

2. LBP

Spondi has more leg symptoms than LBP

Spine (Phila Pa 1976). 2017 Jun 1;42(11):E666-E671. doi: 10.1097/BRS.0000000000001960.

Association of Lumbar Spondylolisthesis With Low Back Pain and Symptomatic Lumbar Spinal Stenosis in a Population-based Cohort: The Wakayama Spine Study.

Ishimoto Y¹, Yoshimura N, Muraki S, Yamada H, Nagata K, Hashizume H, Takiguchi N, Minamide A, Oka H, Tanaka S, Kawaguchi H, Nakamura K, Akune T, Yoshida M.
Author information

Abstract

STUDY DESIGN:

Cross-sectional study.

OBJECTIVE:

To determine the association between lumbar spondylolisthesis and low back pain and symptomatic lumbar spinal stenosis (LSS) in a population-based cohort.

SUMMARY OF BACKGROUND DATA:

The basic epidemiology of lumbar spondylolisthesis is not well known. There is little information regarding the association between lumbar spondylolisthesis and clinical symptoms such as low back pain and LSS symptoms.

METHODS:

This cross-sectional study included data from 938 participants (308 males, 630 females; mean age, 67.3 years; range, 40-93 years). Lumbar spondylolisthesis was defined as a slip of $\geq 5\%$. Diagnostic criteria for symptomatic LSS required the presence of both leg symptoms and radiographic LSS findings on magnetic resonance imaging. The prevalence of low back pain and symptomatic LSS was compared between those with or without spondylolisthesis. Furthermore, we determined the association between the amount of slippage and presence of symptomatic LSS.

RESULTS:

The prevalence of spondylolisthesis at any level was 15.8% in the total sample, 13.0% in males, and 17.1% in females; the prevalence was not significantly different between males and females ($P=0.09$). In both, males and females, symptomatic LSS was related to spondylolisthesis [odds ratio (OR): 2.07; 95% CI: 1.20-3.44]; however, no such association was found for spondylolisthesis and presence of low back pain. The amount of slippage was not related to the presence of symptomatic LSS ($P=0.93$).

CONCLUSION:

This population-based cohort study revealed that lumbar spondylolisthesis had a closer association with leg symptoms than with low back pain. There was a significant difference in the presence of symptomatic LSS between participants with and without spondylolisthesis. However, the amount of slippage was not related to the presence of symptomatic LSS.

3. DISC

Herniation and genetics

Eur Spine J. 2017 May 27. doi: 10.1007/s00586-017-5146-z.

Meta-analysis of the effects of genetic polymorphisms on intervertebral disc degeneration.

Rigal J¹, Léglise A¹, Barnetche T¹, Cogniet A¹, Aunoble S¹, Le Huec JC².

Author information

Abstract

INTRODUCTION:

Chronic low back pain is a significant public health issue. Both its direct and indirect cost represents tens of billions of US dollars. Although chronic low back pain can be the result of many factors, the predominant cause is disc degeneration. Recent studies have shown genetic involvement in up to 74% of cases. This study aimed to evaluate genetic risk factors of disc degeneration by performing a systematic analysis of association studies. The objective is to provide a guide for practice by assessing the clinical relevance of current information.

METHODS AND MATERIALS:

We performed a meta-analysis of 3122 items collected from 6 databases. 74 articles were selected according to our inclusion criteria. 18 (24%) could be grouped into 16 meta-analyses of 16 mutations in 12 genes. The statistics of the meta-analysis were conducted through Revman 5.1 software.

RESULTS:

The items included are 10,250 cases and 14,136 controls. The GOLD range from 3.42 to 0.38. Two alleles were significantly associated with disc degeneration: IL-6 rs1800797 and MMP-9 rs17576 and one proved to be protective: IL-6 rs1800795. 13 meta-analyses did not yield significant results and methodological heterogeneity.

DISCUSSION:

The results highlight the lack of methodological rigor in most of the studies. The absence of international clinical and radiological classification of early disc degeneration, limits the homogeneity of studies. Understanding which populations are predisposed to this significant public health problem may change our approach to diagnostic and therapeutic methods. This work opens up enormous opportunities to provide a genetic solution and consider new diagnostic and therapeutic means to this public health problem.

7. PELVIC ORGANS/WOMAN'S HEALTH

Sexual pain and wide spread pain

Eur J Pain. 2017 May 30. doi: 10.1002/ejp.1042.

Female sexual pain: Epidemiology and genetic overlap with chronic widespread pain.

Burri A^{1,2}, Ogata S^{3,4,5}, Williams F⁶.

Author information

Abstract

BACKGROUND:

Increased tender spots and lowered general pain thresholds have been observed in patients with dyspareunia. Based on this, the aim of the study was to compare the co-occurrence of female sexual pain across various pain populations and to further explore the aetiological structure underlying sexual pain by dissecting the genetic and environmental covariation among sexual pain, chronic widespread pain (CWP) and the previously reported psychological correlates of anxiety sensitivity and depression.

METHODS:

A multivariate twin study including 1489 female twin individuals (246 full MZ pairs, 187 full DZ pairs and 623 whose co-twin did not participate). Main outcomes measures included self-reported diagnosis of osteoarthritis and rheumatoid arthritis, and validated questionnaires for the assessment of sexual pain, CWP, depression and anxiety sensitivity.

RESULTS:

Sexual pain showed a small but statistically significant correlation with CWP ($r = 0.08$; $p < 0.05$), anxiety sensitivity ($r = 0.15$, $p < 0.001$) and depression ($r = 0.09$, $p < 0.01$). The heritability of sexual pain was found to be 31%. Multivariate variance component analysis revealed a genetic factor common among CWP, depression, anxiety sensitivity and sexual pain, and a second genetic factor shared between anxiety sensitivity and sexual pain only. We further detected genetic and environmental factors unique to sexual pain, explaining 24.01% and 67.24%, respectively, of the phenotypic variance.

CONCLUSIONS:

Our findings suggest some overlap between sexual pain and CWP and point towards a shared but complex psychophysiological aetiology underlying sexual pain. Results further highlight the influence of specific environmental and contextual stressors in the development and maintenance of sexual pain.

SIGNIFICANCE:

Sexual pain shares a common genetic aetiology with chronic widespread pain and the frequently reported psychological comorbidities of depression and anxiety. Overall this suggests a complex psychophysiological aetiology underlying chronic pain conditions. The high proportion of variance in sexual pain explained by environmental factors further highlights the importance of specific environmental and contextual stressors in the development and maintenance of the condition.

Changes in the tongue with dysmenorrhea

Evidence-Based Complementary and Alternative Medicine
Volume 2017 (2017), Article ID 6435702, 9 pages
<https://doi.org/10.1155/2017/6435702>
Research Article

Differences in the Tongue Features of Primary Dysmenorrhea Patients and Controls over a Normal Menstrual Cycle

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Background. The aims of this study were to investigate the relationships between tongue features and the existence of menstrual pain and to provide basic information regarding the changes in tongue features during a menstrual cycle.

