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The following 6 abstracts were to have been presented during the Poster Oral Presentations Session during the postponed British Pain Society Annual Scientific Meeting 31st March-2nd April 2020 event.

ORAL PRESENTATION- 1

COMMUNICATING LILY'S PAIN: DEVELOPING AN ANIMATION TO SUPPORT PARENTS AND PROFESSIONALS

Category: Assessment & Measurement

Authors: Bernie Carter - Faculty of Health, Social Care and Medicine, Edge Hill University, Rob Young - Freelance, James Munro - Animation MisterMunro

Background

Children with profound cognitive impairment experience a higher number of pain episodes than their healthy peers and often experience frequent and significant pain. Although the evidence base is growing, they are vulnerable to poor pain assessment and management. Health care professionals report a lack of confidence in undertaking pain assessment in this diverse group of children. This is despite the availability of robust, validated tools for children who are unable to verbally report pain due to profound cognitive impairment. Parents of children with profound cognitive impairment become skilled in assessing and managing their children's pain but these skills take time to develop. When a new pain occurs or a known pain spirals out of control, parents turn to health professionals for help. The complexity of their children's healthcare needs, alongside the fact that their children's pain behaviour and expressions are different to typically developing children, can create communication difficulties.

Aims

The aim of this work was to create a resource which would promote greater understanding and insight into the challenges associated with assessing pain in children with profound cognitive impairment, and to improve pain communication between parents and professionals.

Methods

The animation was developed mainly from transcripts from qualitative, interview-based studies on the experiences of parents and professionals in assessing and managing pain in children with profound cognitive impairment. Key quotations and tone, mood and emotion within the stories told by parents and professionals informed the first outline script. A researcher and a professional writer collaborated on iterations of possible approaches before generating a final script (251 words) representing the essence of the material. This script was annotated with suggestions for the visual feel of the animation. An expert animator used these to generate an animation that related the story in a way that would engage both parents and professionals. Throughout, we have worked with parents of children with profound cognitive impairment and with professionals to ensure that the animation and supporting materials are authentic. A parent of a child with complex health needs provided the voiceover.

Results

A two-minute animation was generated (https://www.edgehill.ac.uk/communicatinglilyspain/), along with supporting information sheets. These are being disseminated in practice, in education, and with parents. We are tracking the impact of the resource using a variety of metrics, short surveys and interviews. The feedback, both from parents and professionals, has been extremely positive. Parents have commented that it "has gone to the heart of my experience" and "it captures it perfectly, I didn't think an animation could do this". Professionals have been keen to use the resource within both practice-based and university-based teaching.

Conclusion

Disseminating research findings needs to move beyond research papers, conference posters and presentations, and to work in a more engaging way. A resource grounded in the experiences of parents creates a strong starting point for discussions and learning. Condensing the evidence base into a two-minute animation is challenging and requires a collaborative approach drawing on research, writing and illustration skills. Ensuring that key stakeholders are involved throughout sustains the authenticity of the final resource that is created.

ORAL PRESENTATION- 2

JUGGLING SYMPTOMS: DEALING WITH, CONCEALING AND UNDERPLAYING PAIN BY ADOLESCENTS AND YOUNG ADULTS WITH INFLAMMATORY BOWEL DISEASE (IBD)

Category: Other (research)

Authors: Bernie Carter - Faculty of Health, Social Care and Medicine, Edge Hill University, Alison Rouncefield-Swales - Faculty of Health, Social Care and Medicine, Edge Hill University

Background

Inflammatory bowel disease (IBD) is known to negatively impact on psychosocial functioning and health-related quality of life, and to

increase anxiety, stress, loneliness and depression. Pain is commonly experienced in IBD and typically presents as abdominal cramps and systemic joint pain linked to inflammation. Pain is reported as a significant concern for adolescents and young adults with IBD and can lead to pain fear-avoidance, whereby they avoid activities which may trigger or worsen their pain experience. However, pain is just one of the often embarrassing symptoms that challenge adolescents and young adults and which they may conceal to reduce stigma, negative perceptions and avoid peer rejection.

Aims

We aimed to explore the impact of IBD on the social relationships of adolescents and young adults people aged 14-25 years old. As part of a sub-analysis we examined the impact of physical, social and emotional pain and on their social connections and how they attempt to mitigate this impact.

Methods

A two-phased exploratory, sequential mixed methods study was undertaken. Ethics approval was granted (18/NW/0178). Phase 1 used a survey composed of 6 measures/tools in 3 NHS sites (1 in London, 2 in NW England). Demographic and clinical variables were collected. Phase 2 used participatory, conversational interviews (with/without the use of photographs and friendship maps) with a sub-set of 31 Phase 1 participants. Young people diagnosed with IBD were eligible to participate if aged 14-25 years and at any point in their disease trajectory beyond the first 3 months following diagnosis.

Results

In Phase 2, 31 people (M=16, F=15), aged 14-25 years participated: Crohn's (n=24, 2 with a stoma); Colitis (n=7); disease activity, moderate (n=6), mild (=9), clinical remission (n=14). IBD created challenges for some young people in terms of making new friends and sustaining existing friendships and friendship networks. However, good friendships were a source of strength and protection. Young people described how physical pain was a difficult concept to explain and which was poorly understood by friends. Part of their illness-work involved concealing or underplaying the impact of pain and other symptoms. While pain was restrictive and led to the avoidance of some social activities, it was a symptom of IBD that young people were more willing to try to disregard to participate in daily life. Social and emotional pain was experienced as a result of social isolation, peer rejection, stigma and loneliness caused by IBD.

Conclusion

Adolescents and young adults with IBD experience physical, social and emotional pain that impacts to a greater or lesser degree on their lives. Although they may share their diagnosis with close friends, they engage in illness-work to conceal the magnitude, variety and impact of symptoms.

ORAL PRESENTATION- 3

THE EFFICACY, ACCEPTABILITY AND SAFETY OF ACCEPTANCE AND COMMITMENT THERAPY FOR FIBROMYALGIA – A SYSTEMATIC REVIEW AND META-ANALYSIS

Category: Reviews

Authors: Florence Eastwood - School of Medicine & Department of Psychology, King's College London, Emma L. Godfrey - Department of Psychology & Physiotherapy, King's College London

Background

Fibromyalgia (FM) is a chronic pain disorder characterised by widespread pain, fatigue and cognitive symptoms. FM has a complex and poorly understood aetiology, and there is no absolute cure, however, some interventions, both pharmacological and non-pharmacological, may improve symptoms and functioning. Cognitive behavioural therapies (CBTs) have previously been found to be efficacious in improving a number of outcomes in patients with FM. Acceptance and commitment therapy (ACT) is a type of CBT which aims to improve an individual's psychological flexibility, and has been found to be beneficial in treating chronic pain, however, there are few studies evaluating the efficacy, acceptability and safety of ACT for patients with FM.

Aims

This systematic review and meta-analysis evaluates the efficacy, acceptability and safety of acceptance and commitment therapy in patients with FM.

Methods

PubMed, Embase and PsychInfo databases were searched. Randomised Controlled Trials (RCTs), with participants of any age or sex, were eligible for inclusion if participants had FM, and the intervention was based on the ACT framework/model, and not combined with any other active therapy. Any control condition was accepted. Five RCTs, with a total of 322, mostly female, participants were included, with ACT being delivered online, in a group setting, or one-to-one. A meta-analysis was performed, with the primary outcomes being: pain acceptance (chronic pain acceptance questionnaire, CPAQ), health-related quality of life (fibromyalgia impact questionnaire, FIQ), attrition rate and frequency of adverse events. The secondary outcomes were: pain intensity, disability, depression, anxiety, and fatigue.

Results

ACT was superior to controls in improving FIQ score at post-intervention (ES = -2.33 [95% CI = -2.45 – -2.20]) and follow-up (ES = -1.50 [95% CI = -2.32 – -0.68]) and CPAQ at post-intervention (ES = 1.03 [95% CI = 0.56 – 1.49]) and follow-up (ES = 0.91 [95% CI = 0.38 – 1.45]). Attrition was below 20% in 4/5 studies and no adverse events were reported. For the secondary outcomes, all showed large-to-moderate pooled effect estimates at post-intervention, indicating improvement in anxiety, depression, pain, and disability. Fatigue also showed improvement, with a large negative effect. At follow-up, depression and anxiety showed moderate and large pooled effect estimates, respectively. For both disability and pain intensity, however, the 95% confidence intervals included zero, therefore the pooled effect estimate is not statistically meaningful.

Conclusion

The results of this review suggest ACT does improve outcomes in patients with FM, related to the symptoms of the condition, and to psychological flexibility: there was an overall improvement in all outcomes at post-intervention, with most improvements maintained at follow-up. This review was, however, limited by the small body of evidence and differing methodologies of included studies. Future research should include larger-scale RCTs, using similar methodologies and outcome measures, which would allow a more in-depth meta-analysis.

ORAL PRESENTATION- 4

ACHIEVING A CONSENSUS IN RADIOFREQUENCY LESIONING OF THE LOWER LUMBAR SPINE

Category: Interventional Pain Management

Authors: Cathy Price - Pain Clinic, Solent NHS Trust, Barnaby Reeves - Translational Health Sciences, University of Bristol, Vikki Wylde - Clinical Trials Unit, University of Bristol, Radical Study Group - Translational Health Sciences, University of Bristol

Background

RADICAL is an NIHR-funded 20-centre, double-blind, parallel group, superiority randomised controlled trial (RCT) of radiofrequency versus sham with internal pilot, qualitative research and cost-effectiveness analysis. A recent large scale RCT, the MinT study, was severely criticised for entry criteria, techniques, data analyses and conclusions. Subsequently, a consensus on the technique was reached amongst experts in the United Kingdom (Eldabe et al 2019). Detailed guidance on all aspects of the technique from the worldwide clinical community was agreed (Cohen 2019). National guidance is available on the journey to radiofrequency through the National Back Pain Pathway (NHS England 2017). However, guidance on the technique has not been tested amongst the wider clinical community and the Back Pain Pathway has not been fully implemented. For RADICAL we wished to ensure clear consensus on entry criteria, the patient journey to radiofrequency and technique amongst the wider clinical community participating in the trial.

Aims

We aimed to agree the following among potential principal investigators at RADICAL sites:

- Best practice clinical pathway to radiofrequency in the National Health Service given current service constraints
- The threshold for a positive response to a diagnostic block
- Details of best practice in radiofrequency technique

Methods

Articles by Eldabe, Cohen and a copy of the National Back Pain Pathway were emailed to potential principal investigators (participants) for seventeen sites that had expressed interest in participating in the RADICAL trial and the two lay members of the trial team. Participants were also asked to complete a SurveyMonkey questionnaire to determine their level of agreement with each piece of guidance. A half-day consensus meeting was then held with ten participants and the two lay members using a process to agree standardisation of surgical techniques (Blencowe et al 2016). Each step in each of the guidance documents was listed and participants agreed whether a step was mandatory, prohibited or optional. Participants also reviewed data shared by the MinT trial team and formulated a threshold for a positive response to a diagnostic block for the purposes of the RADICAL trial. The meeting was taped and minutes transcribed.

Results

Thirteen people responded to the survey. About half had issues with Eldabe's guidance in relation to stimulation and thresholds for diagnostic block. There was far greater disagreement with Cohen's guidance, especially around cut offs and degree of stimulation. There were four areas of disagreement with the National Back Pain Pathway related to the presence of sacroiliac joint pain, use of steroid and outcome measures. All agreed images should be saved and reviewed for accuracy of needle placement, which was not performed in the MinT trial. Ten areas were felt to be mandatory from Eldabe's document with three optional. Cohen's was not reviewed due to the high level of disagreement. There were seven mandatory steps from the National Back Pain Pathway with three optional. There were no prohibited steps in any document. A threshold for a positive response from a diagnostic block was agreed at 60% pain relief.

Conclusion

When guidance documents were tested in the wider clinical community there was general agreement about the content of the UK guidance on technique and the National Low Back Pain Pathway. However, there was considerable disagreement with international guidance. When evaluating complex interventions, such as radiofrequency, it is important to test for agreement on the clinical protocol to maximise engagement with research processes and ensure the intervention can be replicated either in a future trial or usual practice (Boutron 2017). We will use these outcomes to develop a detailed protocol for the RADICAL trial, commencing patient recruitment in July 2020.

ORAL PRESENTATION- 5

INFLUENCE OF CONTEXTUAL FACTORS ON OUTCOMES FOLLOWING CONSERVATIVE LOW BACK PAIN TREATMENT

Category: Interventional Pain Management

Authors: Bronwyn Sherriff - Rehabilitation and Sport Sciences, Bournemouth University & AECC University College, Carol Clark - Rehabilitation and Sport Sciences, Bournemouth University, Dave Newell - Senior Management Group, AECC University College, Clare Killingback - Sport, Health and Exercise Sciences, University of Hull

Background

Low back pain (LBP) is a substantial contributor to disability, indicating an extensive public health concern. Chronic and non-specific LBP frequently occurs in the absence of a known pathoanatomical cause and persists for 12 or more weeks. Clinical guidelines recommend conservative, non-pharmacological treatments for chronic LBP, which typically provide modest relief. Symptom improvement is a common outcome of rehabilitation, but it is unclear which elements of the therapeutic encounter are impactful. A promising adjunct to augment treatment involves maximising placebo induced analgesia. Placebo analgesia (i.e., modulating pain via endogenous neural pathways) is intrinsically linked to neural regions underlying conscious judgement of meaning and context which theoretically may be stimulated by modifying contextual factors during clinical encounters. Contextual factors (specifically, patient's and practitioner's characteristics/beliefs; patient-practitioner relationships; the physical environment/setting; and treatment characteristics) may be important, but there is limited evidence regarding their influence on musculoskeletal pain, and LBP in particular.

Aims

This research aims to systematically review interventions which potentially modify known contextual factors during conservative care for chronic low back pain and investigate their impact on patients' pain intensity and physical functioning outcomes.

Methods

Four electronic databases (Medline, CINAHL, PsycINFO, and AMED) were searched from 2009 until May 2019. Additionally, manual searching was conducted via the Journal of Interdisciplinary Placebo Studies (JIPS), reference lists of eligible studies, and named author searches. Search strategies were tailored per database, using phrase searching and Medical Subject Heading (MeSH) terms. Thereafter, records were separately exported into EndNote and duplicates removed. Accordingly, 2,498 unique citations were screened by title and abstract, of which 115 were potentially eligible.

Full-text articles were then assessed against the inclusion criteria, and 100 were excluded with justifications. Eligible studies were assessed for methodological quality using a modified Downs and Black (1998) Scale. Extracted data were captured in an Excel spreadsheet, adapted from the Template of Intervention Description and Replication (TIDieR), and synthesised using a narrative approach.

Results

15 primary studies (N = 2,358 participants), originating from 11 countries, were identified for inclusion; specifically, seven randomised, and three non-randomised clinical controlled trials, three cohort studies, one case series, and an interrupted time series. Nine studies modified two or more contextual factors, with 11 intending to alter patient's beliefs, eight modifying the patient-practitioner relationship, four manipulating treatment characteristics, and one varying the rehabilitation setting. 12 reported within-group changes; of these, seven demonstrated significant improvements in pain intensity and physical functioning from baseline. Ten involved at least two comparison groups; of which, five reported significant differences in pain intensity, and four demonstrated significant improvements in physical functioning, in favour of the contextual factor intervention(s). Notable contextual factors included: addressing patient's maladaptive illness beliefs; verbal suggestions to influence expectations of symptom change; visual or physical cues to connote pain-relieving treatment properties; and positive communication to enhance the therapeutic alliance during consultations.

Conclusion

This research identified influential contextual factors to augment conservative chronic LBP care. The heterogeneity of interventions suggests modifying more than one contextual factor may be more impactful on patients' clinical outcomes; specifically, targeting patient's illness beliefs and treatment expectations; varying treatment characteristics; and enhancing the patient-practitioner relationship. There is preliminary evidence to suggest contextual factor interventions, alongside usual care, resulted in greater improvements in pain intensity and physical functioning compared to treatment as usual. However, these findings should be interpreted cautiously; few studies were adequately powered, and neither effect sizes nor minimal clinically important differences were frequently reported.

ORAL PRESENTATION- 6

SLEEP DISTURBANCE IS ASSOCIATED WITH MORE SEVERE PAIN AND WORSE OUTCOME FOLLOWING KNEE REPLACEMENT SURGERY IN PATIENTS WITH KNEE OSTEOARTHRITIS

Category: Other (research)

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Background

Knee Osteoarthritis (OA) is a common, painful condition affecting approximately one third of older adults. A subset of patients demonstrate features of centrally mediated pain sensitisation. Sleep disturbance is common in patients with knee OA and emerging data suggest that this may be linked to the presence and severity of central sensitisation in this patient group. The relationship may be due to shared neurobiological mechanisms involved in pain processing and arousal. Furthermore, psychological measures such as pain catastrophizing have been shown to mediate the relationship between sleep disturbance and symptom severity and patients with knee OA. Previous work has shown that baseline sleep disturbance reduces the response to analgesia and cognitive interventions in patients with OA. The possible relationship between sleep disturbance prior to knee replacement surgery for OA and post-operative outcome has not been fully investigated and may present an opportunity to develop tailored treatments to improve patient outcomes.

