCLUSION:

LL-TK was a good regional predictor for sagittal balance in elderly population, especially combined with PI-LL.

56. ATHLETICS**LBP in young athletes**

Scand J Med Sci Sports. 2016 Feb 19. doi: 10.1111/sms.12664.

Back pain prevalence in adolescent athletes.

Müller J¹, Müller S¹, Stoll J¹, Fröhlich K¹, Otto C¹, Mayer F¹.

Author information

Abstract

The research aimed to investigate back pain (BP) prevalence in a large cohort of young athletes with respect to age, gender, and sport discipline. BP (within the last 7 days) was assessed with a face scale (face 1-2 = no pain; face 3-5 = pain) in 2116 athletes (m/f 61%/39%; 13.3 ± 1.7 years; 163.0 ± 11.8 cm; 52.6 ± 13.9 kg; 4.9 ± 2.7 training years; 8.4 ± 5.7 training h/week). Four different sports categories were devised (a: combat sports, b: game sports; c: explosive strength sport; d: endurance sport). Analysis was described descriptively, regarding age, gender, and sport. In addition, 95% confidence intervals (CI) were calculated. About 168 (8%) athletes were allocated into the BP group. About 9% of females and 7% of males reported BP. Athletes, 11-13 years, showed a prevalence of 2-4%; while prevalence increased to 12-20% in 14- to 17-year olds. Considering sport discipline, prevalence ranged from 3% (soccer) to 14% (canoeing). Prevalences in weight lifting, judo, wrestling, rowing, and shooting were ≥10%; in boxing, soccer, handball, cycling, and horse riding, ≤6%. 95% CI ranged between 0.08-0.11. BP exists in adolescent athletes, but is uncommon and shows no gender differences. A prevalence increase after age 14 is obvious. Differentiated prevention programs in daily training routines might address sport discipline-specific BP prevalence.

KEYWORDS: Young athletes; back pain; prevalence; types of sports
PMID:26892028

58. RUNNING**Shod running**

Med Sci Sports Exerc. 2007 Feb;39(2):330-9.

Gait-related risk factors for exercise-related lower-leg pain during shod running.

Willems TM¹, Witvrouw E, De Cock A, De Clercq D.

Author information**Abstract****PURPOSE:**

Exercise-related lower-leg pain (ERLLP) is a common chronic sports injury. In clinical practice, deviant gait biomechanics are frequently considered to play a role in the development of ERLLP, although there is scarce scientific evidence that gait-related variables predispose athletes to this injury. The purpose of this study was to examine prospectively the gait-related risk factors for ERLLP during shod running in a young, physically active population.

METHODS:

The gait pattern during shod running of 400 physical education students was evaluated at the beginning of their academic study. This was accomplished by means of plantar pressure measurements and 3D gait kinematics. After this evaluation, the same sports physician registered all sports injuries during this study.

RESULTS:

During the follow-up period, 46 subjects developed ERLLP, of whom 29 subjects had bilateral complaints. Thus, 75 symptomatic lower legs (35 left and 40 right) were classified into the ERLLP group. Bilateral feet of 167 subjects who sustained no injuries at the lower extremities served as the referent group. Cox regression analysis revealed that subjects who will develop ERLLP have an altered running pattern compared with the referent subjects. More specifically, these subjects showed a significantly increased pronation excursion, accompanied by more pressure underneath the medial side of the foot, a delayed maximal eversion, and an accelerated reinversion.

CONCLUSION:

The findings of this study suggest that altered gait biomechanics during shod running play a role in the genesis of ERLLP and, thus, should be considered in prevention and rehabilitation of this pathology.

59. PAIN**Neuropathic pain**

Mayo Clin Proc. 2016 Mar;91(3):372-85. doi: 10.1016/j.mayocp.2016.01.017.

Central Neuropathic Pain Syndromes.