Methods. This study was conducted at the Kyung Hee University Medical Center. Forty-eight eligible participants aged 20 to 29 years were enrolled and assigned to two groups according to their visual analogue scale (VAS) scores. Group A included 24 females suffering from primary dysmenorrhea (PD) caused by qi stagnation and blood stasis syndrome with $VAS \geq 4$. In contrast, Group B included 24 females with few premenstrual symptoms and $VAS < 4$. All participants completed four visits (menses-follicular-luteal-menses phases), and the tongue images were taken by using a computerized tongue image analysis system (CTIS).

Results. The results revealed that the tongue coating color value and the tongue coating thickness in the PD group during the menstrual phase were significantly lower than those of the control group (and , resp.).

Conclusions. These results suggest that the tongue features obtained from the CTIS may serve as a supplementary means for the differentiation of syndromes and the evaluation of therapeutic effect and prognosis in PD. Trial Registration. This trial was registered with Clinical Research Information Service, registration number KCT0001604, registered on 27 August 2015.

8. VISCERA

Bypass and abdominal pain

Obes Surg. 2017 Jun;27(6):1438-1445. doi: 10.1007/s11695-016-2499-z.

Chronic Abdominal Pain and Symptoms 5 Years After Gastric Bypass for Morbid Obesity.

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Author information

Abstract

INTRODUCTION:

Roux-en-Y gastric bypass (RYGB) is widely performed as treatment of morbid obesity. Long-term weight loss, effects on co-morbidities, and quality of life after RYGB have been well addressed. Other long-term outcomes are less elucidated. The aim of this study was to evaluate the prevalence, symptom characteristics, and possible predictors of chronic abdominal pain and gastrointestinal symptoms during consultations 5 years after RYGB.

METHODS:

A 5-year follow-up study of patients operated with RYGB 2008-2009 was performed. The patients completed questionnaires regarding chronic abdominal pain, the Gastrointestinal Symptom Rating Scale (GSRS), the ROME III questionnaire, the Hospital Anxiety and Depression Scale, Pain Catastrophing Scale (PCS), the Brief Pain Inventory, and SF-36. Uni- and multivariable logistic regression analyses of characteristics associated with chronic abdominal pain were performed.

RESULTS:

A total of 165/234 (71%) patients met to the follow-up, 160 of these accepted study inclusion. The mean follow-up was 64 (SD 4.2) months. The mean age was 42.5 (SD 8.7) years and 59% were females. The mean total weight loss was 23.9% (SD 11.2). Chronic abdominal pain was reported by 33.8%. Female gender, average strength of bodily pain, and the PCS sum score were associated with chronic abdominal pain. Symptoms of indigestion and irritable bowel syndrome were reported by 48.8% and 29.1%, respectively. Chronic abdominal pain was associated with reduced health related quality of life.

CONCLUSION:

A substantial proportion of patients experienced chronic abdominal pain and symptoms 5 years after RYGB. Abdominal pain should be addressed at follow-up consultations after RYGB.

Crohn's and perforations

Dig Dis Sci. 2017 Jun;62(6):1607-1614. doi: 10.1007/s10620-017-4539-5. Epub 2017 Mar 17.

Incidence of and Risk Factors for Free Bowel Perforation in Patients with Crohn's Disease.

Kim JW¹, Lee HS^{2,3}, Ye BD^{4,5}, Yang SK^{2,6}, Hwang SW², Park SH^{2,6}, Yang DH², Kim KJ^{2,6}, Byeon JS², Myung SJ², Yoon YS^{6,7}, Yu CS^{6,7}, Kim JH².

Author information**Abstract****BACKGROUND:**

Incidence of and risk factors for intestinal free perforation (FP) in patients with Crohn's disease (CD) are not established.

AIM:

To establish rate of and risk factors for FP in a large cohort of CD patients.

METHODS:

Medical records of CD patients who visited Asan Medical Center from June 1989 to December 2012 were reviewed. After matching the FP patients to controls (1:4) by gender, year, and age at CD diagnosis, and disease location, their clinical characteristics were compared using conditional logistic regression analysis.

RESULTS:

Among 2043 patients who were included in our study cohort, 44 patients (2.15%) developed FP over a median follow-up period of 79.8 months (interquartile range 37.3-124.6), with an incidence of 3.18 per 1000 person-years [95% confidence interval (CI) 2.37-4.28]. All 44 patients underwent emergency surgery, and eight patients underwent reoperation within 12 months (8/44, 18.2%). Multivariable-adjusted analysis revealed that anti-TNF therapy [odds ratio (OR), 3.73; 95% CI 1.19-11.69; $p = 0.024$] was associated with an increased risk of FP.

CONCLUSIONS:

The incidence of FP in a large cohort of Korean CD patients was 2.15%, which was similar to that in Western reports. Anti-TNF therapy could be risk factors for FP.

Crohn's disease and smoking**Assessment of factors associated with smoking cessation at diagnosis or during follow-up of Crohn's disease**

Journal of Gastroenterology and Hepatology

Song EM, et al.

The clinicians aimed to evaluate the factors associated with smoking cessation after Crohn's disease (CD) diagnosis. Quitters after CD diagnosis had features distinct from those of non-quitters including quitters at diagnosis and quitters during follow-up. Given the motivation at CD diagnosis, a detailed history of smoking habits ought to be taken and all current smokers ought to be encouraged to quit smoking at the time of CD diagnosis.

Methods

The clinicians evaluated clinical characteristics and change in smoking status in 445 current smokers at the time of CD diagnosis.

Based on their final smoking status and time of smoking cessation, they classified patients into 3 subgroups: non-quitters, quitters at diagnosis, and quitters during follow-up.

Results

55.7% was the overall smoking cessation rate (248 of 445 patients).

The main reason for quitting was the diagnosis of CD (41.5%, 103 of 248 patients).

At the time of CD diagnosis, smoking cessation was associated with intestinal resection within 3 months from CD diagnosis (odds ratio [OR] 2.355, 95% confidence interval [CI] 1.348–4.116, $p = 0.003$), light smoking (OR 2.041, 95% CI 1.157–3.602, $p = 0.014$) and initiation of smoking before 18 years of age (OR 0.570, 95% CI 0.327–0.994, $p = 0.047$).

Also, light smoking (OR 1.762, 95% CI 1.019–3.144, $p = 0.043$) and initiation of smoking before 18 years (OR 0.588, 95% CI 0.381–0.908, $p = 0.017$) were associated with overall smoking cessation.

14. HEADACHES

Childhood migraines

J Headache Pain. 2017 Dec;18(1):62. doi: 10.1186/s10194-017-0769-3. Epub 2017 May 30.

The role of attachment insecurity in the emergence of anxiety symptoms in children and adolescents with migraine: an empirical study.

Williams R¹, Leone L², Faedda N³, Natalucci G⁴, Bellini B⁴, Salvi E⁴, Verdecchia P⁴, Cerutti R¹, Arruda M⁵, Guidetti V⁶.

Author information

Abstract

BACKGROUND:

It is widely recognised that there are associations between headache, psychiatric comorbidity and attachment insecurity in both adults and children. The aims of this study were: 1) to compare perceived attachment security and anxiety in children and adolescents with migraine without aura and a healthy control group; 2) to test whether the child's perceived security of attachment to the mother and the father mediated the association between migraine and anxiety.