Aims

This study aims to investigate the relationship between sleep quality, pain sensitivity assessed using Quantitative Sensory Testing (QST), and psychological measures prior to and after surgery. Furthermore, we assessed whether sleep quality prior to surgery predicts post-operative outcome at 2 and 12-months after surgery.

Methods

Participants for this study were selected from an established prospective cohort of patients with knee OA awaiting primary knee arthroplasty. 93 patients who had completed the Pittsburgh Sleep Quality Index (PSQI) prior to surgery were included in this study. Patients also completed the Oxford Knee Score (OKS), the Hospital Anxiety and Depression Scale, the Pain Catastrophizing Scale, the short form of the McGill Pain Questionnaire and the PainDETECT questionnaire prior to surgery, and at 2 and 12-months post-surgery. Patients underwent quantitative sensory testing (QST) prior to surgery. PSQI was used to divide patients into good and poor sleepers, using the established cut-off value of 8. Pre-operative characteristics for the two sleep groups were compared using Student's t-test, Wilcoxon-Mann-Whitney, and Chi-square test as appropriate. A repeated measures generalized estimating equations linear regression model was used to identify differences in OKS at each post-operative time point, accounting for baseline scores.

Results

96 patients were included: 49 (52%) were female, with median age 70 years (IQR 66-77). 63 (68%) were classified as poor sleepers prior to surgery. Compared to good sleepers, poor sleepers were: more likely to be female (38 (60.3%) vs. 11 (36.7%), $p < 0.05$); had worse OKS (17 (13-23) vs. 24 (18-27), p=0.001); more neuropathic-like features (PainDETECT score 10.7 (7.4) vs. 13.6 (6.8); and demonstrated higher levels of pain catastrophizing (14.5(10-30) vs. 8 (7-23), $p<0.001$) prior to surgery. QST demonstrated that compared to good sleepers, poor sleepers had lower pain pressure thresholds at the contralateral knee (307.2 (232.3-393.5) vs. 336.9 (242.7-423.2), $p = 0.006$). The cross-sectional relationship between poor sleep and OKS was maintained at 2 (p=0.04) and 12-months (p=0,006) post-operatively Repeated measures modelling demonstrated that patients with poor sleep prior to surgery had a significantly worse outcome, measured using OKS, at 12-months post-operatively ($p<0.001$).

Conclusion

Sleep disturbance is common amongst patients awaiting surgery for knee OA; this is associated with more severe pain, higher pain sensitivity, and lower levels of mental wellbeing before surgery. Furthermore, poor sleep at baseline is a predictor for worse outcome 12 months after surgery. These results are preliminary and require further validation but may represent a link between sleep disturbance and central sensitisation in patients with knee OA and provide a potential novel opportunity for targeted treatment to optimise

outcome following surgery. Future work will include neuroimaging to interrogate the mechanisms responsible for these relationships, in a subset of patients.

Acute Pain

1

USE OF SERRATUS ANTERIOR CATHETERS FOR PAIN MANAGEMENT IN RIB FRACTURES

Category: Acute Pain

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Background

Rib fractures are associated with significant morbidity and a mortality of up to 33% 1, 2. Higher chest injury scores are associated with worse outcomes. Regional analgesia can be beneficial to reduce pain and improve ventilatory mechanics preventing further complications after the initial lung and chest injury. Local guidelines, 3 at St George's Hospital, London (a tertiary trauma centre), provide an algorithm for pain management for rib fractures including simple analgesia, adjuncts and opiates. Serratus anterior (SA) catheter insertion is reserved for patients with rib fractures and chest injury scores of 20 and above. A pain team review is also advised. We audited the documentation of chest injury scores calculated in patients admitted with rib fractures, the number of SA catheters inserted over a 16-month time period and recorded the time taken to perform catheter insertion from request time to block performance also noting any complications due to catheter insertion.

Aims

To observe the number of SA catheters performed at St George's Hospital. To assess whether patients referred for SA catheters have a chest injury score >20 as per local guidelines. To analyse the time from referral to catheter insertion. To record any complications from this technique.

Methods

Data was collected retrospectively from online medical notes. Patients admitted with rib fractures between January 2018 to April 2019 were included. Chest injury scores were calculated using demographics, radiographic findings and clerking documentation. The time of SA catheter block request was recorded as the time a formal request was placed on the TheatreMan© programme and block performance time was recorded as the time of procedure documentation by the anaesthetist performing the block. We classified the time elapsed from the request of SA catheter insertion to block performance into categories of 0-6h, 6-12h, 12-24h, 24-36h, 36-48h and greater than 48 hours. Time to insertion of greater than 24 hours was arbitrarily classified as a delay (not all anaesthetists at St George's Hospital are able to perform SA catheter insertions and therefore 24 hours should allow time to locate a skilled anaesthetist). Complications were also recorded.

Results

There were 128 SA catheters inserted in this 16-month period making an average of 1.86 per week. 95/128 or 74% of patients with an SA catheter inserted had chest injury scores of 20 or above as per guidelines. 47/128 cases did not have enough information recorded to analyse the time taken from the request of SA Catheter to block performance. This was due to a transition from paper documentation to online medical documentation and therefore loss of data during the period of January to May 2018. Of the remaining 81 cases, 69 of the catheters were inserted within 24 hours. 85% of patients were treated in a timely manner. No major complications such as bleeding, infection or local anaesthetic toxicity occurred. The most common issue with SA catheters noted was accidental removal.

Conclusion

St George's Hospital utilises the rib-fracture pathway well. However, 1/4 blocks are placed in patients with a chest injury score < 20, therefore re-education regarding this threshold is advised. The majority of catheters were inserted within 24 hours of request however missing data made this difficult to assess. During August to October 2018, there was a delay in block performance with patients waiting >24 hours. This may correlate with the availability of anaesthetists during the summer holidays and the changeover period. Dependency on regional anaesthetists suggests the need for further training in permanent staff in order to provide a seven-day service.

2

DOES THE EXISTENCE OF SPARE MU OPIOID RECEPTORS GIVE THE FALSE IMPRESSION OF AGONIST BIAS?

Category: Acute Pain

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Background

The ideal analgesic is effective, with no side effects and selectivity for its target pathway. Despite years of research, this ultimate drug remains elusive; the best analgesics for severe pain remain ? opioid receptor (MOPR) agonists, whose use is hindered by side effects. MOPRs are G-protein coupled receptors, stimulating two distinct cellular pathways when activated: G-protein signalling and ? arrestin recruitment. An agonist's distinct efficacy and potency for each pathway can be used to calculate its 'bias factor', providing a measure of its ability to activate one pathway over the other. Theoretically, this allows for discovery of MOPR agonists which activate G-protein signalling, leading to analgesia, but not β arrestin 2 (βarr2) recruitment, which is thought to lead to side effects. This research is generally conducted using recombinant systems where receptor overexpression may influence the appearance of agonist efficacy, potency and therefore bias.

Aims

We aimed to determine whether receptor number affects the appearance of agonist efficacy, potency and consequently, bias. We hypothesised that reducing available MOPRs using β-Funaltrexamine (βFNA) would alter the appearance of agonist efficacy and potency.

Methods

Chinese hamster ovary cells stably co-overexpressing the human MOPR gene and βarr2 were purchased from DiscoveRx (California, U.S.A.) and this cell line used for all experiments. We examined two luminescence-based assays commonly used to calculate MOPR agonist bias: one measuring G-protein signalling using cyclic adenosine monophosphate (cAMP) levels, the other βarr2 recruitment. The assays use enzyme fragment complementation, biosensor technology and chemiluminescence to detect cAMP production and βarr2/MOPR interaction. We used βFNA to reduce the number of available MOPRs and observed the effects this had on MOPR agonists' efficacy and potency for the two pathways. Statistical tests used in this study were Student's t-tests (paired sample, unpaired sample and one sample) for pairwise comparisons and one-way analysis of variance (ANOVA) for comparisons of three or more groups; no post hoc tests were necessary. $p < 0.05$ was considered statistically; all statistical data were rounded to two significant figures.

Results

Reducing the number of available MOPRs had a greater impact on βarr2 recruitment than G-protein signalling; βFNA has a significantly higher log IC50 (lower potency) for suppression of DAMGO-induced cAMP inhibition than suppression DAMGO-induced βarr2 recruitment (inhibition of βarr2 recruitment: – 0.88 +- 0.090 nM, inhibition of cAMP inhibition: 4.6 +- 0.22 nM; $t(8) = 19$, $p < 0.00010$, unpaired sample t-test). When fewer MOPRs were available, agonists appeared significantly less efficacious for G-protein activation than previously. MT-45 and buprenorphine, at their highest concentration tested (in the absence of βFNA), appeared able to inhibit cAMP by at least 50% (MT-45: 65 +- 2.7 %, buprenorphine: 52 +- 4.3 %). When cells were pre-treated with 3 μM βFNA, there was a significant decrease in their efficacy for cAMP inhibition (MT-45 = $t(8) = 14$, $p < 0.0001$, paired sample t-test; buprenorphine = $t(5) = 4.2$, $p = 0.0082$, paired sample t-test.

Conclusion

Pain can drastically reduce quality of life. Biased agonism may provide the possibility of developing analgesics which are effective without inducing adverse effects, representing a significant breakthrough in the world of analgesia. Receptor overexpression may preclude correct calculation of bias, invalidating claims of biased MOPR agonist that have been inferred using systems overexpressing MOPRs. To ensure efforts to discover next generation analgesics are not futile, we must ensure that the methods used accurately represent drug bias. We conclude that receptor number influences the appearance of agonist efficacy and potency, and consequently, that receptor overexpression causes agonists to appear falsely biased.

3

A SURVEY LOOKING AT PAIN SCORES AND EXPECTATIONS OF ADOLESCENTS UNDERGOING SCOLIOSIS SURGERY

Category: Acute Pain

Authors: Chandni Parikh -Royal National Orthopaedic Hospital

Background

Adolescent Idiopathic Scoliosis (AIS) is the most prevalent deforming Orthopaedic condition; it causes significant disability when spinal curves progress beyond 45 degrees (1). Children undergoing corrective spinal surgery for scoliosis have a 19% chance to develop persistent post-surgical pain (2).

Following scoliosis, higher pain scores during the first 3 post-operative days and at 2 weeks predicts a slower recovery and higher pain scores at 4 and 12 months (2). Pre-operative and post-operative stress amongst adolescents undergoing scoliosis surgery has been associated with post-operative pain (3). Adolescents undergoing scoliosis surgery may have unrealistic expectations and anxiety pre-operatively leading to higher risk of chronic post-surgical pain and longer length of stay post-operatively. We wanted to explore this further by exploring adolescents' and their parents' expectations pre-operatively and looking at adolescents' pain scores, opioid consumption and length of stay post-operatively.

Aims

To assess pre-operative expectations of adolescents scheduled for corrective scoliosis surgery and their carers', including expectant pain scores, concerns, pre-operative information and expectant length of stay. To assess post-operative opioid requirements, pain scores and length of stay for adolescents undergoing corrective scoliosis surgery.

Methods

Data was collected in two phases. The first phase involved completion of a questionnaire by the adolescents scheduled for elective scoliosis surgery and their carers'. These questionnaires were given at their pre-operative visit with the specialist spinal nurse and explored 5 domains: expected pain scores, expected length of stay, pre-operative concerns, feedback for the pre-operative information and if any education sessions would be of benefit. A total of 19 questionnaires were completed between June 2019 and July 2019. In the second phase the following information was retrospectively collected from the patients' notes. Type of surgery, length of stay (LOS), first documented pain score, average pain score whilst using a patient controlled administration device (PCA), average pain score on using oral analgesic agents, and discharge medications. Pain scores were documented using a 10 point numerical rating scale (NRS). Total opioid doses were calculated and converted to milligrams of oral morphine equivalents (MME).

Results

The mean adolescent's expectant pain score was 6.8 and mean expectant LOS was 6.1 days. The mean carers' expectant pain score was 8 and mean expectant LOS was 6.5 days. 18 patients underwent surgery. Mean length of stay was 9.4 days. A total of 23 operations were performed, (13 single stage, 5 double stage procedures). Post-operative analgesia was administered via PCA devices following 22 operative episodes. First mean documented pain score was 4.1 with 65% reporting their pain as either moderate (4-6) or severe (7-10). Mean time for PCAs to be discontinued was 2 days post-operatively (range 1-5 days). All patients were stepped down to a combination of a regular oral modified release opioid and an immediate release preparation as required. Mean total doses of opioids used parenterally was 420mg and orally 238mg. No patients were discharged using strong opioids.

Conclusion

The pre-operative questionnaires highlighted a high level of anxiety amongst both patients and carers. Concerns about post-operative pain is a major contributing factor. Despite our best efforts, severe and moderate post-operative pain remains an issue for many patients. We plan to provide more information pre-operatively through leaflets, website link and advocate the use of a mindfulness app (smiling mind). We hope this will help to alleviate some anxiety and improve the post-operative experience for both patients and their carers'. Following this intervention the study will be repeated to assess its impact on pain scores, opioid use and length of stay.

4

PHENYTOIN IN THE MANAGEMENT OF ACUTE NEUROPATHIC PAIN

Category: Acute Pain

Authors: Maria Stasiowska - Anaesthesia and Acute Pain Management, National Hospital for Neurology and Neurosurgery, Sabina Bachtold - Anaesthesia and Acute Pain Management, National Hospital for Neurology and Neurosurgery, Heather Stewart - Anaesthesia and Acute Pain Management, National Hospital for Neurology and Neurosurgery

Background

Acute neuropathic pain (ANP) due to lesions or dysfunction of the nervous system is common, but easily missed in the peri-operative setting. Patients present with intense, pain, which is out of proportion to the original injury or surgical insult, and resistant to opioids. Treatment is often unsatisfactory, and involves multimodal analgesia including antidepressants and gabapentinoids licensed for use in chronic neuropathic pain. Phenytoin is a voltage dependent, voltage-gated sodium channel blocker. It enhances the duration of sodium channels in their inactive state, reducing action potential amplitude. It is licenced for the management and prevention of seizures and can be given orally or parenterally, as a loading and maintenance dose. Phenytoin is a membrane stabiliser like lidocaine, which is used in the acute perioperative period as part of multimodal opiate sparing analgesia. We present two cases of patients with severe refractory ANP, who experienced rapid improvement following parenteral administration of phenytoin.

Aims

Two case reports, describe using phenytoin's membrane stabilising properties to treat acute, intractable neuropathic pain, in patients following complex neurosurgery. Phenytoin could be considered in patients suffering with severe, resistant ANP who require rapid titration of an antineuropathic agent; but cannot receive lidocaine e.g. due to allergy or trust policy.

Methods

Case1: 50-year-old man presented with acute neck pain and progressive upper and lower limb weakness, due to cervical cord compression. Following cervical discectomy and abscess evacuation, he was left with quadriplegia and severe widespread sharp, shooting pain, in the limbs and below T4 level. His pain remained poorly controlled on high doses of various opiates, NMDA antagonists, alpha agonists and maximal doses of antineuropathics. His pain increased when opioid reduction was trialled to rule out OIH.

Case2: 57-year-old man with extensive cervical and lumber spondylosis, for which he had several spinal surgeries. Presented with acute neck pain, brachalgia and loss of upper limb power, due to C2/C3 canal stenosis. He underwent emergency surgery and required prolonged intubation and ventilation on ICU for airway and surgical complications. He developed severe neck, jaw, auricular and occipital pain, unresponsive to high doses of intravenous opiates, ketamine, clonidine and antineuropathics.

Results

Case 1: After 2 weeks of sub-optimal analgesia despite maximal standard therapy, the patient received phenytoin iv 10mg/kg (650mg) followed by maintenance 300mg OD NG. His pain dramatically improved within 12 hours of the infusion, and continued at none-mild despite gradual reduction in opiates over the next 3 weeks. Phenytoin was subsequently gradually stopped. He was transferred for neurorehabilitation requiring TD Fentanyl 25mcg/hr, Pregabalin 150mg bd and Amitriptyline 100mg od. Tracheostomy and NG were removed, but he remained quadriplegic.

Case 2: 10 days after his operation the patient received phenytoin iv 20mg/kg (1800mg) followed by 300mg OD maintenance. Within hours of finishing the infusion, his acute jaw, neck and auricular pain improved from severe to mild. He was able to speak, smile and swallow. Over the next 72 hours all additional opiates were weaned down, followed by the phenytoin, gradually stopped over 3 days.

Conclusion

Phenytoin is a voltage dependent sodium channel blocker, not currently licensed for managing acute or chronic pain. It has similar membrane stabilising properties to lignocaine, and can be potentially considered in patients with severe ANP, that is refractive to standard antineuropathics, but requires rapid effective titration of a membrane stabiliser via the parenteral route. Intravenous administration of phenytoin can potentially lead to significant haemodynamic, respiratory and neurological instability therefore must be administered in a monitored and safe environment.