Watson JC¹, Sandroni P².
Author information

Abstract

Chronic pain is common in patients with neurologic complications of a central nervous system insult such as stroke. The pain is most commonly musculoskeletal or related to obligatory overuse of neurologically unaffected limbs. However, neuropathic pain can result directly from the central nervous system injury. Impaired sensory discrimination can make it challenging to differentiate central neuropathic pain from other pain types or spasticity. Central neuropathic pain may also begin months to years after the injury, further obscuring recognition of its association with a past neurologic injury. This review focuses on unique clinical features that help distinguish central neuropathic pain. The most common clinical central pain syndromes—central poststroke pain, multiple sclerosis-related pain, and spinal cord injury-related pain—are reviewed in detail. Recent progress in understanding of the pathogenesis of central neuropathic pain is reviewed, and pharmacological, surgical, and neuromodulatory treatments of this notoriously difficult to treat pain syndrome are discussed.

PMID: 26944242

Medical Cannabis helps pain

Clin J Pain. 2016 Feb 17.

The Effect of Medicinal Cannabis on Pain and Quality of Life Outcomes in Chronic Pain: A Prospective Open-label Study.

Haroutounian S¹, Ratz Y, Ginosar Y, Furmanov K, Saifi F, Meidan R, Davidson E.
Author information

Abstract

OBJECTIVES:

The objective this prospective, open-label study was to determine the long-term effect of medicinal cannabis treatment on pain and functional outcomes in subjects with treatment-resistant chronic pain.

METHODS:

The primary outcome was change in pain symptom score on the S-TOPS (Treatment Outcomes in Pain Survey - Short Form) questionnaire at 6 months follow-up in intent-to-treat (ITT) population. The secondary outcomes included change in S-TOPS physical, social and emotional disability scales, pain severity and pain interference on brief pain inventory (BPI), sleep problems, and change in opioid consumption.

RESULTS:

274 subjects were approved for treatment; complete baseline data were available for 206 (ITT), and complete follow-up data for 176 subjects. At follow-up, pain symptom score improved from median 83.3 (95% CI 79.2-87.5) to 75.0 (95% CI 70.8-79.2), $P < 0.001$. Pain severity score (7.50 [95% CI 6.75-7.75] to 6.25 [95% CI 5.75-6.75] and pain interference score (8.14 [95% CI 7.28-8.43] to 6.71 [95% CI 6.14-7.14]) improved (both $P < 0.001$), together with most social and emotional disability scores. Opioid consumption at follow-up decreased by 44% ($P < 0.001$). Serious adverse effects led to treatment discontinuation in two subjects.

DISCUSSION:

The treatment of chronic pain with medicinal cannabis in this open-label, prospective cohort resulted in improved pain and functional outcomes, and significant reduction in opioid use. The results suggest long-term benefit of cannabis treatment in this group of patients, but the study's non-controlled nature should be considered when extrapolating the results.

PMID: 26889611

Hypnosis and pain

Pain. 2016 Feb 11.

Experimental manipulations of pain catastrophizing influence pain levels in chronic pain patients and healthy volunteers.

Kjøgx H¹, Kasch H, Zachariae R, Svensson P, Jensen TS, Vase L.

Author information

Abstract

Pain catastrophizing (PC) has been related to pain levels in both patients experiencing acute or chronic pain and in healthy volunteers exposed to experimental pain. Still, it is unclear whether high levels of pain catastrophizing lead to high levels of pain or vice versa. We therefore tested if levels of pain catastrophizing could be increased and decreased in the same participant via hypnotic suggestions and whether the altered level of situation-specific pain catastrophizing was related to increased and decreased pain levels, respectively. Using the spontaneous pain of twenty-two chronic tension-type headache patients and experimentally induced pain in twenty-two healthy volunteers, participants were tested in three randomized sessions where they received three types of hypnotic suggestions: Negative (based on the 13 items in the Pain Catastrophizing Scale (PCS)), Positive (coping-oriented reversion of the PCS) and Neutral (neutral sentence) hypnotic suggestions. The hypnotic suggestions significantly increased and decreased situation-specific PC in both patients and healthy volunteers ($p < 0.001$). Also, the levels of pain intensity and pain unpleasantness were significantly altered in both patients and healthy volunteers ($p < 0.001$). Furthermore, regression analyses showed that changes in pain catastrophizing predicted changes in pain in patients ($R = 0.204-0.304$; $p < 0.045$) and in healthy volunteers ($R = 0.328-0.252$; $p < 0.018$).