METHODS:

One hundred children and adolescents with Migraine without Aura were compared with a control group of 100 children without headache. The Security Scale (measures perceived security of attachments) and the Self-Administered Psychiatric Scales for Children and Adolescents, a measure of anxiety symptoms, were administered to all participants.

RESULTS:

The clinical group had lower attachment security than the control group and higher scores on all anxiety scales. Anxiety was negatively correlated with attachment. Children's attachment to their mother mediated the increase in global anxiety in the clinical group. Insecure paternal attachment was associated with greater insecurity in maternal attachment, suggesting that there is a complex pathway from migraine to anxiety symptoms mediated by perceived insecurity of paternal attachment and hence also by perceived insecurity of maternal attachment.

CONCLUSION:

These results suggest that insecure parental attachment may exacerbate anxiety in children and adolescents with migraine and point to the importance of multimodal interventions, perhaps taking account of family relationships, for children and adolescents with migraine.

Childhood migraines

J Headache Pain. 2017 Dec;18(1):59. doi: 10.1186/s10194-017-0764-8. Epub 2017 May 30.

Symptoms of central sensitization and comorbidity for juvenile fibromyalgia in childhood migraine: an observational study in a tertiary headache center.

de Tommaso M¹, Scirucchio V², Delussi M³, Vecchio E³, Goffredo M⁴, Simeone M⁴, Barbaro MGF⁴.

Author information

Abstract

BACKGROUND:

Central sensitization is an important epiphenomenon of the adult migraine, clinically expressed by allodynia, pericranial tenderness and comorbidity for fibromyalgia in a relevant number of patients. This study aimed to evaluate the frequency and the clinical characteristics of allodynia, pericranial tenderness, and comorbidity for Juvenile Fibromyalgia (JFM) in a cohort of migraine children selected in a tertiary headache center.

METHODS:

This was an observational cross-sectional study on 8-15 years old migraine patients. Allodynia was assessed by a questionnaire. Pericranial tenderness and comorbidity for JFM as well as their possible association with poor quality of life and migraine related disability, and with other clinical symptoms as anxiety, depression, sleep disorders and pain catastrophizing, were also evaluated.

RESULTS:

One hundred and fifty one patients were selected, including chronic migraine (n°47), migraine without aura (n° 92) and migraine with aura (n° 12) sufferers. Allodynia was reported in the 96,6% and pericranial tenderness was observed in the 68.8% of patients. Pericranial tenderness was more severe in patients with more frequent migraine and shorter sleep duration. Allodynia seemed associated with anxiety, pain catastrophizing and high disability scores. Comorbidity for JFM was present in the 0.03% of patients. These children presented with a severe depression and a significant reduction of quality of life as compared to the other patients.

CONCLUSIONS:

This study outlined a relevant presence of symptoms of central sensitization among children with migraine. Severe allodynia and comorbidity for JFM seemed to cause a general decline of quality of life, which would suggest the opportunity of a routine assessment of these clinical features.

Antidepressants

Eur J Neurol. 2017 May 29. doi: 10.1111/ene.13320.

Efficacy and feasibility of antidepressants for the prevention of migraine in adults: a meta-analysis.

Xu XM^{1,2}, Yang C³, Liu Y^{1,2}, Dong MX^{1,2}, Zou DZ^{1,2}, Wei YD^{1,2}.

Author information

Abstract

BACKGROUND AND PURPOSE:

Migraine has greatly impacted the quality of life for migraineurs and was ranked as the seventh highest specific cause of disability worldwide in 2012. Because of the role of serotonin in migraine mechanisms, antidepressants have been used in the prevention of migraine. However, the role of antidepressants for migraine prophylaxis in adults has not been completely established. Our aim was systematically to assess the efficacy and feasibility of antidepressants for the prevention of migraine in adults based on currently available literature.

METHODS:

A comprehensive search of databases was conducted including the Cochrane, PubMed, Web of Science and Embase databases from inception to July 2016. Randomized controlled trials that assigned adults with a clinical diagnosis of migraine to antidepressant or placebo treatment were included. The primary outcome was the reduction of migraine frequency or index.

RESULTS:

Overall, 16 randomized controlled trials including 1082 participants were identified. Antidepressants had a significant advantage over placebo in reducing the migraine frequency or index of adults with a standardized mean difference of -0.79 [95% confidence interval (CI) -1.13 to -0.45, $P < 0.00001$]. Patients receiving antidepressant therapy were more likely to experience an at least 50% reduction of headache burden than those receiving placebo (28.9% vs. 20.2%; risk ratio 1.40; 95% CI 0.97-2.02; $P = 0.07$). However, antidepressants were less well tolerated than placebo because of some adverse events (risk ratio 1.74, 95% CI 1.05-2.89, $P = 0.03$).

CONCLUSIONS:

Antidepressants are effective in the prophylaxis of migraine in adults, but the level of evidence for antidepressants except for amitriptyline seems to be quite shaky.

20 A. ROTATOR CUFF**Opioid use****Opioid Consumption After Rotator Cuff Repair**

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Brian R. Wolf, M.D., M.S.

DOI: <http://dx.doi.org/10.1016/j.arthro.2017.03.016>

Purpose

Rising perioperative opioid use in the United States is of increasing concern. The purposes of this study were (1) to define opioid consumption after rotator cuff repair (RCR) in the United States and (2) to evaluate patient factors that may be associated with prolonged opioid use after arthroscopic RCR.

Methods

All arthroscopic RCRs performed between 2007 and 2014 were identified by use of Current Procedural Terminology code (29,827). Patients who filled opioid prescriptions preoperatively were divided into those who filled prescriptions at 1 to 3 months preceding RCR and those who filled opioid prescriptions only in the 1 month preceding RCR. Risk ratios (RRs) were calculated by dividing the cumulative incidence of opioid prescriptions in patients with each patient factor by the cumulative incidence in those without each patient factor.

Results

During the study period, 35,155 arthroscopic RCRs were performed. Of the patients, approximately 43% had filled an opioid prescription in the 3 months before RCR. At 3 months after RCR, patients who filled opioid prescriptions at 1 to 3 months before RCR were 7.45 (95% confidence interval [CI], 6.95-7.98) times more likely to be filling opioid medication prescriptions than those who had not been prescribed opioid medications before surgery; patients who filled opioid prescriptions in the month before RCR were 3.04 (95% CI, 2.8-3.29) times more likely to be filling opioid prescriptions at 3 months after RCR. Patients with psychiatric diagnoses (RR, 1.94; 95% CI, 1.85-2.04), myalgia (RR, 1.67; 95% CI, 1.6-1.75), and low-back pain (RR, 2.09; 95% CI, 2-2.2) were also found to be at risk of filling opioid prescriptions at 3 months postoperatively.

Conclusions

We found approximately 43% of patients undergoing RCR received opioid medications before RCR. Patients who are prescribed narcotics before RCR are at increased risk of postoperative opioid demand. Patients with psychiatric diagnoses, myalgia, and low-back pain may be at increased risk of prolonged opioid use after surgery.

Level of Evidence

Level III, retrospective case-control study.