5

THE USE OF PENTHROX FOR COMPLEX PROCEDURAL PAIN

Category: Acute Pain

Authors: Katharine Wall - Pain Management Service, The London Clinic, Sabrina McCarthy - Pain Management Service, The London Clinic

Background

Penthrox is a self-administered hand held inhalation device, delivering 3 ml of methoxyflurane 99.9%. Continuous inhalation of one device provides rapid analgesia after 6-10 inhalations and relief for up to 25-30 minutes, longer if used intermittently. Up to 2 inhalers can be used during one painful episode. Penthrox has been used for many years in the emergency and trauma fields and is intended to reduce the severity of pain rather than stop it completely. In other countries it is licensed for interventional pain management, demonstrating rapid onset of analgesia, highly rated by patients and well tolerated, however not as yet in the UK. In our organisation, although we have Entonox readily available, we identified groups of patients, particularly those needing regular complex dressing changes, where Entonox was inadequate. Entonox has limitations in hospital, e.g. use in isolated patients, rapid access to gas and disposables and long-term adverse effects.

Aims

To establish if Penthrox has a place in improving the management of challenging, complex procedural pain as an alternative to Entonox, monitoring side effects, analgesic efficacy and establish patient satisfaction of this product.

Methods

We designed a data collection tool containing specific questions to be asked pre, during and post use of Penthrox inhalation device during painful procedures. Data collection included side effects, length of use, patient satisfaction and pain intensity. The data was collected

prospectively over a 6 month period by the pain management nurse specialists during procedures to ensure accuracy of data, and is ongoing due to the low numbers to date. All patients were identified by the pain service or colorectal teams on medical and surgical wards, or in the out-patient department and received Penthrox during complex wound dressings.

Results

Data was collected for N=6 patients, one was excluded from the analysis due to complications of the surgical wound, however he did comment that Penthrox gave more efficacious analgesia compared with Entonox previously. No common side effects were identified during use; however 2 patients de-saturated for a short period of time, likely due to poor inhalation technique. Patients had weekly bloods taken to monitor liver and kidney function; all bloods remained within normal limits. All patients only used 1 Penthrox device per procedure. 100% of patients needed to cover the charcoal filter for a stronger analgesic effect. As pain specialists we noted that Penthrox appeared to produce more potent analgesia compared with Entonox. All 6 patients were administered pre-procedure oral analgesia and only 1 required breakthrough analgesia during the procedure. Patient satisfaction was 9/10 in 5 patients, with the excluded patient just giving comments on efficacy.

Conclusion

Penthrox provided a safe and effective method of managing complex procedural pain. Patients felt it was easy to use and provided rapid onset analgesia with no adverse effects reported. Training was straightforward for the nurses and their feedback was towards a preference in ease of preparation and use compared with Entonox. A protocol has been completed and promotion of the use of Penthrox and data collection in our organisation remains ongoing. To date we have only collected data for 6 patients, however this 'anecdotal' evidence has all been positive and overall highly rated by our patients.

Assessment & Measurement

6

NUMERICAL VS VERBAL – WHICH PAIN ASSESSMENT SCALE SHOULD WE USE IN ACUTE PAIN?

Category: Assessment & Measurement

Authors: Alison Moss - Inpatient Pain Service, St George's University Hospitals NHS Foundation Trust, Leann Chaganis - Inpatient Pain Service, St George's University Hospitals NHS Foundation Trust, Kim Pratt - Inpatient Pain Service, St George's University Hospitals NHS Foundation Trust, Karren Romero - Inpatient Pain Service, St George's University Hospitals NHS Foundation Trust, Hayley Walsh - Inpatient Pain Service, St George's University Hospitals NHS Foundation Trust, Lenny Ng - Inpatient Pain Service, St George's University Hospitals NHS Foundation Trust

Background

It is a national requirement that all inpatients should have acute pain assessed using consistent and validated tools. Self-reporting is the most valid and reliable indicator of pain, furthermore it is imperative that the pain assessment scale is easy and accessible for the patient. St George's hospital have a standardised pain assessment scale and all inpatients in the adult wards should have their pain assessed using a verbal rating scale (VRS) (none, mild, moderate, severe). Some clinicians have expressed a preference for a 0-10 numerical rating scale (NRS), an advantage of this scale being that small changes in pain control are discernible compared to the VRS. Conversely, a verbal rating scale may be easier for some patients to use.

Aims

- To establish what pain assessment scale patients prefer to use.
- To identify what pain assessment scale staff predominantly use throughout the trust.
- To determine what scales clinicians - broken down into nurses, doctors, therapists, HCAs - find easiest to use.

Methods

Five patients were selected at random from every adult inpatient ward at St George's Hospital. Inclusion criteria were that the patient was awake and able to verbally consent. Exclusion criteria included confusion/disorientation, an inability to speak English, patients in intensive care and emergency settings. Patients were shown visual examples of two assessment tools: 0-10 NRS and the VRS and asked how they would prefer to score their pain. Nurses, doctors, therapists and HCAs were randomly selected from across all the adult inpatient wards at St George's Hospital. They were questioned about the scale they currently use to assess patients who can self-report their pain and additionally which scale they find easiest to use.

Results

142 patients were questioned; 74 males, 68 females. Average age 65yrs (range 18-96yrs).

65% (93) patients reported finding the NRS preferable, while 35% (49) reported a preference for the VRS. There was no difference in the preferences of the male and female populations. Older patients (>/=80yrs) were equally split in the preference for NRS and VRS (n=27).

225 clinicians were questioned: 61 doctors, 60 nurses, 53 HCAs, 51 therapists.

71% (160) clinicians assessed their patients' pain using the NRS, therapists and doctors were most likely to use this scale, 96% and 90% respectively. 20% (45) clinicians assessed their patient's using the VRS, this was more likely to be nurses and HCAs, 35% and 32% respectively.

74% (166) of clinicians find the NRS easiest to use, with the preference for this tool strongest in doctors and therapists (89% and 94%). Nurses and HCAs were more mixed in their views.

Conclusion

Both patients and clinicians have a greater preference for use of NRS. The current trust standardised pain assessment tool, VRS, is neither widely used nor preferred. Patients did not have the option to report "no preference" which may have skewed results. Elderly patients were more likely to prefer the VRS than younger patients. Investigation into the use of an integrated and validated pain assessment tool combining both the VRS and NRS is justified, so patients can utilise their preferred scale consistently. Training to promote greater awareness and use of a trust standardised tool is required.

Audit and Service Evaluation

7

OPIOID DISCHARGE PRESCRIPTIONS: A SNAPSHOT IN A DISTRICT GENERAL HOSPITAL

Category: Audit and Service Evaluation

Authors: Sonia Abid - Hillingdon Hospital, Morleen Cheturai - Hillingdon Hospital, Arun Natarajan - Hillingdon Hospital

Background

National guidance has made it clear that the evidence for the use of opioids outside of acute pain and end of life care is poor, with risks of addiction, dependence and tolerance well documented. Nationally, we are seeing a rise in the number of opioid prescriptions. Prescriptions have more than doubled in the community from 1998-2016, echoing similarities with the opioid crisis unfolding in the USA. There is an urgent need for greater opioid prescription stewardship to counter this emerging trend.

Aims

In order to understand our local prescribing practice, we aimed to elicit the number of surgical and medical patients discharged with opiates from our district general hospital, and to then determine the quantity of opiates left unused by these patients and how many patients intended to continue opiates.

Methods

We conducted a prospective audit of all discharge TTO (To Take Out) opioid prescriptions from Hillingdon Hospital over a 2-week period, obtaining data from our pharmacy department to ensure total capture of data. Inclusion criteria: all inpatients aged 18 and over, discharged between 1st July – 15th July 2019, with a TTO prescription of opioids. Exclusion criteria were obstetric patients, metastatic cancer patients and those under palliative care. All patients were followed up 2 weeks after discharge with our Pain Nurse via telephone call to elicit the number of tablets they had remaining, whether they planned on continuing opioids and their current pain scores.

Results

A total of 62 patients met our inclusion criteria, with a median age of 67 years.

Surgical patients constituted 33 prescriptions, with 29 medical patients providing the remainder.

The most common TTO prescribed was codeine (33 prescriptions dispensed: 31 codeine, 2 dihydrocodeine). This was followed by morphine (12 prescriptions), tramadol (10 prescriptions), oxycodone (5 prescriptions) and buprenorphine (3 prescriptions).

We found 11 patients (18%) were not on regular opioids pre-admission; 3 of these patients planning on continuing opioids following the completion of their hospital prescription.

24 of our 62 patients were lost to follow-up. Of the 38 patients followed-up, 15 patients (39%) planned on continuing opioids. The median number of unused tablets by 2 weeks was 6 (IQR: 2-15).

Conclusion

Our audit provides a snapshot of our current opiate prescribing practice, bringing to light some key concerns. The high proportion of patients (39%) lost to follow-up identifies a potential patient safety issue and possibility of abuse of controlled drugs, particularly where surplus drugs remain. We found 18% (11/62) were opiate naïve on admission to hospital, and of these, 27% (3/11) planned to continue taking opioids following commencement in hospital. This suggests the need for implementation of a robust follow-up system upon hospital discharge. We now plan to conduct an extensive audit into our opioid prescribing practice.

8

PROSPECTIVE AUDIT ON THE IMPROVEMENT IN PAIN AND QUALITY OF LIFE FOLLOWING RADIO FREQUENCY ABLATION OF GENICULAR NERVES OF KNEE

Category: Audit and Service Evaluation

Authors: Sachin Alva - Leicester General Hospital, Roshan Thawale - Leicester General Hospital, Arul James - Leicester General Hospital, Manish Mittal - Leicester General Hospital, Yehia Kamel - Leicester General Hospital, Sadiq Bhayani - Leicester General Hospital

Background

Chronic knee pain is a common condition which has severe detrimental effect on the quality of life. Radiofrequency ablation of genicular nerves of knee may help in the management of chronic knee pain. Being a fairly recent and novel intervention, we would like to assess the pain relief and functional improvement following this procedure.

Aims

To assess the percentage improvement in pain score at 6 months following radiofrequency ablation of genicular nerves of knee. To assess the improvement in quality of life using oxford knee score at 6 months following radiofrequency ablation of genicular nerves of knee.

Methods

This audit included patients who presented with chronic knee pain and had significant pain relief following a diagnostic block of genicular nerves of knee with local anaesthetic. These patients were prospectively followed up. Numeric rating score and oxford knee score of their pain was assessed prior to radiofrequency ablation of genicular nerves and at 6 months following the procedure.

Results

The total number of patients who had diagnostic genicular nerve block was 101. Following the diagnostic injection, 31 patients proceeded to have radiofrequency ablation of genicular nerves of knee. The percentage improvement in Numeric rating scale was 50%-60% at 6 months following radiofrequency ablation of genicular nerves of knee. The percentage improvement in Oxford knee score was 60% at 6 months post procedure.

Conclusion

We conclude that radiofrequency ablation of genicular nerves of knee is helpful in improving both pain and quality of life for at least 6 months.

9

RETROSPECTIVE ANALYSIS OF REFERRAL SOURCES PATTERN FOR NEUROMODULATION MDT (MULTIDISCIPLINARY TEAM) ASSESSMENT AND THEIR RESPECTIVE OUTCOMES

Category: Audit and Service Evaluation

Authors: Deepika Arora - The Royal London Hospital, Jerry Joseph Joel – Anaesthesia, CMC Vellore, Vivek Mehta - The Royal London Hospital

Background

In our setting, referrals for the assessment in Neuromodulation MDT (Multidisciplinary team) are sent from various sources in St Barthlomew's Hospital Pain Clinic i.e. in-house pain team referrals, outside trust pain specialists and other specialists (Neurosurgery/ Orthopaedics), from community clinics run by our pain consultants and referral from in-hospital specialists (Neurosurgeons, Orthopaedics, Neurology). We have not assessed in the past, percentage wise contribution of these different sources to referrals for neuromodulation MDT assessment. Also, many of the referrals are found unsuitable for Neuromodulation. Assessing the outcome of these referrals from each source in terms of how many patients actually got selected for Neuromodulation can help us determine their respective contribution to successful outcome. It may also highlight the need for reinforcing the criteria of patient selection in certain settings where successful outcome from MDT assessment is found to be low.

Aims

To understand the pattern of referral source and also the outcome of MDT assessment in terms of successful patient selection for Neuromodulation.

Methods

We analysed the data from the existing Trust database from a period of Febuary 2019 to November 2019 regarding the patients who were selected/referred to be reviewed in Neuromodulation MDT in view of chronic back and leg pain with neuropathic element refractory to conservative measures and spinal interventions. We determined the source of referral as well as the outcome of the MDT session for each patient by going through their electronic health records.

Results

91 patients were analysed from February 2019 to November 2019 using their electronic health records. 13 patients were excluded for various reasons (did not attend the MDT, refused for undergoing neuromodulation, lost to follow-up). A total of 78 patients were evaluated for their source of referral and outcome. The referrals from our in-hospital pain team contributed the maximum proportion (30 out of 78, 38.4%) followed by community clinic referrals (19 out of 78, 24.3%), referral from outside trust pain specialists or other specialities (18 out of 78, 23.1%) and lowest was referral by in-hospital Neurosurgery/Orthopaedics/Neurology (11 out of 78, 14.1%).

Successful outcome i.e selection for Neuromodulation were comparable for in-hospital pain team referrals (25 out of 30, 83.3%) and community clinic referrals (16 out of 19, 84.2%) both of which are run by our pain consultants. Outside referrals contributed good outcome (16 out of 18, 88.8%) although total referrals were less.

Conclusion

The majority of the referrals came from our in-hospital pain team either via pain clinics in our hospital or by community clinics managed by our pain team. We aim to continue evaluating the data further to at least 200 patients to assess if reinforcement is required at other settings to increase the referral rate, more importantly ensuring appropriate patient selection.

10

PATIENTS EXPERIENCES OF OPIOID STEP-DOWN

Category: Audit and Service Evaluation

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Background

The Torbay and South Devon NHS Foundation Trust "Rationale Use of Opioids" group was set up as part of a Pain Team QUIPP initiative. The group is multidisciplinary, including patient representation. Standard Operating Procedures for outpatient (Primary & Secondary Care) and inpatient (Community & Secondary Care) opioid step-downs were developed, together with a range of resources including educative and patient experience videos, patient information leaflets and a list of useful websites. The therapeutic model is influenced by a broad approach to pain management and rehabilitation; principles of Compassion Focused Therapy inform the more complex work. Two evaluative surveys have been undertaken: one with Medicines Optimisation Pharmacists and the other with patients. It is the survey of patient experiences that is presented here.

Aims

To:

1) Evaluate patient's experiences of the Torbay and South Devon opioid reduction service
2) Understand current pain medication use
3) Obtain feedback to inform future service development

Methods

Patients who had recently completed, or are currently on opioid reductions were listed on an excel spreadsheet. Name, hospital number, age, pain diagnosis and whether the individual was on the inpatient or outpatient pathway were recorded. Of 54 patients listed, 12 were excluded due to being transferred to the addiction service; being currently involved with acute Mental Health Services; or self-discharging after one session. A structured interview format of 7 questions was developed relating to individual's willingness to reduce opioids, what they found useful about the service, who supported them, current pain medication, advice for others and areas for improvement. The Quality Improvement Programme Manager telephoned each of the included patients on Friday 29th November. Individuals who did not answer their telephones in the morning were called again in the afternoon. Thirty patients picked up, of whom 17 had the time and wished to respond. Data were thematically analysed.

Results

Responders were equally divided between those motivated to reduce opioids and those who were anxious. 15 perceived the experience as positive; treatment continuity and clinician support were mentioned. Support from family (n=14), friends (n=8), GP (n=2), Pharmacist (n=1) and Carer (n=1) was important. Three reported their main source of support was self-motivation.

10 have stopped regular pain medication; 3 take occasional paracetamol and 1 occasional codeine. The remainder continues on active step-down.

13 are now very positive about life, some have returned to work; the majority report increased alertness. Four patients remarked on poor sleep, depression and anger.

35 encouraging comments and just one negative piece of advice were offered to other patients considering opioid reduction.

Key areas for improvement were treatment co-ordination between Pain Clinic / Pain Rehabilitation and between Primary / Secondary care. Additional training for ward staff on opioid withdrawal for the inpatient pathway was suggested.

Conclusion

Identifying just one day for the telephone audit introduced bias by excluding those not available on that date. Collapsing data from discharged and current patients may have created analysis bias, but enhanced anonymity of current patients. Patients' experiences of the Torbay and South Devon opioid reduction pathways are positive. Many are off their pain medication and finding they are getting their lives back. 16 of 17 responders would encourage other patients, with the support of the Pain Team, family and friends, to step-down and stop opioids. Respondents would like us to work on treatment co-ordination and training.

11

CHRONIC PAIN RAPID REVIEW CLINIC - A SERVICE DEVELOPMENT PROJECT

Category: Audit and Service Evaluation

Authors: Simon Cornell - Pain Management, St Helier Hospital, Heather Hawksely - Pain Management, St Helier Hospital, Chlöe Miller - Pain Management, St Helier Hospital, Sara Bustamante - Pain Management, St Helier Hospital

Background

Chronic pain conditions are a common cause of Emergency Department (ED) visits: the prevalence of pain amongst ED attenders in some studies is as high as 78% and underlying chronic pain conditions are reported by around 40% of ED patients presenting with acute pain. The ED, designed and staffed for emergent illness, lacks the resources for management of chronic or recurrent pain - while the ED can treat acute pain symptoms, chronic pain patients often feel worse after short-term medications wear off. This can result in repeated ED visits for further pain control and in some instances inappropriate and prolonged hospital admission. Frequent attendance and hospital admission (often complicated by the inappropriate administration of acute opioid therapy) present a significant burden to acute healthcare providers and are detrimental to successful management of chronic pain.