This is the first study to successfully manipulate PC in positive and negative directions in both chronic pain patients and healthy volunteers and to show that these manipulations significantly influence pain levels. These findings may have important theoretical and clinical implications.

PMID: 26871534

Pain locations

Pain. 2016 Feb 11.

Brain activations during pain: a neuroimaging meta-analysis of pain patients and healthy controls.

Jensen KB¹, Regenbogen C, Ohse MC, Frasnelli J, Freiherr J, Lundström JN.

[Author information](#)

Abstract

In response to recent publications from pain neuroimaging experiments, there has been a debate about the existence of a primary pain region in the brain. Yet, there are few meta-analyses providing assessments of the minimum cerebral denominators of pain. Here, we used a statistical meta-analysis method, called Activation Likelihood Estimation (ALE), to define 1) core brain regions activated by pain per se, irrelevant of pain modality, paradigm, or participants, and 2) ALE commonalities and differences between patients with chronic pain and healthy individuals. A subtraction analysis of 138 independent datasets revealed that the minimum denominator for activation across pain modalities and paradigms included the right insula, secondary sensory cortex, and right anterior cingulate cortex (ACC). Common activations for healthy subjects and pain patients alike included the thalamus, ACC, insula, and cerebellum. A comparative analysis revealed that healthy individuals were more likely to activate the cingulum, thalamus and insula. Our results point towards the central role of the insular cortex and ACC in pain processing, irrelevant of modality, body part, or clinical experience, thus furthering the importance of ACC and insular activation as key regions for the human experience of pain.

PMID: 26871535

Painful words

J Pain. 2016 Mar;17(3):336-49. doi: 10.1016/j.jpain.2015.11.004. Epub 2015 Dec 8.

Some Words Hurt More Than Others: Semantic Activation of Pain Concepts in Memory and Subsequent Experiences of Pain.

Swannell ER¹, Brown CA², Jones AK³, Brown RJ⁴.

Author information

Abstract

Theory suggests that as activation of pain concepts in memory increases, so too does subsequent pain perception. Previously, researchers have found that activating pain concepts in memory increases pain perception of subsequent painful stimuli, relative to neutral information. However, they have not attempted to quantify the nature of the association between information studied and ensuing pain perception. We subliminally presented words that had either a low or high degree of association to the word 'pain,' although this was only partially successful and some words were consciously perceived. Participants then received randomized laser heat stimuli, delivered at 1 of 3 intensity levels (low, moderate, high), and we measured the effect of this on behavioral and electrophysiological measures of pain. Participants (N = 27) rated moderate- and high-intensity laser stimuli as more painful after viewing high relative to low associates of pain; these effects remained present when we controlled for measures of mood, anxiety, and physical symptom reporting. Similar effects were observed physiologically, with higher stimulus negativity preceding after high relative to low associates and greater amplitudes for the N2 component of the laser-evoked potential after presentation of high associates in the moderate and high laser intensity conditions. These data support activation-based models of the effects of memory on pain perception.

PERSPECTIVE:

Consistent with current theories of memory and pain, we found that high, relative to low activation of pain concepts in memory increased psychological and physiological responses to laser-induced pain. The effect remained regardless of whether participants showed conscious awareness of activation. Theoretical and clinical implications are discussed.

KEYWORDS: Pain; electroencephalography; memory; priming

Catastrophizing

The role of catastrophizing in the pain-depression relationship

Scandinavian Journal of Pain, 03/07/2016

Reme SE

The study has a prospective design, thereby strengthening the same findings that were previously found by the authors in a cross-sectional design. The article addresses a fairly well studied topic, but in an understudied population.

Few previous studies have specifically targeted the elderly population when trying to understand chronic pain mechanisms, despite the fact that there appears to be a difference between younger and older adults when it comes to the prevalence and characterization of comorbid depression in chronic pain

Nociceptor sensitization

eNeuro. 2016 Feb 8;3(1). pii: ENEURO.0115-15.2015. doi: 10.1523/ENEURO.0115-15.2015.