22 A. IMPINGEMENT**Modified Neers**

Eur J Orthop Surg Traumatol. 2017 May 22. doi: 10.1007/s00590-017-1979-8.

The diagnostic value of a modified Neer test in identifying subacromial impingement syndrome.

Guosheng Y¹, Chongxi R², Guoqing C³, Junling X¹, Hailong J¹.

Author information

Abstract

BACKGROUND:

Subacromial impingement syndrome (SAIS) is characterized by pain experienced through an arc of elevation as the shoulder abducts and diagnosed commonly by Neer test (NT). However, the diagnostic accuracy of NT for SAIS is still limited. Here, a modified Neer test (MNT) was introduced to improve the accuracy of the clinical examination in diagnosing SAIS and differentiating it from frozen shoulder. The aim of this study was to investigate the diagnostic values of MNT in diagnosing SAIS and differentiating it from frozen shoulder.

METHODS:

Between January 2015 and June 2015, a prospective study assessed 85 shoulders among 82 patients with shoulder joint disease; 42 patients underwent arthroscopic surgery, and all 82 patients received X-rays, magnetic resonance imaging (MRI) or MRI contrast examinations. The diagnostic criteria are based on arthroscopy and MRI scanning.

RESULTS:

Using clinical epidemiology and diagnostic tests, we calculated the sensitivity, specificity, positive predictive value, negative predictive value and degree of accuracy of MNT in diagnosing SAIS. The diagnostic accuracy rate of MNT in identifying shoulder SAIS was 90.59%, and the specificity was 95.56%.

CONCLUSIONS:

In the diagnosis of SAIS, MNT is a reliable and highly accurate maneuver and seems useful to distinguish this syndrome from frozen shoulder.

28. REPLACEMENTS**Impingement surgery does not affect total hip**

Int Orthop. 2017 Jun;41(6):1125-1129. doi: 10.1007/s00264-016-3330-0. Epub 2016 Oct 26.

Previous arthroscopic repair of femoro-acetabular impingement does not affect outcomes of total hip arthroplasty.

Charles R¹, LaTulip S², Goulet JA¹, Pour AE^{3,4}.
Author information

Abstract

BACKGROUND:

Total hip arthroplasty (THA) is commonly elected following failed arthroscopic treatment of femoro-acetabular impingement (FAI). The purpose of this study was to evaluate post-operative outcomes of primary THA in patients who had previously undergone arthroscopic treatment for FAI.

METHODS:

A retrospective, matched case-control study was conducted. The case group included 39 patients who underwent THA after previous hip arthroscopy for FAI. Thirty-nine patients who had a primary THA without previous hip arthroscopy served as a control group and were matched for age, sex and body mass index. Surgical outcomes were assessed based on inpatient hospital metrics and outpatient complication measures. Statistical analyses were performed to identify the significance of outcome variables between case and control groups.

RESULTS:

No statistically significant differences were observed between groups in terms of operative time, haemoglobin drop, intra-operative estimated blood loss, transfusion requirements, amounts of opioids provided, functional mobility assessments on post-operative days one and two, length of hospitalization, discharge location, emergency department visits, post-operative superficial or deep periprosthetic infection, revision rates for dislocation or formation of heterotopic bone (p-values = 0.1-0.8). A statistically significant difference was found between the walking scores on the third post-operative day (p = 0.015).

CONCLUSIONS:

These findings, while underpowered, are consistent with other previously published reports. Previous hip arthroscopy for FAI does not appear to impact post-operative outcomes of a subsequent THA. Larger datasets from different surgeons and centers are needed to further assess these conclusions.

32 A. KNEE/ACL**Progressing rehab and problems****Knee Loading Deficits During Dynamic Tasks in Individuals Following Anterior Cruciate Ligament Reconstruction**

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Published: *Journal of Orthopaedic & Sports Physical Therapy*,
2017 **Volume:**47 **Issue:**6 **Pages:**411–419 **DOI:**10.2519/jospt.2017.6912

Study Design

Controlled laboratory study, cross-sectional.

Background

Well-documented deficits in sagittal plane knee loading during dynamic tasks indicate that individuals limit the magnitude of knee loading following anterior cruciate ligament reconstruction (ACLR). It is unknown how these individuals modulate the speed of knee flexion during loading, which is particularly important as they progress to running during rehabilitation.

Objective

To investigate how individuals following ACLR perform dynamic knee loading tasks compared to healthy controls.

Methods

Two groups of recreationally active individuals participated: 15 healthy controls and 15 individuals post-ACLR (ACLR group). Participants performed 3 trials of overground running and a single-limb loading (SLL) task. Sagittal plane range of motion, peak knee extensor moment, peak knee flexion angular velocity, peak knee power absorption, and rate of knee extensor moment were calculated during deceleration. A mixed-factor multivariate analysis of variance was performed to compare differences in variables between groups (ACLR and control), limbs (within ACLR), and tasks (within control).

Results

Knee power absorption, knee flexion angular velocity, and rate of knee extensor moment were lower in reconstructed limbs (for the SLL task: 5.6 W/kg, 325.8°/s, and 10.5 Nm/kg/s, respectively; for running: 11.8 W/kg, 421.4°/s, and 38.2 Nm/kg/s, respectively) compared to nonsurgical limbs (for the SLL task: 9.7 W/kg, 432.0°/s, and 19.1 Nm/kg/s, respectively; for running: 18.8 W/kg, 494.1°/s, and 72.8 Nm/kg/s, respectively) during both tasks ($P < .001$). The magnitudes of between-limb differences in knee flexion angular velocity were similar in both tasks.

Conclusion

Despite lower loading demands during SLL, individuals post-ACLR exhibit deficits in knee dynamics during SLL and running, suggesting an inability or reluctance to dynamically accommodate forces at the knee when progressing to running in rehabilitation. *J Orthop Sports Phys Ther* 2017;47(6):411–419. doi:10.2519/jospt.2017.6912

34. PATELLA

Patellar tendon strap helps

Knee. 2017 May 24. pii: S0968-0160(17)30070-4. doi: 10.1016/j.knee.2017.03.003.

Single-limb landing biomechanics are altered and patellar tendinopathy related pain is reduced with acute infrapatellar strap application.

Rosen AB¹, Ko J², N Brown C³.

Author information

Abstract

BACKGROUND:

Patellar tendinopathy, a common condition of the knee, is often treated with patellar tendon straps to control pain during dynamic activity. Little is known regarding their effect on pain, landing kinematics and kinetics with their application. The purpose of this study was to determine if patellar tendon straps influenced pain, kinematics at landing and ground reaction forces in individuals with patellar tendinopathy versus healthy controls.

METHODS:

Thirty participants with patellar tendinopathy and 30 controls participated. They completed single-limb landings with and without patellar tendon straps while pain, three-dimensional kinematics and vertical ground reaction forces were measured. A multivariate analysis of variance was completed to determine the differences in strapping condition and group for the dependent variables.

RESULTS:

Individuals with patellar tendinopathy demonstrated a significant decrease in pain (no strap=37.1±22.1mm (mean±SD), strap=28.0±18.5mm (mean±SD)). With the strap at landing all participants displayed less hip rotation (F=7.16, p=.01), knee adduction (F=10.20, p=.002), ankle inversion (F=4.60, p=.04), and peak vertical ground reaction force (F=7.30, p=.009).