Aims

We examined the effects of a introducing a nurse-led Chronic Pain Rapid Referral Clinic (CPRRC). We were particularly interested in the effect on the number of ED visits made by frequently-attending patients, patient satisfaction and whether such a clinic could hasten discharge of inpatients with chronic pain.

Methods

The existence of, and referral criteria for, the CPRRC was publicised by means of a poster, face-to-face meetings and teaching sessions. All patients attending the CPRRC between its inception in March 2018 and the study period end in June 2019 were included. The number of ED attendances in the year prior to their appointment was compared to the number of attendances made during the remainder of the study period. After inpatient episodes containing a referral to the CPRRC, subjective assessment was made of the CPRRC's contribution to hastening discharge from hospital and reducing likelihood of readmission.

For all CPRRC appointments the following data was also collected:

- Source of referral
- Reason for referral
- Outcome of appointment
- Patient experience questionnaire
- Use of ED by patient pre and post attending CPRRC

Results

In the first year following its institution, the CPRCC saw 62 patients from a total of 80 referrals (15 patients did not attend, 3 cancelled prior to appointment). 42% of appointments were unused. Lower back pain accounted for 40% of referrals. Inpatients and ED referrals were equal in number. 48% of appointments resulted in a change in medication and 62% of patients were followed up in pain clinic. There were a total of 236 ED attendances during the year before CPRRC appointment, and only 105 pain-related attendances in the period between appointment and the end of the study. The authors assert that the input of the CPRRC had a clear contributary effect on hastening hospital discharge in over 30% of referred cases, and probably had such an effect in over 80%. Patient feedback, where received, was positive.

Conclusion

Access to a nurse-led Chronic Pain Rapid Referral Clinic appears to both significantly reduce the frequency of emergency department attendances and shorten inpatient episodes for patients suffering chronic pain problems. Patients are satisfied with rapid access to an experienced pain nurse. Further development of this service and ongoing study may demonstrate other benefits, including financial.

12

COMPLEX HYPERMOBILE EDS PATIENTS - AUDIT TO MAP EXPERIENCE OF HEALTHCARE, OPIOID USE AND DISABILITY AT TERTIARY REFERRAL CENTRE WITH THE AIM OF ENHANCING THE PATIENT EXPERIENCE

Category: Audit and Service Evaluation

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Background

Hypermobile Ehlers-Danlos Syndromes (hEDS) is a multi-system disease, combining a plethora of symptoms including joint hypermobility, joint pain, visceral and autonomic dysfunction as well as a significant psychosocial element. Managing this cohort of young patients proves challenging as many present late due to underdiagnosis, often with several complications, mobility issues and on opioid therapy. The actual frequency of hEDS within the UK population is yet to be established. Healthwatch Calderdale published a report on the experiences of adults with hEDS. This triggered a recent debate in Parliament on 07.10.2019 stressing how hEDS services are excluded from the highly specialised Rheumatology service commissioned by NHS England. Whilst effective management is limited to a careful combination of exercise and physiotherapy alongside constant re-evaluation of appropriate analgesia, a prolonged lack of coordinated healthcare and overstretched social care services has meant these patients struggle to cope with the far-reaching impact of chronic pain.

Aims

The objective of this audit was to map the patient experience following referral to the trust, elucidating the long-winded and testing process patients go through to get a diagnosis. This would highlight whether there is a need for an integrated, multidisciplinary approach to treating those with hEDS.

Methods

By analysing a sample of 50 patients seen in clinic by a Rheumatology Consultant specialising in hEDS at University College Hospital (UCLH) in January 2016, the relevant data was extracted. We plan to carry out a similar prospective audit in the future following intervention.

Results

We studied 50 patients (10 male, 40 female; median age 37yr). Overall, the audit yielded 6 key themes: 1.100% of patients experiencing chronic pain, with 36% reporting use of opioids for pain management. 2. Multiple overlapping specialities referred to within the trust, (22% of patients being referred to ≥5 specialities). 3. Large number of follow up appointments being needed, (28% of patients required ≥20 within the specified trust). 4. Failed discharges back to the GP. 5. A significant number of comorbidities indicated by total number of medications with 36% of patients taking ≥5 medications. 6. Significant findings regarding disability, (20% of patients reported severe mobility issues).

Conclusion

Multiple referrals between specialities leads to further deconditioning in young patients who experience considerable pain levels, without the reassurance of a diagnosis and appropriate treatment. A MDT meeting has been started at UCLH including pain specialists, rheumatologists, psychologists, physiotherapists, clinical nurse specialists, neurologists, urogynaecologists and neurogastroenterologists. This allows discussion, more timely investigations and treatment by all specialities, including an EDS specific pain management programme. The aim is to provide a "one-stop-shop", a patient centred clinic where patients, who often travel from long distances with severe disabilities, can be seen by all specialities in a single day.

13

VALUE OF PAIN CLINIC: A SURVEY OF PATIENT'S PERSPECTIVE IN A SECONDARY CARE PAIN CLINIC

Category: Audit and Service Evaluation

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Background

The incidence of chronic pain varies from 11-40% in literature (1). In the UK, most patients are referred by general practitioners to secondary care pain clinics, though this is changing. Though there are some studies about patient satisfaction, there are not many studies which ask patients about their perception of the value provided by pain clinics. One of the studies looking at patient satisfaction showed that the patients expect a firm diagnosis and cure (1). One of the other studies (2) showed that patients preferred biomedical interventions. Another study (3) found that in addition to pain relief, sleep and daily activity was important. Our pain clinic has been in existence for over 20 years. We wanted to explore as to how our patients valued our service in the pain clinic in one of the hospitals in our NHS Trust.

Aims

To explore how our existing pain clinic patients value the service that we provide in our pain clinic to cope with the burden of chronic pain.

Methods

A standardised anonymised questionnaire was given to all patients attending pain clinic over a 3 month period. We asked them questions including; by attending our pain clinics, whether they had a better understanding of what is causing their pain, helped in managing emotional wellbeing, improved their ability to do social activities, made it easier to manage pain, to find right medication to cope with pain, had help by way of pain injections and interventions and helped them to return to work. They answered these questions as to whether they strongly agreed, agreed, neutral, disagreed or strongly disagreed. These responses were analysed.

Results

150 patients returned the questionnaires and were complete. The majority of respondents (81%) strongly agreed/agreed that the pain clinic improved their understanding of the cause their pain. While 64% of respondents said that our clinic helped them to find right medication to cope with pain, 65% of respondents thought the pain interventions and injections helped them to cope with pain better. 61% of respondents said that their emotional wellbeing was helped by attending our pain clinic and another 61% respondents said that it made it easier to cope with pain by attending the pain clinics. Only 43% of respondents agreed that it improved their ability to do physical activities. Also only 41% patients said that it improved their ability to engage in social activities better. Attending the pain clinic helped only 23% of the patients to get back to work. 116 of the patients answered the question about the duration of their contact with pain clinic. Of these, 49 patients attended for more than 5 years, 41 attended for 2-5 years, 17 attended for 1-2 years and 9 attended for less than a year.

Conclusion

More than 40% of the patients have been attending the pain clinic for more than 5 years. The findings suggest that in the majority of the patients, pain clinic helped them to understand the cause of their pain. A high proportion of patients found that they got help to get right medication for their condition and had interventions to cope with their pain. A significant number of patients said that our clinic provided them with support with emotional wellbeing. Less than half of the patients got help to become more physically active and could socialise better. Only a quarter of the patients were able to go back to work. The likely reason could be that the majority of our patients are retired.

14

EVALUATING THE CLINICAL ASSESSMENT OF PAIN DURING HYSTEROSCOPY AND THE IMPLICATIONS FOR THE ADMINISTRATION OF LOCAL ANAESTHETIC

Category: Audit and Service Evaluation

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Background

Hysteroscopy is an endoscopic, diagnostic medical procedure used to inspect the uterine cavity. This procedure is more frequently employed within a day case pathway, eliminating the need for general anaesthetic. Multiple sources in the UK describe this procedure as usually being associated with little-to-no pain, although this description is being challenged by public campaigns and ex-patients who suggest that hysteroscopy can be intensely painful.

Aims

The aims of this project were threefold;
To explore the occurrence of pain in day case hysteroscopy patients.
To evaluate the efficacy of pain management during hysteroscopy, by use of local anaesthetic infiltration.
To compare clinician estimates of pain to the actual perceived pain of the patient.

Methods

Data were recorded from 804 hysteroscopy patients within the obstetrics and gynaecological department at the Royal Berkshire Hospital. Data collection consisted of two separate questionnaires and verbal pain reports from patients. One questionnaire was a post-operative clinical report including demographics, findings of the hysteroscopy, dose of local anaesthetic administered, and the clinician's estimate of the patient's pain from 0-10. The second questionnaire was completed post-operatively by the patient and consisted of 11-items asking about the patient's satisfaction with the procedure. The patient then verbally rated their pain experienced during the procedure to a research nurse, on a scale from 0 (none) to 4 (severe). The clinician and patient were blinded towards each other's impressions, thus reducing the risk of response bias.

Results

Patient pain ratings significantly predicted whether the comfort of the procedure met their expectations ($R2(20)= .32$, $p<.0001$), with higher pain ratings representing a greater likelihood that the patient viewed the comfort during the hysteroscopy to be worse than they had expected. The average retrospective pain rating recorded from patients during their hysteroscopy was 3.97, with 17.6% of patients reporting a 7 or higher on the pain scale and only 7.8% being pain-free. Patient pain ratings were negatively correlated with the clinician's estimates of patient's pain ($rs(714)= -.525$, $p<.0001$), indicating that patients who reported experiencing more pain during the hysteroscopy were estimated to be in less pain by clinicians. Clinicians' estimates of the overall pain patients experienced during surgery were negatively correlated with anaesthetic dose ($rs(678)= -.213$, $p<.0001$), whereas patient pain ratings were positively correlated with anaesthetic dose ($rs(673)= .110$, $p<.005$).

Conclusion

On average, patients are likely to experience pain during hysteroscopy, and descriptions of the procedure provided to patients should indicate this. Our findings show that pain intensity is variable, with some patients experiencing severe pain. We also identified an inverse relationship between patient pain ratings and clinician estimates. This represents a challenge for pain assessment, which is primarily used to calibrate anaesthetic dose. Further work is required to investigate whether we can predictively identify those likely to experience intense pain during hysteroscopy, either to help inform appropriate anaesthetic dosage or to stratify patients to an inpatient pathway.

15

PERIOPERATIVE OPIOID USAGE AND PRESCRIPTION PRACTICE FOR KNEE SURGERY PATIENTS IN A DISTRICT HOSPITAL - A PROSPECTIVE AUDIT

Category: Audit and Service Evaluation

Authors: Darragh Hodnett - Anaesthetics, Kent and Canterbury Hospital, Athmaja Thottungal - Anaesthetics, Kent and Canterbury Hospital, Velliyottillom Paramsewaran - Anaesthetics, Kent and Canterbury Hospital

Background

Opioid "epidemic" is an increasingly highlighted area in both medical and media circles (1). Both clinicians and patients are now increasingly cautious of inappropriate opiate use. At the same time opioids play an important part of multimodal analgesia in treating post-surgical pain. Those patients with poorly controlled pain following surgery are much more likely to develop chronic post-surgical pain (2). It is important that patients are given appropriate advice around opiate use and being followed up to ensure these drugs are tapered off in a timely manner to prevent this. We designed this prospective audit project to find out the peri-operative opioid usage and prescription for patients undergoing knee replacement surgery at Kent and Canterbury Hospital. We selected this population as they are at risk of developing post-surgical chronic pain (25-40%) and often have some degree of opiate tolerance prior to surgery as the arthritis is treated with opioids.

Aims

This prospective audit was to investigate perioperative opiate use in 30 patients undergoing knee replacement surgery at Kent and Canterbury Hospital. We also investigated whether these patients

were given appropriate information about opioid weaning and follow up plans were given prior to discharge and opioid use 6 weeks post-operatively.

Methods

After approval from audit department, patients undergoing knee replacement surgery were sourced using theatre lists from the orthopaedic centre at Kent and Canterbury Hospital. Patients were asked about pre-operative pain numerical rating scores. Pre-operative medication history was gathered using the pre-assessment questionnaire especially pre-operative opiate and neuropathic medication was noted. History of anxiety or depression were also noted as these patients are phenotypically at higher risk of developing post-surgical pain (4). The patient's anaesthetic and drug chart were then used to get information around intra and post-operative opiate use whilst in hospital. The patient's electronic discharge summary was used to give information about opiates on discharge and whether they received any information about opiate use and follow up. Patients were contacted one week and six weeks post-operatively to ask about ongoing opiate usage, whether they had had any information about opioid or a plan regarding tapering.

Results

A total of 31 patients were recruited. 39% were taking regular opiates pre-operatively with mean dose of oral morphine equivalent (OME) of 30.4mg/day.

The mean amount of oral morphine equivalent consumed post-operatively was 30.3mg on day one, 41.8mg on day two and 35.8mg on day three.

On discharge 96.8% were given opiates to take at home. During the audit opioid awareness was ongoing. 29% received written information about opiates on discharge. Only 19.4% of patients were given a weaning plan.

The mean amount of OME at one week was 21.3mg/day and at six weeks was 7.7mg/day.

32.3% of patients reported awareness of opiate tapering plan.

At six weeks post-operatively 65.1% of patients had either no difference or increased opiate intake whilst 3.2% had an increase in pain scores.

The difference in opiate consumption was less marked with 25.8% having an increase in opiate use post-operatively compared to before.

Conclusion

This audit project has highlighted a number of issues around opiate prescribing in this specific group. In a number of patients opiate use was increased following surgery. It also highlights issues around information provision and support around weaning off opiates following surgery. It appears that an already stretched primary care service is expected to deal with often complex pain problems with little or no support from secondary care. This potentially leads to inappropriate opiate use and increasing the incidence of chronic post-surgical pain. The solution will be opioid and pain management in the pre-operative setting.

16

ANONYMOUS SURVEY OF GABAPENTINOIDS IN PATIENTS ATTENDING THE CHRONIC PAIN SERVICE AT A UNIVERSITY HOSPITAL IN STAFFORDSHIRE IN THE UNITED KINGDOM

Category: Audit and Service Evaluation

Authors: Pradeep Ingle - University Hospitals of North Midlands NHS Trust, Harnaraine Murally - University Hospitals of North Midlands NHS Trust, Rajinikanth Sundararajan - University Hospitals of North Midlands NHS Trust, Ashok Puttappa - University Hospitals of North Midlands NHS Trust, Vanja Srbljak - University Hospitals of North Midlands NHS Trust

Background

Many patients suffering with chronic pain are on gabapentinoids (gabapentin and pregabalin) medications. Undoubtedly, they have a vital role in the management of chronic pain conditions. Some patients experience an improvement in pain as well as quality of life with gabapentinoids and a significant number are on them long term. Unfortunately, their significant side effect profile is something that many doctors, including pain consultants, are unaware of. They also have significant addiction/abuse potential. With the growing misuse as well as prescription rates in the UK, there is a definite need for creating awareness about gabapentinoids amongst the health professionals including pain consultants. At University Hospitals of North Midlands, we conducted an "anonymous patient survey" to uncover these significant issues with gabapentinoids with the purpose of gaining insight and creating awareness. We couldn't find any previous similar survey in the UK population in the literature.

Aims

1. To find the percentage of patients attending chronic pain services treated with gabapentinoids.
2. To understand patients' perception of gabapentinoids in terms of reason for their prescription, its usefulness for pain relief and improving quality of life.
3. To understand patient side effects and their addiction or abuse potential.

Methods

Anonymous patient survey questionnaire, done in 217 patients attending chronic pain services over 2 months:

1. Are you taking pregabalin (Lyrica) or gabapentin medications or have you taken them in the past?
2. What is your understanding of the reason for your prescription of pregabalin (Lyrica) or gabapentin?
3. How long have you been on pregabalin (Lyrica) or gabapentin since?
4. Did you find pregabalin (Lyrica) useful for your chronic pain condition?
5. Have you tried to come off pregabalin (Lyrica) /gabapentin for any reason?
6. Did you notice any improvement in quality of life with pregabalin (Lyrica)/gabapentin (e.g.- either through pain relief, anti-anxiety effect or its dissociative effects)?
7. Have you experienced any side effects from pregabalin (Lyrica)/gabapentin in particular and if yes what are they?
8. Have you noticed any addiction and/or abuse of pregabalin (Lyrica)/gabapentin in yourself?

Results

This Survey was carried out over a 2-month period in 2019 in the patients attending chronic pain services and 217 patients participated in the survey, of which 206 patients completed the survey forms fully. Out of these 206 patients, we found that 58.7% of chronic pain patients were on gabapentinoids at some point of time for their pain. Most of the patients (98%) were aware of their reasons for prescriptions of gabapentinoids. Around 58% of our patients were on gabapentinoids for >1 year. However; only 37.2% patients found them useful for their chronic pain condition. Around 30% of them reported improvement in QOL. Unfortunately, 38% patients reported side effects during their treatment, many of which interfered with their day to day life. 49.6% of patients tried to come off the gabapentinoids. Interestingly, 6.6% patients reported that they noticed addiction/abuse issues with gabapentinoids.