Nociceptor Sensitization Depends on Age and Pain Chronicity

Weyer AD¹, Zappia KJ¹, Garrison SR², O'Hara CL¹, Dodge AK¹, Stucky CL¹.

Author information

Abstract

Peripheral inflammation causes mechanical pain behavior and increased action potential firing. However, most studies examine inflammatory pain at acute, rather than chronic time points, despite the greater burden of chronic pain on patient populations, especially aged individuals. Furthermore, there is disagreement in the field about whether primary afferents contribute to chronic pain. Therefore, we sought to evaluate the contribution of nociceptor activity to the generation of pain behaviors during the acute and chronic phases of inflammation in both young and aged mice. We found that both young (2 months old) and aged (>18 months old) mice exhibited prominent pain behaviors during both acute (2 day) and chronic (8 week) inflammation. However, young mice exhibited greater behavioral sensitization to mechanical stimuli than their aged counterparts. Teased fiber recordings in young animals revealed a twofold mechanical sensitization in C fibers during acute inflammation, but an unexpected twofold reduction in firing during chronic inflammation. Responsiveness to capsaicin and mechanical responsiveness of A-mechanonociceptor (AM) fibers were also reduced chronically. Importantly, this lack of sensitization in afferent firing during chronic inflammation occurred even as these inflamed mice exhibited continued behavioral sensitization. Interestingly, C fibers from inflamed aged animals showed no change in mechanical firing compared with controls during either the acute or chronic inflammatory phases, despite strong behavioral sensitization to mechanical stimuli at these time points.

These results reveal the following two important findings: (1) nociceptor sensitization to mechanical stimulation depends on age and the chronicity of injury; and (2) maintenance of chronic inflammatory pain does not rely on enhanced peripheral drive.

KEYWORDS: acute pain; aging; chronic pain; mechanical; sensitization; skin-nerve preparation

PMID: 26866058

Psychosocial factors

Phys Ther. 2016 Feb 4.

Adding Psychosocial Factors Does Not Improve Predictive Models in Patients With Spinal Pain Enough to Warrant Extensive Screening for Them at Baseline.

Ailliet L¹, Rubinstein SM², Hoekstra T³, van Tulder MW⁴, de Vet HC⁵.

Author information

Abstract

OBJECTIVE:

A prospective, multi-center chiropractic practice-based cohort study in Belgium and the Netherlands to determine whether certain psychosocial factors provide added value to predict recovery.

METHODS:

917 patients, of which 326 with neck pain and 591 with low back pain, completed self-administered questionnaires at baseline and at 3, 6 and 12 months. They provided information on several demographic, biomedical and psychosocial variables. We used lasting perceived recovery as outcome, i.e. recovery at all follow-up moments from 3 months on. 27 Potential predictors of outcome were used to build the predictive model. We conducted stepwise, backward GEE regression models to take into account the clustering of patients within practices. To assess the added value of the psychosocial variables, we compared two model fit indices.

RESULTS:

After adding psychosocial variables, predictors in the final model for neck pain included occupational status, BMI, duration of complaints, previous treatment and patient expectation (model fit marginally improved - AUC: from 0.684 to 0.695, % correctly predicted: from 65.0 to 66.1%), and in the final model for low-back pain the selected predictors included country of treatment, age, duration of complaint, previous imaging and somatization (AUC: from 0.669 to 0.715, % correctly predicted: from 68.6 to 69.5%). Only a minority of chiropractic patients scored high on psychological variables.

CONCLUSION:

Psychosocial variables have little added value in predicting outcome in patients presenting to the chiropractor with NP or LBP. We therefore advise chiropractors not to screen extensively for them at baseline. Identification of the small subgroup with high psychosocial scores and high risk for chronicity needs further investigation.

PMID: 2684701

62 A. NUTRITION/VITAMINS**Chocolate and decreased heart problems**

Heart. 2016 Mar 2. pii: heartjnl-2015-309203. doi: 10.1136/heartjnl-2015-309203.