CONCLUSIONS:

Patellar tendon straps reduced pain in those with patellar tendinopathy. Additionally, with the strap, individuals landed in a more neutral alignment and decreased landing forces which could provide a benefit to those with patellar tendinopathy.

37. OSTEOARTHRITIS/KNEE

Conservative same a surgery

BMJ Open. 2017 May 11;7(5):e016114. doi: 10.1136/bmjopen-2017-016114.

Knee arthroscopy versus conservative management in patients with degenerative knee disease: a systematic review.

Brignardello-Petersen R^{1,2}, Guyatt GH¹, Buchbinder R^{3,4}, Poolman RW⁵, Schandelmaier S^{1,5,6}, Chang Y¹, Sadeghirad B^{1,7}, Evaniew N⁸, Vandvik PO^{9,10}.

Author information

Abstract

OBJECTIVE:To determine the effects and complications of arthroscopic surgery compared with conservative management strategies in patients with degenerative knee disease.

DESIGN:Systematic review.

MAIN OUTCOME MEASURES:Pain, function, adverse events.

DATA SOURCES:MEDLINE, EMBASE, the Cochrane Central Register of Controlled Trials (CENTRAL), Google Scholar and Open Grey up to August 2016.

ELIGIBILITY CRITERIA:For effects, randomised clinical trials (RCTs) comparing arthroscopic surgery with a conservative management strategy (including sham surgery) in patients with degenerative knee disease. For complications, RCTs and observational studies.

REVIEW METHODS:Two reviewers independently extracted data and assessed risk of bias for patient-important outcomes. A parallel guideline committee (BMJ Rapid Recommendations) provided input on the design and interpretation of the systematic review, including selection of patient-important outcomes. We used the GRADE approach to rate the certainty (quality) of the evidence.

RESULTS:We included 13 RCTs and 12 observational studies. With respect to pain, the review identified high-certainty evidence that knee arthroscopy results in a very small reduction in pain up to 3 months (mean difference =5.4 on a 100-point scale, 95% CI 2.0 to 8.8) and very small or no pain reduction up to 2 years (mean difference =3.1, 95% CI -0.2 to 6.4) when compared with conservative management. With respect to function, the review identified moderate-certainty evidence that knee arthroscopy results in a very small improvement in the short term (mean difference =4.9 on a 100-point scale, 95% CI 1.5 to 8.4) and very small or no improved function up to 2 years (mean difference =3.2, 95% CI -0.5 to 6.8). Alternative presentations of magnitude of effect, and associated sensitivity analyses, were consistent with the findings of the primary analysis. Low-quality evidence suggested a very low probability of serious complications after knee arthroscopy.

CONCLUSIONS: Over the long term, patients who undergo knee arthroscopy versus those who receive conservative management strategies do not have important benefits in pain or function.

Genetics and OA

Ann Rheum Dis. 2017 Jun;76(6):1114-1122. doi: 10.1136/annrheumdis-2016-210131. Epub 2016 Dec 5.

Mitochondrial DNA haplogroups influence the risk of incident knee osteoarthritis in OAI and CHECK cohorts. A meta-analysis and functional study.

Fernández-Moreno M¹, Soto-Hermida A¹, Vázquez-Mosquera ME¹, Cortés-Pereira E¹, Relaño S², Hermida-Gómez T¹, Pérttega S³, Oreiro-Villar N¹, Fernández-López C¹, Garesse R^{4,5}, Blanco FJ¹, Rego-Pérez I¹.

Author information**Abstract****OBJECTIVE:**

To evaluate the influence of the mitochondrial DNA (mtDNA) haplogroups in the risk of incident knee osteoarthritis (OA) and to explain the functional consequences of this association to identify potential diagnostic biomarkers and therapeutic targets.

METHODS:

Two prospective cohorts contributed participants. The osteoarthritis initiative (OAI) included 2579 subjects of the incidence subcohort, and the cohort hip and cohort knee (CHECK) included 635, both with 8-year follow-up. The analysis included the association of mtDNA haplogroups with the rate of incident knee OA in subjects from both cohorts followed by a subsequent meta-analysis. Transmitochondrial cybrids harbouring haplogroup J or H were constructed to detect differences between them in relation to physiological features including specific mitochondrial metabolic parameters, reactive oxygen species production, oxidative stress and apoptosis.

RESULTS:

Compared with H, the haplogroup J associates with decreased risk of incident knee OA in subjects from OAI (HR=0.680; 95% CI 0.470 to 0.968; p<0.05) and CHECK (HR=0.728; 95% CI 0.469 to 0.998; p<0.05). The subsequent meta-analysis including 3214 cases showed that the haplogroup J associates with a lower risk of incident knee OA (HR=0.702; 95% CI 0.541 to 0.912; p=0.008). J cybrids show a lower free radical production, higher cell survival under oxidative stress conditions, lower grade of apoptosis as well as lower expression of the mitochondrially related pro-apoptotic gene BCL2 binding component 3 (BBC3). In addition, J cybrids also show a lower mitochondrial respiration and glycolysis leading to decreased ATP production.

CONCLUSIONS:

The physiological effects of the haplogroup J are beneficial to have a lower rate of incident knee OA over time. Potential drugs to treat OA could focus on emulating the mitochondrial behaviour of this haplogroup.

Joint pain eased by isometric contraction

Int J Rheum Dis. 2017 May 25. doi: 10.1111/1756-185X.13082.

Effects of quadriceps functional exercise with isometric contraction in the treatment of knee osteoarthritis.

Huang L¹, Guo B¹, Xu F¹, Zhao J².

Author information

Abstract**OBJECTIVE:**

This study aims to investigate the effects of a quadriceps isometric contraction exercise method in the treatment of knee osteoarthritis (OA).

METHODS:

A total of 250 patients with a confirmed diagnosis of knee OA were enrolled. The patients were randomly divided into an exercise treatment test group (128 patients) and a traditional treatment control group (122 patients). Quadriceps isometric contraction exercise was used in the test group, and local physiotherapy and oral nonsteroidal anti-inflammatory drugs were used in the control group. Knee joint function was evaluated with a visual analog scale (VAS) score and the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) questionnaire before treatment, and 1 and 3 months after treatment.

RESULTS:

VAS scoring and the WOMAC questionnaire showed significant relief in pain 1 month after treatment in the test group ($P < 0.05$), but minimal relief in the control group; at 1 month, there was also minimal joint function improvement in the test group ($P > 0.05$), but significant improvement in the control group ($P < 0.05$). However, 3 months after treatment, pain relief and knee joint function were more improved in the test group than in the control group, with a significant difference ($P < 0.05$).

CONCLUSION:

Through our short-term observation, joint pain was effectively relieved and knee joint function was improved with systematic quadriceps isometric contraction exercise.

Vitamin D helps

Am J Med. 2017 May 23. pii: S0002-9343(17)30506-5. doi: 10.1016/j.amjmed.2017.04.03

Maintaining vitamin D sufficiency is associated with improved structural and symptomatic outcomes in knee osteoarthritis.