Conclusion

A significant number of patients continue to take gabapentinoids without substantial benefit. Moreover 38% have side effects from gabapentinoids, many of which interfere with their daily life. It is extremely vital to identify these patients and stop gabapentinoids if they are not benefiting. Currently, this is not happening. Their significant addiction potential needs to be explored further. We believe that our survey is the first of its kind in the UK to quantify patients' perception of gabapentinoids. Our findings highlight the need for a regional/national survey to give us more insight and raise awareness into this important issue.

17

COMPLIANCE OF ASSESSMENT AND DOCUMENTATION OF PATIENTS WITH PATIENT CONTROLLED ANALGESIA (PCA) AND EPIDURAL INFUSIONS AT A LONDON TEACHING HOSPITAL

Category: Audit and Service Evaluation

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Background

The Royal College of Anaesthetists (2012) suggests that regular clinical assessment is essential for accurate pain management. We recommend nursing staff perform a minimum of four hourly PCA/epidural observations. These include infusion rates, bolus doses and sensory and motor blocks for epidural. Pain scores for these patients should also be documented a minimum 4 hourly. PCA and epidural infusions are considered high risk devices, therefore Trust guidance states that two practitioners should witness the connection of an infusion to the epidural catheter; one of whom should be the anaesthetist who inserted it. In support of this, the observation charts have been updated to include signatures. The pain management team at a London teaching hospital carried out a service evaluation after it was noticed that both pain assessment and documentation was not meeting Trust standards in some areas.

Aims

To ensure assessment and documentation is completed as per Trust and national guidance for patients with PCA and/or epidural infusions:

- 4 hourly PCA and/or Epidural observations.
- 2 practitioners witnessing the connection of infusion to the epidural catheter, one of whom should be the anaesthetist who inserted it.

Methods

Data was collected by the pain clinical nurse specialists for six months (November 2018 to May 2019). Patients were randomly selected from both medical and surgical wards. Inclusion criteria included adult patients and those with either a PCA and/or epidural infusion. Patients' observation charts were reviewed and the following data was collected: patient demographics, pain scores at rest and movement (using the verbal rating scale), type of device used (either PCA and/or epidural), PCA specific observations (drug, bolus dose, background infusion rate, total infused), and Epidural specific observations (infusion rate, sensory and motor block). Finally, data related to the connection of the epidural catheter was collected (signature by an anaesthetist and a witness). The data was subsequently analysed by the pain clinical nurse specialists.

Results

Data was collected from 100 patients and of these, 69% had a PCA device in place, 18% had an epidural infusion device and 13% had both devices. Pain scores were recorded four hourly for 60% of patients, with 40% either not recorded or incorrectly recorded. 78% of patients had no pain or mild pain at rest documented, with 59% of patients having no pain or mild pain on movement. Fourteen percent of the patients had no pain score (rest and movement) documented. The bolus dose was not documented four hourly for 47% of patients with a PCA. In 65% of epidural patients, there was no anaesthetist signature to document they had connected the epidural catheter, furthermore the witness signature was not documented in 88% of charts. Positively, 70% of charts had epidural related motor block documented four hourly and 94% had the sensory block recorded at least twice per shift.

Conclusion

Despite the audit limitations, results showed further education is needed to ensure regular pain scores are recorded. Reassuringly, the majority of pain scores recorded for patients met the national target of mild pain or less. PCA documentation needs improvement, particularly bolus dose documentation. Comparably, documentation of epidural specific observations was poor including absence of signatures for the connection of the epidural catheter. Further education has been provided to anaesthetists with importance placed upon accurate documentation of epidural catheter connection to avoid wrong route administration. Future service evaluations are needed to determine the reasons for lack of assessment and documentation.

18

SURVEY OF PATIENT AWARENESS OF PAIN RESOURCES IN SOCIAL MEDIA

Category: Audit and Service Evaluation

Authors: Christina Knight - Pain Services, Calderdale & Huddersfield NHS Foundation Trust

Background

We have noticed an increase in patients referencing the internet in their consultations and wondered how many of our patients used the

internet as a pain resource or support mechanism, and which sites they regularly used. A Google internet search showed many sites offering support for pain conditions and that internet users had grown in the last 10 years from 24.7% in June 2009 to 58.8% in June 2019 (Internet Growth statistics). Nelson (2017) referenced work which showed 91% of internet users say that online communities play a role in patient healthcare decisions. We decided to see if this data was reflective of our patient group.

Aims

The aim of this study was to carry out a survey to find out how patients that visit our clinic for treatment and consultations use internet resources. Do they use the internet and social media support groups in regards to their pain?

Methods

We asked 100 patients who attended our clinics, for consultations and treatments during July 2019 to fill out a paper questionnaire relating to using internet resources with regards to their pain. The questionnaire was handed out and collected by our receptionist who then analysed the data.

We asked patients the following 4 questions:

1. Do you use social media?
2. Are you a member of any social media pain groups?
3. Are you aware of any pain education websites for pain?
4. Are you aware of any support groups in the community for pain?

Results

The results showed 60% of patients use social media; the most popular was Facebook used by 96.67% of patients. Twitter was used by 15% and Instagram by 28.33%. 3.33% of people also said they used WhatsApp a messaging service and not a public platform for all to see.

2% of these were part of a social media pain group.

11% of patients were aware of any pain education websites they could use.

Patients had used Google search to answer any queries they had. Patients also used NHS websites which were specific to their type of pain. Patients chose this type of website as they felt it was the most trustworthy source of medical information. Patients also referenced Pain Concern and HealthUnlocked websites.

The results showed that 10% of patients were aware of support groups in the community, (30% were made aware of these prior to attending pain clinic).

Conclusion

The survey results showed a large number of the patient population attending our clinics used social media, but only 11% were aware of social media groups for pain and 2% were part of any such group. Online communities and internet resources are becoming more important in people's lives and in helping people make health decisions. Patients are not aware of resources available to support them online. More information needs to be available to signpost patients to recognised and trustworthy NHS and pain websites. This may be accomplished by embedding links into QR codes which would be available in clinical information.

19

THE EVALUATION OF THE CO-PRESCRIPTION OF PARACETAMOL WITH OPIOIDS ON SURGICAL WARDS

Category: Audit and Service Evaluation

Authors: Clare Lavery - General Medicine, NHS Greater Glasgow and Clyde

Background

The concept that inadequate pain management is considered poor quality healthcare, has resulted in opioids being the mainstay of acute pain management. The increasing reliance on opioids to eliminate pain is associated with the rising epidemic of prescription opioid misuse and over-dose related deaths. This was initially recognised in the USA however, now the opioid crisis is expanding globally. Raising awareness of the impending opioid crisis in the UK is necessary to encourage clinicians to change their practice. Anaesthetists from University Hospital Ayr have designed post-operative care bundles comprising opioid and paracetamol combinations. These care bundles encourage the co-prescription of regular paracetamol with regular opioid therapy to reduce reliance on opioids and minimise associated adverse effects.

Aims

The aim of this quality improvement project was to examine the co-prescription of regular paracetamol with opioids on surgical wards. Regular paracetamol typically reduces opioid requirement by 20-30% and therefore it has the potential to reduce opioid prescription as well as the number of unwanted adverse effects associated with opioid.

Methods

Hospital Electronic Prescribing and Medicine Administration system (HEPMA) is used for the prescription and administration of medication in Ayr hospital. This was utilised using a bespoke query interrogating the NHSAA JAC HEPMA database to identify any patients on surgical wards who were prescribed regular opioids and examined whether regular paracetamol was concurrently prescribed.

Results

Following evaluation of 1826 patient prescriptions, it was noted 37.28% (n=681) of patients received more than one day of opioid treatment without being co-prescribed regular paracetamol or regular co-codamol. The orthopaedic ward was noted to perform best, contributing to only 14.24% (n=97) of the total number of patients. The contribution from the vascular ward was most significant representing 32.75% (n=223). Oxycodone was identified as the most common opioid prescribed with regular paracetamol or co-codamol which interestingly is the opioid of choice in the post-operative orthopaedic care bundle. The correlating findings reflect the positive impact of introducing the post-operative care bundles using HEPMA.

Conclusion

The use of post-operative care bundles was noted to be associated with more effective prescribing on the orthopaedic ward. Better compliance with available analgesia regimes will perhaps lead to further improvement. Regular review of patient's medication and de-prescribing are additional measures which must be adopted to prevent contribution to the opioid epidemic. Introduction of simple visual aids such as a poster will also promote satisfactory analgesia prescribing. This audit highlights the importance of reviewing local practice to enable

the introduction of intervention strategies. Other health boards could follow by example to improve the prescription of analgesia nationally.

20

AN AUDIT OF ANALGESIC PRESCRIPTIONS IN PATIENTS 3 MONTHS POST-OPERATIVELY

Category: Audit and Service Evaluation

Authors: Paul McConaghy - Department of Anaesthetics, Southern Health & Social Care Trust

Background

Opioid prescriptions in the UK have increased dramatically over the last decade and have attracted a lot of recent attention within the media. The Times (24 Feb 2019) reported that five people die each day in the UK as a result of prescription opioids. There is concern that we are sleep-walking towards the crisis that exists in the US, where it is estimated that more people have lost their lives to opioids in the last two years than in the whole of the Vietnam War. One of the pathways by which patients become addicted to opioids is by their prescription for pain following surgery. Opioids are prescribed to around 80% of patients following surgery (JAMA 2016:316;1654-7) and are used in most patients within the Trust (SHSCT) at some point during their post-operative stay as well as on discharge to the community.

Aims

We enquired from our GP's their views on post-operative opioid prescribing and to establish the incidence of opioid use three months post-operatively. We chose to look at total knee replacement (TKR), total hip replacement (THR) and laparoscopic cholecystectomy (LC). We also looked at the use of gabapentinoids at three months post-operativley.

Methods

A Survey Monkey questionnaire was sent to the practice managers of all GP practices within our catchment area. Nine questions were asked and the responses tabulated. On the basis of these results, the authors put together an audit protocol which was discussed at the Department of Anaesthetics Clinical Governance meeting and approved by the audit lead. Ethics approval was granted by the Trust's director of research. We obtained the Health and Care Numbers of 150 patients who had had TKR, THR, or LC within the previous 3-6 months. The post-operative intake of analgesia was documented from the NI Electronic Care Record together with pre-operative analgesia and anti-depressant intake. If there was doubt about the prescriptions issued, the practice pharmacist was contacted by telephone. We did not include the analgesics cocodamol 8/500 or 15/500 nor NSAID's.

Results

Survey Monkey results revealed that: 75% of GP's believed they had patient(s) addicted to opioids that were initiated in hospital; oxycodone was the biggest problem; 40% felt it was never appropriate to discharge on Longtec, 25% felt that Shortec would lead to less addiction; 60% felt they could predict in advance the patients likely to have opioid misuse after surgery and 90% that hospital staff should be aware of this; 100% felt that discharge opioids needed to be reviewed; 85% believed that a post-operative opioid clinic should be established. At 3 months post-operatively, over a quarter of patients with TKR, 12% of patients with THR and 8% of patients with LC, were on stronger opioids, or had a new prescription of a gabapentinoid. The drugs at three months included oxycodone, tramadol, cocodamol 30/500, buprenorphine, gabapentin and pregabalin. There was no correlation with pre-operative anti-depressants.

Conclusion

The reasons for the increased use of drugs in the post-operative period are complex and relate predominantly to pre-operative biopsychosocial patient profiles (Anesth Anal 2017: 125;1733.-1740). We also know that chronic opioid misuse can begin in the post-operative period. The drugs most commonly used post-operatively are also the ones that are implicated in the majority of opioid-related deaths in the US (JAMA 2016:315;1654-1657). We have identified concern amongst the GP's in our area together with evidence to justify their concerns in relation to prescription of analgesics following major surgery and their use at three months post-operatively.

21

'REAL-WORLD' PATIENT-REPORTED OUTCOMES AND TOLERABILITY FOLLOWING A THERAPEUTIC TRIAL OF SATIVEX® FOR PERSISTENT NON-CANCER PAIN (PNCP) WITHIN A JERSEY PAIN MANAGEMENT CENTRE

Category: Audit and Service Evaluation

Authors: Julia Morris - Pain Management Centre, Government of Jersey Health & Community Services, Jonathan Bond - Pain Management Centre, Government of Jersey Health & Community Services, Chad Taylor - Pain Management Centre, Government of Jersey Health & Social Services

Background

As the prevalence and impact of PNCP increases, so does public demand for more effective medical treatments. Social and political pressure groups want medicinal cannabis made available for treatment of PNCP. Quality and reproducibility of studies looking at cannabis for pain management has been variable. Evidence of efficacy and safety is sparse or conflicting for PNCP. More well-controlled clinical trials are needed to evaluate cannabinoid treatment for this patient cohort. In 2017 the Minister for Health (Government of Jersey) made medicinal cannabis available for public prescription by Secondary Care Specialist Consultants, including Pain Specialists. The drug has not been licensed for use in PNCP so permission was for "off-label" use. To manage the predicted increase in demand from patients for a clinical trial, a clinical audit pathway, local protocol and guideline were developed by the Jersey Pain Lead and adopted within clinic.

Aims

To audit 'real-world' patient-reported outcomes and tolerability following a therapeutic trial of Sativex® for persistent non-cancer pain within a Jersey pain centre, using local guidelines and a self-selecting patient cohort. Further, to describe these outcomes across a 1 year follow-up phase.

Methods

Between January and November 2018 patients referred to the clinic who requested to try Sativex® were assessed by a Pain Clinic Consultant. Inclusion Criteria: Aged 18+, diagnosed with a PNCP condition, self-selected to try Sativex®. Exclusion Criteria: History of medication misuse; history of recreational drug use; significant psychiatric co-morbidity; current complex pain polypharmacy;

disengaged with assessment pathway. Pain was assessed using the BPI-SF. As well as the aggregate score for interference, 3 subcategory domains (physical functioning; emotional functioning; sleep) were also analysed. Depression was assessed with the short form BDI-PC. Unlike the standard BDI, this produces only a binary outcome of not depressed or depressed. Pain self-efficacy was assessed using the PSEQ. Outcome data were collected at: start, 1 month, 3 month & 1 year follow-up. Data was analysed using PSPP. Pre and post scores on the measures were evaluated using paired samples t-tests.

Results

62 (29 M: 33 F) patients requested a therapeutic trial of Sativex®. 22 were excluded (changed their minds, received treatment outside of trial or failed to complete pathway during trial period). Total cohort: 29M and 33F. A further 18 were excluded by protocol criteria (M:F exclusion 2:1). 77% were of working age. 22 patients started trial; 2 stopped (adverse reaction) before the 1/12 follow-up (20); 9 stopped after the 1/12 (6 side-effects: 1 non-compliance; 2 patient choice(11)); a further 2 stopped at 3/12s (lack of efficacy (9)); and 3 are not included at 12 months (non-compliance (6)). Efficacy and tolerability diminish across the trial period. At 1/12 all measures showed statistically significant change. By 12/12s only 6 (27%) patients continued with the trial and none of the measures showed statistically significant change. 2 of the remaining patients reported clinically significant pain reduction.

Conclusion

Of the 22 trial subjects, 8 (36%) had tolerability issues; 3 lack of efficacy (14%) and 5 (23%) were non-compliant. Only 2 had clinically significant improvements in pain at 12 months (9%). Despite this 9 wanted to remain on the drug. Of those that reported harm from the medication trial some of the harms were considerable, such as an episode of psychosis and crashing a car. Overall Pain Interference did not change significantly at 12 months. The Sleep subscale, when analysed separately, showed statistically significant improvement, suggesting improvement in sleep may have a mediating role.

22

IMPROVING PRACTICE IN OPIOID DE-PRESCRIBING FOR PATIENTS WITH CHRONIC NEURO-MUSCULOSKELETAL PAIN

Category: Audit and Service Evaluation

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Background

Opioids have been shown to be of questionable efficacy in the treatment of chronic pain. The risk of harm from prescribed long-term opioid use increases above 120mg per day of oral morphine equivalent (Stannard, DTB 2018). We have audited opioid management and the effectiveness of opioid de-prescribing at the Royal National Orthopaedic Hospital (RNOH) Chronic Pain Centre, over a seven year period between 2012 and 2019, where we set the following opioid management standards of care: (1) a comprehensive analgesic use history should be recorded in the notes for all new patients, (2) opioid dose reduction should be discussed during the first consultation in all new patients on >100mg of oral morphine equivalent dose. Our data also allows us to examine trends in opioid use in patients referred to a tertiary musculoskeletal centre and the effectiveness of opioid reduction plans executed in an outpatient setting.

Aims

To assess adherence to evidence-based standards on opioid management in patients reviewed at RNOH Chronic Pain Centre. To identify patterns in opioid use in patients referred to a tertiary neuro-musculoskeletal chronic pain clinic. To assess the success rate of reduction strategies employed at the clinic.

Methods

Patients seen in consecutive new pain clinic appointments over two 4-week periods (3rd-17th October 2012 and 1st-29th August 2019) were identified using the hospital's internal clinic bookings system. Clinic letters generated at these first visits were retrospectively reviewed on the hospital's electronic notes library. Notes of patients in the 2012 cohort were also reviewed over the following 2-3 years to assess the success of reduction strategies. Morphine equivalent doses were calculated based on a commonly used conversion table (Faculty of Pain Medicine, Opioids Aware, accessed December 2019). Categorical data were compared between the 2012 and 2019 cohorts using Fisher's exact test.