Chocolate consumption and risk of myocardial infarction: a prospective study and meta-analysis.

Larsson SC¹, Åkesson A¹, Gigante B², Wolk A¹.

Author information

Abstract

OBJECTIVE:

To examine whether chocolate consumption is associated with a reduced risk of ischaemic heart disease, we used data from a prospective study of Swedish adults and we performed a meta-analysis of available prospective data.

METHODS AND RESULTS:

The Swedish prospective study included 67 640 women and men from the Cohort of Swedish Men and the Swedish Mammography Cohort who had completed a food-frequency questionnaire and were free of cardiovascular disease at baseline. Myocardial infarction (MI) cases were ascertained through linkage with the Swedish National Patient and Cause of Death Registers. PubMed and EMBASE databases were searched from inception until 4 February 2016 to identify prospective studies on chocolate consumption and risk of ischaemic heart disease.

RESULTS:

The results from eligible studies were combined using a random-effects model. During follow-up (1998-2010), 4417 MI cases were ascertained in the Swedish study. Chocolate consumption was inversely associated with MI risk. Compared with non-consumers, the multivariable relative risk for those who consumed ≥ 3 -4 servings/week of chocolate was 0.87 (95% CI 0.77 to 0.98; p for trend =0.04). Five prospective studies on chocolate consumption and ischaemic heart disease were identified. Together with the Swedish study, the meta-analysis included six studies with a total of 6851 ischaemic heart disease cases. The overall relative risk for the highest versus lowest category of chocolate consumption was 0.90 (95% CI 0.82 to 0.97), with little heterogeneity among studies ($I^2=24.3\%$).

CONCLUSIONS: Chocolate consumption is associated with lower risk of MI and ischaemic heart disease.

PMID:26936339

63. PHARMACOLOGY**Proton pumps and NSaids**

Aliment Pharmacol Ther. 2016 Mar 9. doi: 10.1111/apt.13583.

High risk of drug-induced microscopic colitis with concomitant use of NSAIDs and proton pump inhibitors.

Verhaegh BP^{1,2}, de Vries F^{3,4}, Masclee AA^{1,2}, Keshavarzian A^{3,5}, de Boer A³, Souverein PC³, Pierik MJ¹, Jonkers DM^{1,2}.

Author information

Abstract

BACKGROUND:

Microscopic colitis (MC) is a chronic bowel disorder characterised by watery diarrhoea. Nonsteroidal anti-inflammatory drugs (NSAIDs), proton pump inhibitors (PPIs), selective serotonin reuptake inhibitors (SSRIs) and statins have been associated with MC. However, underlying mechanisms remain unclear.

AIM:

To study the association between exposure to these drugs and MC, with attention to time of exposure, duration, dosage and combined exposure, and to test hypotheses on underlying pharmacological mechanisms.

METHODS:

A case-control study was conducted using the British Clinical Practice Research Datalink. MC cases (1992-2013) were matched to MC-naive controls on age, sex and GP practice. Drug exposure was stratified according to time of exposure, duration of exposure or dosage. Conditional logistic regression analysis was applied to calculate adjusted odds ratios (AORs).

RESULTS:

In total, 1211 cases with MC were matched to 6041 controls. Mean age was 63.4 years, with 73.2% being female. Current use of NSAIDs (AOR 1.86, 95% CI 1.39-2.49), PPIs (AOR 3.37, 95% CI 2.77-4.09) or SSRIs (AOR 2.03, 95% CI 1.58-2.61) was associated with MC compared to never or past use. Continuous use for 4-12 months further increased the risk of MC. Strongest associations (fivefold increased risk) were observed for concomitant use of PPIs and NSAIDs. Statins were not associated with MC.

CONCLUSIONS:

Current exposure to NSAIDs, PPIs or SSRIs and prolonged use for 4-12 months increased the risk of MC. Concomitant use of NSAIDs and PPIs showed the highest risk of MC. Acid suppression related dysbiosis may contribute to the PPI effect, which may be exacerbated by NSAID-related side-effects.

PMID: 26956016