Zheng S¹, Jin X¹, Cicuttini F², Wang X¹, Zhu Z¹, Wluka A², Han W³, Winzenberg T⁴, Antony B¹, Aitken D¹, Blizzard L¹, Jones G¹, Ding C⁵.

Author information

Abstract

BACKGROUND:

To describe whether maintaining sufficient serum vitamin D levels in people with knee osteoarthritis and baseline vitamin D insufficiency has an association with change in knee structures and symptoms over two years.

METHODS:

Participants (n=413, age 63.2) with symptomatic knee osteoarthritis and vitamin D insufficiency were enrolled in a clinical trial. 340 participants (82.3%) completed the study with 25-hydroxyvitamin D [25(OH)D] measurements at month 0, 3 and 24. Participants were classified as consistently insufficient (serum 25(OH)D \leq 50nmol/l at month 3 and 24, n=45), fluctuating (25(OH)D $>$ 50nmol/l at either point, n=68) and consistently sufficient (25(OH)D $>$ 50nmol/l at month 3 and 24, n=226) groups. Knee cartilage volume, cartilage defects, bone marrow lesions and effusion-synovitis volume were assessed using MRI at baseline and month 24. Knee symptoms were assessed at baseline, month 3, 6 12 and 24 using Western Ontario and McMaster Universities Arthritis Index (WOMAC).

RESULTS:

The consistently sufficient group had significantly less loss of tibial cartilage volume (β : 2.1%, 95 CI%: 0.3%, 3.9%), less increase in effusion-synovitis volume (β : -2.5ml, 95 CI%: -4.7, -0.2) and less loss of WOMAC physical function (β : -94.2, 95% CI: -183.8, -4.5) compared to the consistently insufficient group in multivariable analyses. In contrast, there were no significant differences in these outcomes between the fluctuating and consistently insufficient groups. Changes in cartilage defects, bone marrow lesions and knee pain were similar between groups.

CONCLUSION:

This post hoc analysis suggests beneficial effects of maintaining vitamin D sufficiency on cartilage loss, effusion-synovitis and physical function in people with knee osteoarthritis.

44. RHUMATOID ARTHRITIS

Gout and weather

Association between acute gouty arthritis and meteorological factors: An ecological study using a systematic review and meta-analysis

Seminars in Arthritis and Rheumatism

Park KY, et al.

sponsor

Objectives of this research were to analyze the literature systematically regarding the seasonal and monthly variation of the occurrence of episodes of acute gouty arthritis, and to evaluate the correlation between the occurrence of episodes of acute gouty arthritis and meteorological parameters. The data confirmed that acute gouty arthritis seems to develop more frequently during the period in which the temperature increases significantly between neighboring days: spring by season and between March and July by month in the northern hemisphere.

Methods

- The present authors systematically reviewed databases for articles published before November 2015.
- Researchers included studies with quantitative data on episodes of acute gouty arthritis by months and/or seasons.
- They obtained meteorological data such as the highest temperature, lowest temperature, diurnal temperature range, change in mean temperature between neighboring days, relative humidity and wind speed for the geographic place(s) and study period where and when each study took place, from meteorological websites.

Results

- In this research, ten studies published between 1920 and 2015 were enrolled.
- A meta-analysis by season displayed that acute gouty arthritis occurred significantly more frequently in spring than in other seasons.
- Data demonstrated that analysis by month showed an increase in episodes of acute gouty arthritis from March to July, being the highest in July.
- It was confirmed that the trend reversed, and episodes of acute gouty arthritis started decreasing from July to September, being the lowest in September.
- Finally, the change in mean temperature between neighboring days was the only meteorological parameter that was significantly correlated with the number of monthly episodes of acute gouty arthritis.

Rethinking management

Arthritis Care Res (Hoboken). 2017 May 23. doi: 10.1002/acr.2328

Suppressing inflammation in rheumatoid arthritis: Does patient global assessment blur the target? A practice-based call for a paradigm change.

Ferreira RJO^{1,2}, Duarte C^{1,3}, Ndosi M⁴, de Wit M^{5,6}, Gossec L^{7,8}, da Silva JAP^{1,3}.

Author information

Abstract**OBJECTIVES:**

In current management paradigms of Rheumatoid Arthritis (RA), patient global assessment (PGA) is crucial to decide whether a patient has attained remission (target) or needs reinforced therapy. We investigated whether the clinical and psychological determinants of PGA are appropriate to support this important role.

METHODS:

This was a cross-sectional, single centre study including consecutive ambulatory RA patients. Data collection comprised swollen (SJC28) and tender joint counts (TJC28), C-Reactive protein (CRP), PGA, pain, fatigue, function, anxiety, depression, happiness, personality traits, and comorbidities. Remission was categorised using ACR/EULAR Boolean-based criteria: remission, near-remission (only PGA>1) and non-remission. A binary definition without PGA (3v-Remission) was also studied. Univariable and multivariable analyses were used to identify explanatory variables of PGA in each remission state.

RESULTS:

309 patients were included (remission: 9.4%; near-remission: 37.2%; non-remission: 53.4%). Patients in near-remission were indistinguishable from remission regarding disease activity, but described a disease impact similar to those in non-remission. In multivariable analyses, PGA in near-remission was explained ($R^2_{\text{adjusted}} = .50$) by fatigue, pain, anxiety and function. Fatigue and pain had no relationship with disease activity measures.

CONCLUSION:

In RA, a consensually acceptable level of disease activity (SJC28, TJC28, and CRP≤1) does not equate to low disease impact: a large proportion of these patients are considered in non-remission solely due to PGA. PGA mainly reflects fatigue, pain, function, and psychological domains, which are inadequate to define the target for immunosuppressive therapy. This suggests that clinical practice should be guided by two separate remission targets: inflammation (3v-Remission) and disease impact. This article is protected by copyright. All rights reserved.

48 B. TRIGGER POINTS NEEDLING/ACUPUNCTURE**Dry needling and PF pain****Effectiveness of Inclusion of Dry Needling in a Multimodal Therapy Program for Patellofemoral Pain: A Randomized Parallel-Group Trial**

Authors: Gemma V. Espí-López, PT, PhD¹, Pilar Serra-Añó, PT, PhD¹, Juan Vicent-Ferrando, PT¹, Miguel Sánchez-Moreno-Giner, PT¹, Jose L. Arias-Buría, PT, PhD^{2,3}, Joshua Cleland, PT, PhD, OCS, FAAOMPT⁴⁻⁶, César Fernández-de-las-Peñas, PT, PHD, DMSc^{3,7}

Published: *Journal of Orthopaedic & Sports Physical Therapy*, 2017 **Volume:**47 **Issue:**6 **Pages:**392–401 **DOI:**10.2519/jospt.2017.7389

Study Design

Randomized controlled trial.

Background Evidence suggests that multimodal interventions that include exercise therapy may be effective for patellofemoral pain (PFP); however, no study has investigated the effects of trigger point (TrP) dry needling (DN) in people with PFP.

Objectives To compare the effects of adding TrP DN to a manual therapy and exercise program on pain, function, and disability in individuals with PFP.