Results

Data were collected on 36 patients seen in 2019 and 38 patients seen in 2012. Patient demographics were similar in the two groups (male:female 1:3, median age 48 & 46 years respectively).Between 2012 and 2019, there has been a reduction in the proportion of patients on any opioid (from 66% down to 53%) as well as the proportion on strong opioids 45% (17/38) down to 39% (14/36) but these differences are not statistically significant (Fishers exact test, using raw data). A significantly (Fisher's exact test $p<0.0001$) higher proportion of patients on opioids have had a discussion on opioid reduction in their first clinic visit in 2019 (18/19, 95%) compared with 2012 (6/25, 24%). All six patients for whom an opioid reduction plan had been made in 2012, reduced their opioid dose to some extent. All were on at least one 'strong opioid' and three stopped the strong opioid completely.

Conclusion

This data shows a trend towards less opioid prescribing in patients referred to our clinics. This finding deserves examination in a specifically designed study. Notes of new patients seen consecutively over two 4-week periods were audited with no other inclusion criteria that could introduce bias, though inadvertent selection bias is a limitation of this observational audit. Outpatient opioid de-prescribing practices can be improved. Counselling on opioid reduction has become a normal part of pain clinic consultations at RNOH, supported by pharmacist specialist clinics and encouraged by other members of the multidisciplinary team including nursing, psychiatry, psychology, physiotherapy and occupational therapy.

23

A SERVICE EVALUATION EXPLORING INPATIENTS DISCHARGED HOME ON OPIOID MEDICATION

Category: Audit and Service Evaluation

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Background

The amount of prescribed opioids and subsequent misuse has increased in recent years, and patients appear to be prescribed opioid drugs for longer durations (Stannard, 2013). Unsurprisingly, mortality rates have increased between 2012 and 2015 by 73% (Office for National Statistics, 2016). Iatrogenic opioid dependence occurs in 4.7% of patients exposed to opioids. A 2018 systematic review by Higgins and colleagues found patients on weak opioids were most likely to be dependent compared to strong opioids (Higgings et al. 2018). More alarmingly, this systematic review showed that there was a large group of patients utilising a mixture of weak and strong opioids for chronic non-malignant pain. The focus of this project will be on opioid prescriptions on discharge from a London teaching hospital. Healthcare professionals (HCP) often over-prescribe opioids on discharge (Markay et al. 2017) but little support is given to patients on how to manage pain after surgical procedures, and what to expect as part of their recovery period.

Aims

The aim of this service evaluation was to identify the prevalence of opioid prescriptions on discharge from hospital, and if patients were given information in the discharge notification on discontinuation of the opioids.

Methods

Pain Clinical Nurse Specialists (CNS) randomly selected patients audit forms from 2018-2019. Inclusion criteria included adult inpatients, and those referred and reviewed by the pain management service. Patient groups excluded from the service evaluation were chronic pain patients and cancer patients already on opioids. Using the audit forms, it was possible for the CNS to review the patient's records and find out from the discharge notification, which opioid medications were prescribed on discharge. Furthermore, it was possible to review on the discharge notification, if advice on discontinuation of opioids was documented.

Results

All 100 patients (100%) were opioid naïve which meant they had not routinely used opioids before admission to hospital. The results demonstrated 93% of patients were discharged home on opioids. The majority, (55%) were prescribed codeine and tramadol, the most common weak opioids on discharge. Those not prescribed a weak opioid (45%) were given a strong opioid on discharge with both morphine and oxycodone modified released tablets being the most common. Twenty eight patients (28%) were discharged home on two different opioids, the combination varied between weak and strong opioid (modified and/or immediate release preparations). One patient (1%) was discharged with two prescriptions of modified release opioids buprenorphine patch and modified release morphine tablets. Nineteen patients (19%) were given advice on discontinuation of opioids; this was documented in their discharge summary. Eighty one patients (81%) did not receive any guidance on long-term use of opioids.

Conclusion

The opioid awareness campaign has been successful in creating awareness on the inappropriate continuation and escalation of opioid prescriptions in the UK, however based on the findings from this service evaluation, it was found that there is a lack of communication from clinician to clinician on discontinuation of opioid prescription after discharge from hospital. Suggestions for practice are for all discharge notifications to have written advice to the patient and GP on the short term use of opioids for acute admissions. Multidisciplinary efforts must be utilised to educate patients on discharge on the appropriate use of opioids. Furthermore, there is a need for an opioid leaflet after discharge that will offer the patient information on discontinuation of opioids. Junior doctors completing the discharge notification, need to document a clear message to GPs on discontinuation of the opioids.

24

A SURVEY OF KNOWLEDGE OF CANNABIS IN PAIN PHYSICIANS

Category: Audit and Service Evaluation

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Background

Since medicinal cannabis became legal for specialist UK doctors to prescribe on 1st November 2018, there has been public interest in its use for chronic pain as well as other conditions. NICE has released guidance stating that cannabis-based medicinal products should not be routinely prescribed due to lack of evidence for their efficacy. On 25th November 2019, the British Pain Society released a position statement endorsing this guidance. However, pain physicians have anecdotally described patients requesting a prescription.

Aims

The aim of this survey was to determine the level of knowledge of cannabis and the confidence in prescribing cannabis-based medicinal products in UK-based chronic pain specialists.

Methods

An online survey was developed on a website affiliated with one of the author's academic institution. The link to the survey was distributed to a Google Group mailing list that has a subscription list of 300 consultants and trainees specialising in chronic pain. To start the survey, the physician had to click a link stating that they consent to the survey and the data being collected and analysed. Physicians were asked to respond to questions posed above.

Results

There were 98 responses, but only 69 completed (response rate 23%). There was one response from a ST7 trainee, with the rest from consultants. 50.7% stated there were 2 cannabinoid receptors described; 78.3% knew that cannabidiol (CBD) did not have psychoactive effects. 81.2% of those who replied felt that medicinal cannabis should be legal for limited medical conditions. 68.1% and 87% of respondents felt that there was poor quality evidence supporting using cannabis for medicinal purposes and specifically neuropathic pain respectively. Patients had asked 92.8% of respondents to authorise medical cannabis. 26.1% of respondents had some confidence in prescribing CBD oil, whereas 10.1% were confident prescribing medical cannabis for smoking/vaporizing. 30% of respondents felt that medical cannabis would help with the opioid crisis. Information was obtained from peer-reviewed literature (71%), non-sponsored conferences (69.6%), Faculty of Pain

Medicine publications (56.5%), industry-sponsored conferences (31.9%), and lay media (23.2%).

Conclusion

This survey has shown that most respondents have had patients inquiring about medical cannabis. Though over 80% felt that cannabis should be legal for limited medical conditions, most felt that there was poor quality evidence in its use for neuropathic pain. Most of those surveyed did not have confidence in prescribing forms of medical cannabis. Education of medical cannabis has mainly been from peer-reviewed literature and non-sponsored conferences.

Education

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DOES EDUCATION IN A PHYSIOTHERAPY-LED PAIN MANAGEMENT PROGRAMME ACHIEVE ITS INTENDED AIMS AND OBJECTIVES?

Category: Education

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Background

The physiotherapy-led pain management programme is a six-week group-based programme consisting of exercise and six rotating educational sessions designed to inform, enable and empower people with lower back pain to self-manage their condition and optimise their quality of life. The course is run by Physiotherapists working in the Musculoskeletal Outpatient Physiotherapy Department at Guys and St Thomas' NHS Foundation Trust. Previous research and service evaluations have shown reduced disability and high satisfaction following the programme (Critchley et al, 2007). However, despite improvement in clinical outcomes, it is unclear if the programme achieves its intended aims and objectives, whereby knowledge is gained and change in behaviour reported. This project aimed to understand the processes occurring during the course between treatment and outcome, in order to determine whether the education sessions were successful in achieving their intended learning objectives.

Aims

To determine whether participants are achieving the intended learning objectives following attendance. To determine if there are any self-reported changes in behaviour following attendance. To make recommendations to inform the educational design of the programme, in order to promote learning and behaviour change.

Methods

A questionnaire was developed to measure learning against the identified learning outcomes and to determine whether there were reports of behaviour change. The questionnaire consisted of numerical rating, Likert scale and open comment questions. There were eighteen questions split into four sub-sections: "Learning Objectives", "Overall Understanding and Confidence", "Delivery of Talks" and "Overall Considerations". Data collection took place between November 2018 and April 2019. Twenty-nine sets of data were collected from patients during their final class across the department's three sites. Percentages were calculated from scores of the numerical rating and Likert scale questions. Thematic analysis was undertaken to extract themes from the responses to open comment questions.

Results

Reviewing self-reported achievement of learning objectives using a numerical rating scale indicated:

- 72% reported high confidence in continuing exercise (9-10/10).
- 36% felt that imaging always identified causes of pain (9-10/10).
- 54% reported high confidence in pacing strategies (9-10/10).
- 62% reported high confidence in goal setting (9-10/10).
- 62% reported high understanding of thoughts and feelings on pain (9-10/10).

Reviewing self-reported understanding of condition indicated:
- 18% reported complete understanding.
- 46% reported very good understanding.
- 32% reported moderate understanding.
- 4% reported slight understanding.

Reviewing self-reported change in confidence to self-manage:
- 69% reported definite change.
- 28% reported some change.
- 3% reported no change.

Themes identified associated with learning included:
- "Learning to manage a life with pain".
- "Learning about causes of pain".
- "Learning to have self-confidence independently managing pain".

Themes identified associated with change included:
- "Implemented health behaviour change".
- "Intentions for future health behaviour change".
- "Viewing my condition with a positive mental attitude".
- "Positive improvements in symptoms following the programme".

Conclusion

Using a self-reported survey, a majority scored highly on learning objectives, understanding, confidence and satisfaction. Most acknowledged the importance of exercise and health behaviour change. However, identified themes and phrasing suggested intention rather than commitment to change e.g. "try to do more exercise". Although the programme allows participants to recognise and consider health behaviour change, it is difficult to determine whether this leads to long-term committed action. To overcome limitations of survey data collection, a focus group will now be conducted to enable the collection of richer data to determine whether long-term behaviour change is achieved.

Epidemiology

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THE PREVALENCE OF OPIOID USE IN NEW PATIENT REFERRALS TO A CHRONIC PAIN MANAGEMENT SERVICE

Category: Epidemiology

Authors: Grant Lewis – Anaesthetics, Glasgow Royal Infirmary, Peter Paisley, - Queen Elizabeth University Hospital

Background

Chronic pain is a massive healthcare burden with an estimated prevalence of 14.3% in 18-25 year olds, increasing to 62% in the over 75 age group. The research conducted by the UK government suggests the population aged over 65 will double by 2050, with a resultant rise in the prevalence of chronic pain. In the last decade or so, there has been increasing awareness of the "opioid epidemic", referring to an increase in the prescription of step 3 opioid medication for chronic non-malignant pain. This has led to an estimated 600,000 deaths with a further 180,000 expected by 2020.

Aims

To assess the extent of the problem locally, we sought to investigate the prevalence of opioids, gabapentinoids, illicit drugs and alcohol use among a population referred to a tertiary chronic pain service.

Methods

As part of the biopsychosocial assessment model employed in our clinic, details of patients' medication, smoking, alcohol and illicit drug history is asked and recorded in our confidential clinical portal system. Using TrakCare6, all of the patients sequentially referred to the chronic pain service to the outpatient clinic of one of the authors (PP) were retrospectively looked at from 1st August 2018 to 1st May 2019. The demographics of the patients and their presenting pain condition were recorded. In addition, their use of prescription opioids, benzodiazepines and gabapentinoids was noted. Other information collected included smoking, alcohol and illicit substance use. Patient identifiable data was not collected at any point and only clinicians working in our service were involved with gathering the data used for this project, therefore Caldicott Guardian approval was not sought.

Results

We collected data from 151 patients, 46 males and 105 females. Average age was 54.7 years (range 20-89). 25.8% patients presented with fibromyalgia/chronic widespread pain, 27.2% had mechanical low back pain, with the remaining 46% suffering from a variety of other chronic pain conditions. 37.1% were prescribed gabapentinoids. 66.2% of our patients were prescribed opioids, with 20.5% using step 3 opioids. The 24-hour oral morphine equivalent of those on step 3 opioids was 47.8mg (range 2-425mg). 15.2% of our patients were prescribed benzodiazepines. 17.9% patients admitted to illicit drug use, 10.6% to history of alcohol excess, 47.7% were smokers. When we looked at the sub-set of 39 patients with chronic widespread pain/fibromyalgia, 28.2% were males and 71.8% were females. Average age 48.5 years (range 20-70). 51.3% were using gabapentinoids, 36% were using Step 3 opioids. Average 24hr oral morphine equivalent was 53.8mg (range 6-425mg). 25.6% benzodiazepines, 12.8% admitted illicit drug use.

Conclusion

This survey shows that there is a significant prevalence of drug prescriptions for opioids, benzodiazepines and anticonvulsants in chronic widespread non-malignant pain, with increasing concerns for their use in this context. We advocate an increased importance of patient education with regards to these medications in chronic non-malignant pain. If we are to prevent an epidemic of the likes seen in the US, policy-makers, GPs, Addiction specialists and Pain Medicine multidisciplinary teams will be key in preventing exacerbation of the existing problem through judicious prescription, regular monitoring, and supported medication reduction in patients experiencing the negative consequences described with these medications.

Interventional Pain Management

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INTERVENTIONS FOR CHRONIC PELVIC PAIN

Category: Interventional Pain Management

Authors: Magdy Aglan - Pain Management Service, Burnley General Teaching Hospital

Background

Chronic Pelvic Pain (CPP) is a common condition affecting 15% of females between 18-50 years in the UK. CPP prevalence is comparable to migraine, low back pain and asthma. Besides the huge financial cost, CPP has significant personal (physical & psychological) and social effects. Endometriosis is a common cause of CPP, and it is one of the most common gynaecological conditions. Despite costing the UK economy £8.2 billion annually and affecting 1 in 10 women of reproductive age in the UK (1.5 million), it currently takes an average of 7.5 years to get a diagnosis. Our Pain Management service receives female CPP patients' referrals from the Gynaecology Department. CPP is multifactorial, however, it is not uncommon to receive patients without a diagnosis. CPP is associated with Low Back Pain (LBP). We assess CPP patients in a multidisciplinary approach and offer multiple interventions including medications advice, physiotherapy, clinical psychology and multiple injections.

Aims

The aim was to evaluate the effectiveness of our multiple interventions for female chronic pelvic pain patients who presented to our pain service over 2 years. The main outcome measure was the mean score of pain (VAS) before and after intervention. Other measures were parameters of the brief pain inventory.

Methods

A retrospective cohort study. Pain clinic referral letters for 24 months (January 2017 – December 2018) were reviewed to select patients with CPP as a main complaint. Patient notes were reviewed to identify the gynaecological diagnosis, other pain diagnoses, multiple pain interventions & patient's response. Only patients with complete records were considered (diagnoses, treatments & patients' response 6 -12 months later in a follow-up appointment). CPP patients with associated back pain were included; however, patients with leg pain were excluded. Data collected (mean values) were: age, duration of pain before referral, severity of pain (VAS) before and after intervention. All patients were screened for psychological effects (BPI & HADS) and suspected pelvic floor muscles dysfunction (one or more of the following: urinary problem, bowel problem, anal pain, genital pain, sexual discomfort). We looked for LBP and other specific neuralgia. Significant improvement is >50% change.

Results

36 CPP patients had complete records. 29 patients (81%) had associated LBP. Mean age was 29 years. Patients suffered for 39 months before referral with severe pain (VAS 8.5/10). 19 patients (53%) had endometriosis and 11 patients (31%) had no diagnosis. All patients had significant psychological effects and pelvic floor muscles dysfunctions needed CBT & specialised physiotherapy. 53% reported dyspareunia with significant help from psychosexual therapy.

2 patients had occipital nerve block for headache. Multiple injections were performed for associated pains including: Sacroiliac joint injection/denervation (20), muscular TPI (6) and Medial branch block (3), hernia scar neuroma injection (4), pudendal nerve block (12), genitofemoral block (12), ilioinguinal nerve block (2), superior hypogastric block (5) and ganglion Impar block (3). 32/36 patients (89%) had significant improvement with multiple injections while 4 patients had no help. Daily activity, QOL and sleep had improved by 61%, 65% and 81% respectively after multidisciplinary treatments.

Conclusion

Chronic Pelvic Pain (CPP) is common. Patients suffer long before diagnosis & treatment. Endometriosis is a common cause of CPP which is commonly associated with LBP. Our results showed that multimodal multidisciplinary pain interventions are effective and reduced pain by >50% in 89% of patients. Daily activity, mood, sleep & QOL has improved by >61%. It is important to have a step by step approach towards diagnosis and management. First, screen for psychological aspects & pelvic floor muscles dysfunctions. Examine the back carefully and look for other causes for neuropathic pain (scar neuroma, pudendal, ilioinguinal & genitofemoral neuralgia).