Methods Individuals with PFP (n = 60) recruited from a public hospital in Valencia, Spain were randomly allocated to manual therapy and exercises (n = 30) or manual therapy and exercise plus TrP DN (n = 30). Both groups received the same manual therapy and strengthening exercise program for 3 sessions (once a week for 3 weeks), and 1 group also received TrP DN to active TrPs within the vastus medialis and vastus lateralis muscles. The pain subscale of the Knee injury and Osteoarthritis Outcome Score (KOOS; 0–100 scale) was used as the primary outcome. Secondary outcomes included other subscales of the KOOS, the Knee Society Score, the International Knee Documentation Committee Subjective Knee Evaluation Form (IKDC), and the numeric pain-rating scale. Patients were assessed at baseline and at 15-day (posttreatment) and 3-month follow-ups. Analysis was conducted with mixed analyses of covariance, adjusted for baseline scores.

Results At 3 months, 58 subjects (97%) completed the follow-up. No significant between-group differences (all, $P > .391$) were observed for any outcome: KOOS pain subscale mean difference, -2.1 (95% confidence interval [CI]: -4.6, 0.4); IKDC mean difference, 2.3 (95% CI: -0.1, 4.7); knee pain intensity mean difference, 0.3 (95% CI: -0.2, 0.8). Both groups experienced similar moderate-to-large within-group improvements in all outcomes (standardized mean differences of 0.6 to 1.1); however, only the KOOS function in sport and recreation subscale surpassed the prespecified minimum important change.

Conclusion The current clinical trial suggests that the inclusion of 3 sessions of TrP DN in a manual therapy and exercise program did not result in improved outcomes for pain and disability in individuals with PFP at 3-month follow-up.

Level of Evidence Therapy, level 1b. Prospectively registered July 27, 2015 at www.clinicaltrials.gov (NCT02514005). *J Orthop Sports Phys Ther* 2017;47(6):392–401. doi:10.2519/jospt.2017.7389

52. EXERCISE**Physical activity and body mass in youth important**

Med Sci Sports Exerc. 2017 May 20. doi: 10.1249/MSS.0000000000001313.

Longitudinal Physical Activity, Body Composition, and Physical Fitness in Preschoolers.

Leppänen MH¹, Henriksson P, Delisle Nyström C, Henriksson H, Ortega FB, Pomeroy J, Ruiz JR, Cadenas-Sanchez C, Löf M.

Author information

Abstract

PURPOSE:

To investigate longitudinal associations of objectively-measured physical activity (PA) and sedentary behavior (SB) with body composition and physical fitness at a 12-month follow-up in healthy Swedish 4-year-old children.

METHODS:

The data from the population-based MINISTOP trial were collected between 2014-2016, and this study included the 138 children who were in the control group. PA and SB were assessed using the wrist-worn ActiGraph (wGT3x-BT) accelerometer during seven 24-hour periods, and subsequently, defined as SB, light-intensity PA (LPA), moderate-intensity PA (MPA), vigorous-intensity PA (VPA), and moderate-to-vigorous PA (MVPA). Body composition was measured using air-displacement plethysmography, and physical fitness (cardiorespiratory fitness, lower and upper muscular strength as well as motor fitness) by the PREFIT fitness battery. Linear regression and isotemporal substitution models were applied.

RESULTS:

Greater VPA and MVPA at the age of 4.5 were associated with higher fat-free mass index (FFMI) at 5.5 years of age ($p < 0.001$ and $p = 0.044$, respectively). Furthermore, greater VPA and MVPA at the age of 4.5 were associated with higher scores for cardiorespiratory fitness, lower body muscular strength and motor fitness at 12-month follow-up ($p = 0.001$ to $p = 0.031$). Substituting 5-minutes/day of SB, LPA or MPA for VPA at the age of 4.5 were associated with higher FFMI, and with greater upper and lower muscular strength at 12-month follow-up ($p < 0.001$ to $p = 0.046$).

CONCLUSION:

Higher VPA and MVPA at the age of 4.5 were significantly associated with higher FFMI and better physical fitness at 12-month follow-up. Our results indicate that promoting high intensity PA at young ages may have long-term beneficial effects on childhood body composition and physical fitness, in particular muscular strength.

58. RUNNING**Running and OA****The Association of Recreational and Competitive Running With Hip and Knee Osteoarthritis: A Systematic Review and Meta-analysis**

Authors: Eduard Alentorn-Geli, MD, MSc, PhD¹⁻⁴, Kristian Samuelsson, MD, MSc, PhD⁵, Volker Musahl, MD, PhD⁶, Cynthia L. Green, PhD⁷, Mohit Bhandari, MD, PhD⁸, Jón Karlsson, MD, PhD⁵

Published Journal of Orthopaedic & Sports Physical Therapy, 2017, **Volume:**47 **Issue:**6 **Pages:**373-390 doi: 10.2519/jospt.2017.7137

Study Design

Systematic review and meta-analysis.

Background

Running is a healthy and popular activity worldwide, but data regarding its association with osteoarthritis (OA) are conflicting.

Objectives

To evaluate the association of hip and knee OA with running and to explore the influence of running intensity on this association.

Methods

PubMed, Embase, and Cochrane Library databases were used to identify studies investigating the occurrence of OA of the hip and/or knee among runners. A meta-analysis of studies comparing this occurrence between runners and controls (sedentary, nonrunning individuals) was conducted. Runners were regarded as “competitive” if they were reported as professional/elite athletes or participated in international competitions. Recreational runners were individuals running in a nonprofessional (amateur) context. The prevalence rate and odds ratio (with 95% confidence interval [CI]) for OA between runners (at competitive and recreational levels) and controls were calculated. Subgroup analyses were conducted for OA location (hip or knee), sex, and years of exposure to running (less or more than 15 years).

Results

Twenty-five studies (n = 125810 individuals) were included and 17 (n = 114829 individuals) were meta-analyzed. The overall prevalence of hip and knee OA was 13.3% (95% CI: 11.6%, 15.2%) in competitive runners, 3.5% (95% CI: 3.4%, 3.6%) in recreational runners, and 10.2% (95% CI: 9.9%, 10.6%) in controls. The odds ratio for hip and/or knee OA in competitive runners was higher than that in recreational runners (1.34; 95% CI: 0.97, 1.86 and 0.86; 95% CI: 0.69, 1.07, respectively; controls as reference group; for difference, $P < .001$). Exposure to running of less than 15 years was associated with a lower association with hip and/or knee OA compared with controls (OR = 0.6; 95% CI: 0.49, 0.73).

Conclusion

Recreational runners had a lower occurrence of OA compared with competitive runners and controls. These results indicated that a more sedentary lifestyle or long exposure to high-volume and/or high-intensity running are both associated with hip and/or knee OA. However, it was not possible to determine whether these associations were causative or confounded by other risk factors, such as previous injury.

Level of Evidence

Etiology/harm, level 2a. *J Orthop Sports Phys Ther* 2017;47(6):373–390.
doi:10.2519/jospt.2017.7137

59. PAIN**Mindfulness training**

Hum Brain Mapp. 2017 May 15. doi: 10.1002/hbm.23646.

Mindfulness meditation regulates anterior insula activity during empathy for social pain.

Laneri D¹, Krach S², Paulus FM², Kanske P³, Schuster V¹, Sommer J¹, Müller-Pinzler L².

Author information

Abstract

Mindfulness has been shown to reduce stress, promote health, and well-being, as well as to increase compassionate behavior toward others. It reduces distress to one's own painful experiences, going along with altered neural responses, by enhancing self-regulatory processes and decreasing emotional reactivity.

In order to investigate if mindfulness similarly reduces distress and neural activations associated with empathy for others' socially painful experiences, which might in the following more strongly motivate prosocial behavior, the present study compared trait, and state effects of long-term mindfulness meditation (LTM) practice. To do so we acquired behavioral data and neural activity measures using functional magnetic resonance imaging (fMRI) during an empathy for social pain task while manipulating the meditation state between two groups of LTM practitioners that were matched with a control group. The results show increased activations of the anterior insula (AI) and anterior cingulate cortex (ACC) as well as the medial prefrontal cortex and temporal pole when sharing others' social suffering, both in LTM practitioners and controls. However, in LTM practitioners, who practiced mindfulness meditation just prior to observing others' social pain, left AI activation was lower and the strength of AI activation following the mindfulness meditation was negatively associated with trait compassion in LTM practitioners.

The findings suggest that current mindfulness meditation could provide an adaptive mechanism in coping with distress due to the empathic sharing of others' suffering, thereby possibly enabling compassionate behavior. Hum Brain Mapp, 2017. © 2017 Wiley Periodicals, Inc.

61. FIBROMYALGIA**Childhood adversity**

Eur J Pain. 2017 May 24. doi: 10.1002/ejp.1059.

Prevalence and impact of childhood adversities and post-traumatic stress disorder in women with fibromyalgia and chronic widespread pain.

Coppens E^{1,2}, Van Wambeke P^{1,3}, Morlion B^{1,4}, Weltens N⁵, Giau Ly H⁵, Tack J⁵, Luyten P^{2,6,7}, Van Oudenhove L^{5,8}.

Author information

Abstract

OBJECTIVE:

This study investigates the prevalence of different types of childhood adversities (CA) and posttraumatic stress disorder (PTSD) in female patients with Fibromyalgia or Chronic Widespread Pain (FM/CWP) compared to patients with Functional Dyspepsia (FD) and achalasia. In FM/CWP, we also investigated the association between CA and PTSD on the one hand and pain severity on the other.

METHODS:

Patient samples consisted of 154 female FM/CWP, 83 female FD and 53 female achalasia patients consecutively recruited from a tertiary care hospital. Well-validated self-report questionnaires were used to investigate CA and PTSD.

RESULTS:

Forty-nine per cent of FM/CWP patients reported at least 1 type of CA, compared to 39.7% of FD patients and 23.4% of achalasia patients ($p < 0.01$). The prevalence of CA did not differ significantly between FM/CWP and FD, but both groups had a higher prevalence of CA compared to both achalasia and healthy controls ($p < 0.01$). FM/CWP patients were six times more likely to report PTSD than both FD ($p < 0.001$) and achalasia ($p < 0.001$) patients.

CONCLUSION:

In FM/CWP, PTSD comorbidity, but not CA, was associated with self-reported pain severity and PTSD severity mediated the relationship between CA and pain severity. In summary, the prevalence of CA is higher in FM/CWP compared to achalasia, but similar to FD. However, PTSD is more prevalent in FM/CWP compared to FD and associated with higher pain intensity in FM/CWP.

SIGNIFICANCE:

As expected and has been shown in other functional disorders, we found elevated levels of childhood adversity in FM/CWP patients. Results of this study however suggest that the impact of childhood adversity (i.e. whether such events have led to the development of PTSD symptoms), rather than the mere presence of such adversity, is of crucial importance in FM/CWP patients. Screening for PTSD symptoms should be an essential part of the assessment process in patients suffering from FM/CWP, and both prevention and intervention efforts should take into account PTSD symptoms and their impact on pain severity and general functioning.

Respiratory training helps

Effects of a respiratory functional training program on pain and sleep quality in patients with fibromyalgia: A pilot study

Complementary Therapies in Clinical Practice

Garrido M, et al.

Analysts undertook this study to assess the impact of an 8-week respiratory functional training program on pain tolerance, sleep, and urinary antioxidant and cortisol levels in 18 patients with fibromyalgia. In light of these findings, the 8-week breathing exercise intervention decreased pain and enhanced sleep quality.

Methods

- For this research, they conducted a pilot study.
- In this study, all participants underwent a 12-week intervention: 4 weeks as control and 8 weeks of breathing exercises.
- Pain tolerance assay was finished by utilizing an algometer, whereas sleep quality was assessed by actigraphy and by the Pittsburgh Sleep Quality Index.
- Cortisol and antioxidant levels were ascertained utilizing commercial assay kits.

Results

- Increases in the pain tolerance threshold were identified in the occiput point after one month of intervention and in addition in the low cervical and second rib points after one and two months.
- Actigraphy uncovered a decrease in sleep latency, whereas sleep questionnaire indicated improvements in sleep quality, sleep duration and sleep efficiency. No changes in cortisol and antioxidant levels were identified.

62 A. NUTRITION/VITAMINS**Vit D and stroke**

J Am Heart Assoc. 2017 May 18;6(5). pii: e005795. doi: 10.1161/JAHA.117.005795.

Risk of Ischemic Stroke Associated With Calcium Supplements With or Without Vitamin D: A Nested Case-Control Study.

de Abajo FJ^{1,2}, Rodríguez-Martín S³, Rodríguez-Miguel A³, Gil MJ⁴.

Author information**Abstract****BACKGROUND:**

There is controversy surrounding the risk of ischemic stroke associated with the use of calcium supplements either in monotherapy or in combination with vitamin D.

METHODS AND RESULTS:

A nested case-control study was performed with patients aged 40 to 89 years old, among whom a total of 2690 patients had a first episode of nonfatal ischemic stroke and for which 19 538 controls were randomly selected from the source population and frequency-matched with cases for age, sex, and calendar year. Logistic regression provided the odds ratios while adjusting for confounding factors. A sensitivity analysis was performed by restricting to patients who were new users of calcium supplements as either monotherapy or with vitamin D. Calcium supplementation with vitamin D was not associated with an increased risk of ischemic stroke (odds ratio 0.85; 95% confidence interval, 0.67-1.08) in the population as a whole or under any of the conditions examined (dose, duration, background cardiovascular risk, sex, or age). Calcium supplement monotherapy was not associated with an increased risk in the population as a whole (odds ratio 1.18; 95% confidence interval, 0.86-1.61), although a significant increased risk at high doses (≥ 1000 mg/day: odds ratio 2.09; 95% confidence interval, 1.25-3.49; < 1000 mg: odds ratio 0.76; 95% confidence interval, 0.45-1.26) compared with nonuse was observed. The sensitivity analysis did not affect the inferences, with similar results observed among new users as to the overall study population.

CONCLUSIONS:

This study suggests that calcium supplements given as monotherapy at high doses may increase the risk of ischemic stroke, whereas their combination with vitamin D seems to offset this hazard.