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EFFECT OF SHORT-TERM SPINAL CORD STIMULATION ON COMPLETE TRAUMATIC PARAPLEGIA

Category: Interventional Pain Management

Authors: Jan Gouda - Department of Surgery, Boonshoft School of Medicine, Wright State University

Background

Angeli and colleagues in a 2014 issue of Brain presents a novel strategy for the treatment of SCI. In their study, 4 patients with complete motor SCI regained voluntary movement of their legs through the epidural stimulation soon after implantation of the device (1). The main limitation of this work is the small number of the enrolled patients and very expensive rehabilitation programme (2). It is still unknown if independent short-term spinal cord trial without any rehabilitation programme will have any effect on spinal cord functions in chronic complete paraplegia.

Aims

To test the feasibility of a low cost short-term spinal cord stimulation trial to predict response to the more expensive permanent implant. To test the response to short-term, standalone spinal cord stimulation in chronic complete traumatic paraplegia.

Methods

Twenty patients with complete traumatic paraplegia more than one year as documented with electro-physiological studies had spinal cord stimulation trial with low frequency tonic stimulation at the level of T11 T12 between June 2014 and October 2017. Patients have the trial for five to seven days.

Results

Eight patients (40%) had positive results:

One patient (5%) had improvement of spasticity without any sensory or motor improvement.

The other seven patients (35%) who improved all had improvement in superficial and/or deep sensation in addition to:

- One patient (5%) had improvement of spasticity and bladder control in addition to sensory improvement without any motor improvement.
- Two (10%) patients had improvement in motor power and sensation without significant improvement in bladder control.
- One (5%) of the patients had improvement in all functions motor power, spasticity and bladder control in addition to sensory improvement.
- The remaining three patients (15%) had only improvement in sensation.

Conclusion

Spinal cord stimulation is a promising treatment for some but not all patients with chronic traumatic paraplegia. Further imaging and neurophysiological studies are needed to investigate the underlying factors that differentiate the non-responders and the different type of responders. Our study showed that short-term spinal cord stimulation had significant rate of positive results. It also showed that spinal cord stimulation has independently resulted in improvement without combination with rehabilitation programme. Waiting for further technological advances that can make spinal cord stimulation more affordable, we propose the feasibility of a low cost short-term spinal cord stimulation trial to predict response to the more expensive permanent implant.

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CLINICAL OUTCOMES USING AN SCS DEVICE CAPABLE OF COMBINATION THERAPY AND SUB-PERCEPTION FIELD SHAPES: REAL WORLD EUROPEAN EXPERIENCE

Category: Interventional Pain Management

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Background

Spinal Cord Stimulation (SCS) systems equipped with several available modalities of neurostimulation such as multiple waveforms, customised field shape programming, and simultaneous or sequential pulse trains are designed to provide for robust customisation of treatment for chronic pain.

Aims

Here, we report outcomes in European patients implanted with SCS systems capable of delivering several available modalities of neurostimulation.

Methods

This is an observational case-series conducted in Europe as part of an ongoing retrospective chart review evaluation of SCS outcomes for chronic pain (Clinicaltrials.gov identifier: NCT01550575). Patients were implanted with an SCS system (Precision Spectra WaveWriter, Boston Scientific) capable of combination therapy, multiple waveforms and advanced field shapes, and waveform automation. Assessments

collected include (but not limited to) baseline characteristics (demographics, medical history, pain diagnosis), procedural information (lead configuration, programming parameters), and pre and post-implant pain and quality-of-life scores.

Results

To date, 75 patients have been analysed demonstrating a mean overall baseline NRS pain score of 7.9±1.9, and a mean follow-up duration of 82 days. At 3 months follow-up, a mean 5.4-point reduction in NRS score from baseline was observed (mean NRS: 2.3, $p<0.0001$) in patients reporting low back pain. 58% of these patients who reached their 3-month follow-up reported a pain score of 2 or less, and 21% were pain-free. On-going data collection is occurring and additional results will be presented.

Conclusion

This European-based, case-series evaluation assessing real-world clinical outcomes provides additional evidence that substantial pain relief can be achieved in patients using an SCS device capable of providing multiple neurostimulation modalities.

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DEVELOPMENT OF CT-GUIDED INTERVENTIONAL PAIN SERVICE AS AN INTEGRATED PART OF PAIN DEPARTMENT

Category: Interventional Pain Management

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Background

CT in pain interventions provides high accuracy and speed of needle placement, safety (avoidance of organ damage and low radiation exposure) and flexibility (tolerance to patient's position with a choice of unobstructed trajectory). CT-guided injections in Pain Management Centre at National Hospital for Neurology and Neurosurgery (NHNN)/University College London Hospitals (UCLH) started by Dr Baranowski in 1994: pudendal nerve in Alcock canal, obturator internus and puborectalis muscles, coeliac plexus and abdominal sympathetic block. This service aided diagnostic and therapeutic pathways in Abdo-Pelvic Pain Clinic; later interventions for cancer pain were added. Pain Consultants, Advanced Pain Trainees and Higher Pain Trainees (UCLH Anaesthetic Rotation) have been receiving continuous training via CT list. Access to CT-scanner as per agreement with Radiology Department included a two-hour weekly slot and accommodated two patients. All patients had intravenous sedation. For the last two years we have been re-shaping referral system, optimizing patient selection, expanding indications and revising sedation. We present the outcomes.

Aims

We piloted a few strategies to increase CT list utilization, as well as improve safety and streamline patient's journey through the CT interventional service. Our aim is to assess the quality and quantity of changes.

Methods

We performed a retrospective audit of booked CT-guided procedures (number, variety and safe needle placement) and patient sedation satisfaction. The results are compared to a similar number of lists, where these steps were not fully implemented yet.

Improvement included the following:

1. Two Pain Consultants received additional training for CT-guided nerve root and facet joint injections provided by Radiologists. It allowed increasing variety of indication and helped the training of other Pain Consultants.
2. More formal pathway for outpatient pain clinic referral.
3. Acute inpatient cases after Pain Consultant review must have an opinion from: Neurosurgeon (acute lumbar radiculopathy), Oncologist and Palliative Care (cancer pain cases), Admitting Medical Teams (complex inpatient pain team cases). We consult Radiologists for complex interventions.
4. Nurse-led sedation by a dedicated Senior Clinical Nurse Specialist.
5. Fine needles use reduces the necessity of light sedation and eliminates the need for heavy sedation.

Results

Thoroughly planned admission pathway via communication with Radiology Administrative Officers, Radiographers and Recovery Nurses ensures smooth running of injection CT pain list. Dedicated Senior Clinical Nurse Specialist communicates with patients before an injection: this reduces anxiety. Most patients will not require sedation as 22G needles are used. If sedation is required, nurse-led sedation is a safe alternative to anaesthetist's approach; it promotes faster recovery and discharge with good satisfaction. In a prospective survey (n=22) 22 patients reported a positive experience during the pre-sedation, sedation and post-sedation phases. The above steps allowed to double CT list capacity: four patients in two hours. This matches neuroradiology CT-guided injection list schedule. To our credit many of our injections are complex, multi-target and multilevel. We introduced new blocks/ablation procedures to our CT-guided list: Paravertebral, intercostal nerve, brachial plexus, suprascapular nerve, psoas/genitofemoral and superior cluneal nerve, lumbar/thoracic nerve roots, facet and subacromial joint and piriformis muscle.

Conclusion

These improvements have made the use of CT in complex pain blocks more accessible and accurate. The introduction of the above strategies allowed an increase in the number of procedures with ensured safety, a positive patient experience and reduction of anxiety.

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OUTCOMES USING AN SCS DEVICE CAPABLE OF DELIVERING COMBINATION THERAPY AND ADVANCED WAVEFORMS/FIELD SHAPES

Category: Interventional Pain Management

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Background

Developing "all-in-one" spinal cord stimulation (SCS) systems with the capability for multiple types of neurostimulation paradigms will likely empower patients to identify the best treatment approach suitable for their needs.

Aims

Here, we provide real-world outcomes in patients who used an SCS system designed to combine multiple waveform availability, both sequentially and simultaneously, with an algorithm designed to enable highly manipulatable control of field shape.

Methods

This is a consecutive, multi-centre case-series based on retrospective chart review as part of an ongoing real-world evaluation of SCS outcomes for chronic pain (Clinicaltrials.gov identifier: NCT01550575). Patients were implanted with an SCS system (Precision Spectra WaveWriter, Boston Scientific) capable of combination therapy (sequential or simultaneous), multiple waveforms and advanced field shapes for low back and/or leg pain. Data collection included: 1) Baseline characteristics: demographics, pain diagnosis 2) procedural information: lead configuration, programming parameters; and 3) pre and post-implant numerical rating scale pain intensities (0-10 NRS).

Results

To date, 420 patients have been analysed. A statistically significant improvement in overall targeted pain scores at last follow-up was reported (Baseline NRS: 7.2; mean last follow-up [137±145 days] NRS: 2.2; $p<0.0001$). 23% of patients indicated being free of pain at last follow-up. Updated data from this on-going real-world observational study will be reported.

Conclusion

These results provide support for the postulate that an SCS system designed to provide combination therapy, multiple waveform options, and enhanced anatomical targeting capabilities, allows for highly effective pain relief outcomes in a patient-specific manner within the real-world clinical setting.

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A NOVEL SUB-PERCEPTION SPINAL CORD STIMULATION THERAPY ENABLING CLINICALLY SIGNIFICANT PAIN RELIEF AND FAST ONSET

Category: Interventional Pain Management

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Background

Sub-perception Spinal Cord Stimulation (SCS) is an option for chronic pain patients who prefer not to feel paresthesias. However, use of this modality is typically associated with long wash-in times and can take up to 1-2 days to assess one set of parameters and sometimes requiring lengthy evaluations to determine settings that provide analgesia. Achieving a more rapid onset of sub-perception pain relief, therefore, represents an unmet patient need.

Aims

Here, we describe an evaluation of a novel, paresthesia-guided sub-perception therapy in a multi-centre observational case-series.

Methods

This is a multi-centre, retrospective, observational case-series of permanently-implanted patients up to 3-months post-implant (up to N=40). Patients were implanted with a neurostimulator (Spectra WaveWriter/Spectra, Boston Scientific) capable of providing Multiple Independent Current Control (MICC) and a novel, paresthesia guided, fast-acting sub-perception SCS algorithm, per standard of care. Data collected and reported was based on study sites' usual practice which included pain scores and functional mobility. Patient charging burden was calculated based on stimulation parameters.

Results

At the end of the programming session, a 4.6-point overall NRS pain score reduction (6.2 to 1.3) was noted within 12.4 (+/-11.5) minutes of FAST program activation (n = 31). All patients examined rapid onset of sub perception analgesia. Pain relief was sustained at up to 3 months follow-up, post-activation (n = 15).

Conclusion

This multi-centre, observational case series demonstrates that the novel fast-acting sub perception (FAST) algorithm can provide clinical benefit as well as a more precise and efficient "sweet spot" search.

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THE CHANGING PLACE OF INJECTIONS AND DENERVATION PROCEDURES IN SCOTTISH PAIN SERVICES: A SURVEY OF CLINICIANS' ATTITUDES AND PRACTICE

Category: Interventional Pain Management

Authors: Lars Williams - Pain Management, NHS Greater Glasgow & Clyde

Background

UK pain services were initially developed by anaesthetists. Familiarity with nerve block techniques and a dearth of other treatment options at the time meant that injections were an important part of most early services. Over time there has been a shift towards interdisciplinary working, and a move towards a biopsychosocial model of pain management. These changes, along with a continuing lack of supportive evidence for many invasive procedures, have led to questions about the role of injections in modern pain services.

Aims

We wanted to find out what all clinicians working in Scottish pain services felt about the place of injections in a multidisciplinary pain service, and how practice is changing over time.

Methods

A link to an online survey (Webropol 3.0), including multiple-choice, visual analogue scale and free text questions, was distributed by e-mail to 160 clinicians known to be working in Scottish secondary care pain services. The survey was open between August and October 2019. 30 emails were returned as undeliverable. 53 respondents completed the survey, a response rate of 41% of e-mails delivered. All of the 15 Scottish Health Boards were represented in responses apart from Argyll & Bute and Shetland. Most respondents were medical (60%), with physiotherapists (23%) and psychologists (11%) the next most common staff groups.

Results

All but one health board (Fife) currently offer injections in their pain service. 60% said their service carried out fewer injections now than in the past, and almost 70% thought they would carry out fewer injections in the future. Overall short term usefulness of injections was rated as 5/10 (mean 5.5, median 5), and long term usefulness as 3/10 (mean 3.5, median 3). Overall harm was rated as mean 3.1/10 (median 2), but extent to which injections prevented engagement with self-management was rated higher, at mean 4.3/10 (median 5). This concern was reflected in many free text comments. Importance of providing injections to a modern pain service was rated at 4/10 (mean 4.4, median 4). Most respondents felt that injections should be integrated into a wider self-management plan. However, there was some scepticism expressed as to whether this ever happened in practice. Concerns were also raised about unregulated repeat procedures.

Conclusion

A fairly representative sample of Scottish pain clinicians, most of who carry out injections themselves, expressed scepticism about the usefulness of injections as they are currently performed in multidisciplinary pain services, and concerns around the role of injections in preventing engagement in self-management. Most reported carrying out fewer injections than in the past, and predicted doing fewer still in the future. Various suggestions were made for better regulating and integrating injections as part of a broader self-management package.

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THE CLINICAL AND COST EFFECTIVENESS OF RADIOFREQUENCY DENERVATION FOR CHRONIC, MODERATE TO SEVERE LOW BACK PAIN: RADICAL RANDOMISED CONTROLLED TRIAL PROTOCOL

Category: Interventional Pain Management

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Background

Low back pain (LBP) is the leading global cause of years lived with disability and is associated with high personal, societal and economic burden. Most chronic LBP is non-specific, however in some cases LBP can be localised and arise from the facet joints and periarticular structures supplied by the medial branches of the primary dorsal rami. Radiofrequency denervation (RFD) is a minimally invasive procedure which aims to reduce pain by interrupting the pain signal between the medial branch nerves and brain by destroying the nerves. Over 13,000 RFDs of the lumbar facet joints are performed annually in the NHS. RFD is endorsed by NICE, used in current clinical practice, and included in the NHS England National Low Back and Radicular Pain Pathway (NLBRPP) and British Pain Society (BPS) Low Back and Radicular Pain Pathway. However, there is uncertainty regarding the effectiveness of RFD due to a lack of high-quality evidence.

Aims

To investigate the clinical and cost-effectiveness of RFD for chronic, moderate-severe LBP. Specific objectives are to estimate the:

- Difference between RFD and placebo RFD in terms of mean pain severity at 3 months and secondary outcomes over 2 years
- Cost-effectiveness of RFD compared to placebo RFD over 2 years

Methods

RADICAL will be a 20-centre, double-blind, parallel group, superiority randomised controlled trial with internal pilot, qualitative research and health economic analysis. 250 patients with chronic, moderate to severe LBP, referred to secondary care, with a positive response to single diagnostic medial branch block will be recruited. Patients randomised to the intervention group will receive RFD, and patients randomised to the control group will receive placebo RFD. Participants who do not experience a clinically meaningful improvement in pain 3 months after randomisation will be offered "repeat RFD" but with the alternative intervention to the one provided at the outset without disclosing the original allocation. The primary clinical outcome will be pain severity, measured using a Numeric Rating Scale, at 3 months after randomisation. Secondary outcomes will be assessed over 2 years and include functional disability, health-related quality of life, psychological well-being, satisfaction, adverse events, work outcomes and healthcare utilisation.

Results

The RADICAL trial is a 5-year project starting in January 2020, with 9 months set up, 18 months recruitment (including 12-month internal pilot with embedded qualitative research), 25 months follow-up, and 8 months data analyses and reporting. We will work to ensure the findings have impact on patient care, through incorporation into NICE guidelines and implementation of these guidelines in the NLBRPP and BPS low back and radicular pain care pathways. Findings from the RADICAL trial will therefore contribute to the development of evidence-based care pathways to enable people to receive appropriate, effective treatments for LBP. If RFD is not effective, then removing provision of this intervention would save the NHS nearly £22 million per year, which could be redirected into the provision of more effective interventions for LBP. If RFD is found to be effective, then this could impact on commissioning and availability of this intervention.

Conclusion

The NIHR Health Technology Assessment Programme funded the RADICAL trial in response to a commissioned call based on NICE recommendations for more research on the effectiveness of RFD. The need for this research is also highlighted in a recent call to action on LBP in the Lancet, recommending that research to evaluate treatments without supporting evidence should be commissioned. Our RADICAL trial will provide definitive evidence on the clinical and cost-effectiveness of RFD to inform clinical practice guidelines and

commissioning of care to ensure that patients are offered effective and appropriate treatments for LBP.

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5 YEAR OUTCOMES OF CARPAL Rx THERAPY TO TREAT CARPAL TUNNEL SYNDROME

Category: Interventional Pain Management

Authors: Maik Zannakis - Patient Care Department, Carpal Pain Solutions Inc.

Background

As consumer electronic technology expands around the world, so does the pain of Carpal tunnel syndrome (CTS). CTS has been called the "scourge of modern living" and is on a dramatic rise. Carpal tunnel release surgery has been the gold standard for treating this painful condition. But its expense and effectiveness fall short of being a universal or long-term solution. In contrast, therapeutic massage, particularly employing myofascial release, is effective, inexpensive, and long-lasting. Historically, manual therapy was required to perform it on patients with CTS. But the Carpal Rx device re-creates manual myofascial release massage electro-mechanically. This non-surgical approach has been documented as being effective for at least 2 years after initial treatment. But its effects beyond 2 years have been anecdotal. Long-term commitments to Carpal Rx use require validation of its therapeutic value beyond 2 years of initial application.

Aims

This research aims to document the therapeutic value of Carpal Rx therapy from 1 to 5 years after initial use for 2 to 4 months. It prospectively compares Carpal Rx use to endoscopic carpal tunnel release surgery to treat CTS.

Methods

This prospective survey spanned 61 months. It recruited 177 patients via telephone interviews. All patients were followed telephonically to assess CTS symptoms. Patients were divided into 3 groups. Group A (N=64) underwent unilateral endoscopic carpal tunnel release surgery. Their post-operative therapy consisted of standard of care hand rehabilitation (including ROM and strengthening exercises). Each rehabilitation regimen varied but was completed by 7 months post-op. Group B (N=61) did not have surgery, but used the Carpal Rx device instead. Therapy was applied once or twice daily for 30 to 60 days. Group C (N=52) was identical to group B, but patients used the device for 60 to 120 days. All patients were followed monthly for at least 36 months to a maximum of 61 months. All data were gathered telephonically using modifications of the VAS, DASH and MHQ instruments. Patient Satisfaction and compliance was assessed monthly using a patient diary.

Results

At 36 months, 44% of Group A patients scored in the first quartile of VAS, DASH and MHQ. 61% reported 1-5 on the Patient Satisfaction Scale ("somewhat dissatisfied"). In contrast, 87% of group B patients scored in the second or third quartile of VAS, DASH and MHQ. 88% reported 6-10 on the Patient Satisfaction Scale ("somewhat satisfied"). 93% of Group C patients scored in the second or third quartile of VAS, DASH and MHQ. 91% reported 6-10 on the Patient Satisfaction Scale ("somewhat satisfied"). At 50 months, all group scores decreased for the VAS, DASH and MHQ. Group A decreased to 37%. Groups B and Group C decreased to 71% and 73%, respectively. The scores did not appreciably change at 60 months in any group. Patient compliance for group B was 98% (completed Diary entries). Group A and group C patients yielded 84% and 77% compliance, respectively.

Conclusion

Carpal tunnel syndrome patients who used Carpal Rx therapy instead of having carpal tunnel release surgery had less than half of the symptomatic disturbances at 36-60 months. Patients who used the Carpal Rx for 60-120 days had over two-fold fewer symptomatic disturbances than surgical patients 3-5 years later. There was no significant long-term difference between initially using the Carpal Rx for 60 or 120 days. It is concluded that the 5-year outcome for Carpal Rx therapy patients is more than two-fold improved when compared to surgery patients.

Neuropathic Pain

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TRIGEMINAL NEURALGIA - WHEN FIRST LINE DRUG MANAGEMENT FAILS: A 5-YEAR EXPERIENCE

Category: Neuropathic Pain

Authors: Matthew Butler - Oral and Maxillofacial Surgery, Portsmouth Hospitals NHS Trust, Rebecca King - Oral and Maxillofacial, Portsmouth Hospitals NHS Trust, Michael Giffen - Oral and Maxillofacial Surgery, Portsmouth Hospitals NHS Trust

Background

For 56 years Carbamazepine has been the first line drug for trigeminal neuralgia. Additional drugs are acknowledged as useful, however, poor evidence for their use has prohibited inclusion in previous international guidelines. Published this year, the European Academy of Neurology (EAN) guideline on the management of TN still identifies carbamazepine and oxcarbazepine as the first-line drugs for managing the symptoms of TN. However, this newly published guidance also identifies additional agents which have an evidence base for use when first-line drug therapy has failed.

Aims

To review the management strategies for failed first line drug treatment. To identify the frequency alternative agents are required when first line drug management fails. To establish an escalating treatment protocol for TN uncontrolled with first line drug management.

Methods

Over a 5 year period (2014-2019) the case notes of 120 patients diagnosed with TN were reviewed to identify inadequate symptom control with first line drug management and determine the demand for an alternative drug management protocol. A panel was established to review the newly published guidance from the EAN, current literature and patient experience. This panel developed an evidence-based management protocol including adjudicative drug therapy and surgical management for first line drug resistant TN. Patient feedback and satisfaction with their pain management was recorded during follow up review.

Results

Successful outcomes, symptom management and positive patient feedback are demonstrated in this 5 year review. Key risks management strategies have been established following idiosyncratic

reactions to adjunctive drug treatment which occurred in only 2% of cases. All patients with a diagnosis of TN began carbamazepine therapy as a first line treatment. A minority require other drug therapies included oxcarbazepine, gabapentin, pregabalin, baclofen, lamotrigine and phenytoin in varying combinations. The change in drug therapy was mostly due to undesired side effects associated with carbamazepine or insufficient pain control. Surgical options were discussed with all patients who found their pain control was insufficient with pharmaceutical management alone. These included both peripheral and central procedures. An escalating drug treatment protocol takes into consideration patient feedback, concurrent medication and commodities.

Conclusion

Our experience of the management of TN with different drug therapies has been positive, however, it is important that we are aware of surgical options available to patients when pharmacological management fails to control symptoms adequately. The new EAN 2019 guidelines have provided updated recommendations on the diagnosis, imaging and both pharmacological and surgical management of these patients. This provides evidence to a now active, escalating drug protocol.

TN is a debilitating condition; however successful management of symptoms can lead to a good quality of life for patients and a positive outlook on their condition.

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MAGNETIC RESONANCE IMAGING EXPLORATION OF THE HUMAN BRAIN DURING 10 kHz SPINAL CORD STIMULATION FOR FAILED BACK SURGERY SYNDROME: A RESTING STATE FUNCTIONAL MAGNETIC RESONANCE IMAGING STUDY

Category: Neuropathic Pain

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Background

Apart from the clinical efficacy of high frequency spinal cord stimulation at 10 kHz, the underlying mechanism of action remains unclear. In parallel with spinal or segmental theories, supraspinal hypotheses have been recently proposed. In order to unveil hidden altered brain connectome patterns, a resting state functional magnetic resonance imaging (rsfMRI) protocol was performed in subjects routinely treated for back and/or leg pain with high-frequency spinal cord stimulation (HF-SCS) HF-SCS at 10 kHz.

Aims

To identify the alterations in functional connectivity (FC) in resting-state networks in patients with Failed Back Surgery Syndrome (FBSS), treated with HF-10 SCS. A second objective is to observe whether there is an association between clinical data and functional brain changes in patients with FBSS, treated with HF-10 SCS.

Methods

RsfMRI imaging was obtained from ten patients with FBSS who were eligible for HF-SCS at 10 kHz. Specifically chosen regions of interest with different connectivity networks have been investigated over time. Baseline measurements were compared with measurements after 1 month and 3 months of HF-SCS at 10 kHz. Additionally, clinical parameters on pain intensity, central sensitization, pain catastrophizing and sleep quality were correlated with the functional connectivity strengths.

Results

The study results demonstrate an increased connectivity over time between the anterior insula (affective salience network) and regions of the frontoparietal network and the central executive network. After three months of HF-SCS, the increased strength in functional connectivity between the left dorsolateral prefrontal cortex and the right anterior insula was significantly correlated with the minimum clinically important difference (MCID) value of the Pittsburgh Sleep Quality Index.

Conclusion

These findings support the hypothesis that HF-SCS at 10 kHz might influence the salience network and therefore also the emotional awareness of pain.

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ENDOSCOPIC ELECTROTHERMIC (ESIJ) PROCEDURE OF THE SACROILIAC JOINT 24-MONTH FOLLOW UP STUDIES

Category: Neuropathic Pain

Authors: Richard Ibrahim - Pain Clinic, Dr. Decker, Oleg Decker - Pain Clinic, Dr. Decker

Background

The sacroiliac joint (SIJ) complex is one of the major sources of chronic low back pain (CLBP), accounting for around 10%-33% of the total number of CLBP cases. The SIJ complex consists of the joint capsule, synovia, various muscles and ligamentous structures overlying the joint and neuronal structures that innervate the SIJ. Current interventional and surgical treatment options for SIJ pain perception complex include intraarticular or periarticular injection, radiofrequency ablation (RFA) and SIJ fusion. The described interventional procedures are simple and provide quick pain relief, but the effect is short-lived. In addition, SIJ fusion is an invasive surgical procedure that should be reserved for refractory intractable pain of the SIJ.

Aims

In this study, we utilise endoscopy for the precise microsurgical and ablation (ESIJ) of the potential pain generators associated with the SIJ and evaluate the clinical efficacy of this new technique.

Methods

The institutional review board at our institution approved this study. The medical records of 30 consecutive patients who underwent ESIJ for SIJ arthropathy and pain in CLBP between January 2016 and February 2018 were reviewed. The inclusion criteria for this treatment were as follows: Patient with predominant back pain (CLBP) and signs and symptoms of SIJ involvement on physical examination and radiological tests (CT scan or MRI), unresponsive

to conservative therapy including oral analgesics and physical or osteopathic therapy, persistent CLBP despite previous lumbosacral surgery and/or interventional pain treatment in 24 months follow-up. In order to confirm the SIJ pain as the main source of CLBP, three separate intraarticular SIJ and medial branch blocks of the lower facet joints (L4-S1) were performed under C-arm control at least 3 weeks before the ESIJ procedure. If SIJ complex was considered to be the main pain generator, and ESIJ was scheduled.

Results

More than 350 endoscopic procedures of SIJ (ESIJ) were performed from January 2016 till February 2018.30 patients with SIG arthropathy in CLBP over 6 months were included by precise criteria (s.e.). At baseline, the VAS was 7,23, ODI 44,8 and age of 56 (11 male, 19 female). After the ESIJ procedure, the patient had an significant improvement in pain relief (measured by VAS) and functional ability (measured by ODI) at 3 to 24 months: VAS reduction from 7,23 baseline to 1,72 / 2,82 after 21/24 month significantly by 80% pain relief ODI ability improvement from 44,8 baseline to 22.2 significantly in lumbar function.

Conclusion

This new easy way to perform endoscopic electrothermic procedure of the SIJ (ESIJ) shows good to excellent results in SIJ arthropathy in relation to pain relief and functional capacity in long-term analysis. Further research is needed to confirm these results.

Non-Pharmacological Pain Management

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DOES COMPENSATION LITIGATION ACT AS A BARRIER TO IMPROVEMENT IN PEOPLE ATTENDING FUNCTIONAL RESTORATION AND PAIN MANAGEMENT PROGRAMMES FOR CHRONIC PAIN?

Category: Non-Pharmacological Pain Management

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Background

In the last four decades, evidence has emerged showing both a negative effect of ongoing litigation in the management of chronic pain (Frederickson 1988, Rainville 1997, Gun 2005, Ferrari 2014, Mayer 2014) and the opposite (Schofferman 1994, Swartzman 1996, Obelieniene 1999, Sapir 2001). Therefore, the situation at present appears to be one of equipoise. For chronic pain patients involved in litigation, if the interaction of impairment, disability and distress could be fully characterised prior to engagement in a rehabilitation programme, better allocation into relevant treatment groups should be possible. Working with case managers and legal advisors, within the scope of individuals' rehabilitation prescriptions, pain management and rehabilitation teams could then offer timely and effective treatment. In this way, any potential negative influence of litigation could be minimised.

Aims

To describe the long-term clinical outcomes of patients treated in high-intensity functional restoration and pain management programmes (FRP & PMP) at Real Health Pain Management, stratified by whether there was ongoing litigation or not.

Methods

All patients who attended a two-week FRP or a three-week PMP from 2014 – 2018 were surveyed. They had all provided consent at the time they attended the programme for further contact, specifically for the purposes of clinical follow-up. Contact was made by phone initially then by an online survey. Non-responders were sent reminders two and four weeks after the first email. Demographic data, details of pre-programme treatment, information regarding injury claims / ongoing litigation and work status were recorded. Patient reported outcome measures (PROMs) included DAPOS (Depression, Anxiety, Positive Outlook Score), the Roland Morris Disability score and a patient satisfaction score.

Results

Surveys were sent to 108 patients. The final response rate was 28% (30 patients). Five patients provided demographic, occupational and legal data, but did not complete the PROMs. 11 patients had ongoing litigation at the time of treatment, 16 did not. Group demographics and the median time from onset of the condition to treatment were similar. The litigation group were more likely to have attended a PMP; have a blue-collar job; be unemployed; to have had surgery before the programme and to be using regular opiate analgesia at the time of the programme and subsequently. Both groups remained satisfied with the outcome of treatment at the time of the survey (range 14 – 67 months post-treatment). Disability was significantly worse in the litigation group, but the DAPOS results showed little difference between groups before and after the programme and at long-term follow-up.

Conclusion

Patients with chronic pain are a vulnerable group, which might explain the low response rate to the survey. Litigants may need a higher intensity of treatment, but the outcomes are similar to non-litigant patients. Stratification according to the legal circumstances may be important in determining the outcome of treatment programmes in patients with chronic spinal pain. Further work in this area is needed to guide clinical decision-making.

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ACUPUNCTURE FOR CHRONIC PAIN: AN EVIDENCE SYNTHESIS

Category: Non-Pharmacological Pain Management

Authors: Carole Paley - Research and Development Department, Airedale NHS Foundation Trust

Background

It is estimated that 28 million people in the UK live with chronic pain. A biopsychosocial approach to chronic pain is recommended which combines pharmacological interventions with behavioural and non-pharmacological treatments. Acupuncture represents one of a number of non-pharmacological interventions for pain. In the current climate of difficult commissioning decisions and constantly changing national guidance, the quest for strong supporting evidence has never been more important. Although hundreds of SRs

and meta-analyses have been conducted, most have been inconclusive and this has created uncertainty in clinical policy and practice. There is a need to bring all the evidence together for different pain conditions in order to aid decision-making, identify gaps in the evidence and highlight some of the issues associated with conducting clinical trials for complex interventions such as acupuncture.

Aims

The aim of this work was to provide an evidence synthesis of acupuncture for chronic pain relief and to consider whether the RCT model is appropriate for this type of intervention. We have also considered whether an alternative research design would be more appropriate.

Methods

A search of electronic English Language databases was conducted in April 2019 and updated in July 2019 using free text search terms 'acupuncture', 'chronic pain', 'analgesia', 'pain management', 'systematic review' and/or 'meta-analysis'. All systematic reviews (SRs) with or without meta-analyses of RCTs using manual acupuncture, electro-acupuncture, dry needling or auriculotherapy for any chronic pain conditions were included. Reviews were included where acupuncture was compared with sham or placebo acupuncture, no treatment, or another intervention. We included Cochrane and non-Cochrane reviews and overviews of SRs. Reviews were excluded if they did not evaluate invasive acupuncture or if they evaluated acute pain. Non-English reviews were included if they contained an English abstract. Information extracted included type of pain, number of RCTs, treatments, conclusion and evidence quality. We ascribed a judgement of efficacy of each review according to whether the sample size met criteria based on the work of Moore et al. (2010).

Results

There were 177 reviews of acupuncture for chronic pain published between 1989 – September 2019 which were summarised in tabular form. This included 20 Cochrane reviews (including updates), two overviews of Cochrane reviews, ten overviews of non-Cochrane reviews and 145 non-Cochrane reviews. Findings were presented according to the most frequent evaluations of acupuncture for different types of pain and described chronologically for each condition. A statement of current clinical guidance from NICE was provided where available. This review revealed that many systematic reviews have inconclusive findings due to persistent methodological shortcomings in the primary randomised controlled trials and this contributes to a high risk of bias and downgrading of evidence. These shortcomings include inadequate statistical power, uncertainty about adequacy of acupuncture technique and dose, and inappropriate design of 'placebo' acupuncture controls. Currently, with the exception of headache/migraine, evidence to support the use of acupuncture for many chronic pain conditions is insufficient.

Conclusion

We have produced an evidence synthesis of systematic reviews and meta-analyses of acupuncture for chronic pain conditions that will serve as a reference tool for practitioners, researchers and commissioners. The quality of the evidence supporting acupuncture for most conditions does not stand up to scrutiny and is particularly problematic in the area of chronic pain, where evidence is conflicting. It is essential that the quality of evidence is improved so that healthcare providers and commissioners can make informed choices on which interventions might legitimately be made available to patients with chronic pain conditions.

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AN ASSESSMENT OF MINDFULNESS FOR HEALTH FOR THE CHRONIC PAIN POPULATION WITH 12-MONTH FOLLOW-UP

Category: Non-Pharmacological Pain Management

Authors: Shannon Phillips - School of Psychology, University of Leeds, Colin Duff - Breathworks CIC, Vidyamala Burch - Breathworks Foundation

Background

Mindfulness is a practice of attentional training that has been recommended to improve quality of life in chronic pain, though the government commissioned Mindful Nation UK 2015 Report called for more definitive research, including cost-effectiveness. The Breathworks 'Mindfulness for Health' (MfH) programme is an 8-week course developed using personal experience of pain to tailor mindfulness to the needs of people with chronic pain. A growing body of research exists supporting the immediate efficacy of the MfH programme, but there is a shortage of longer term investigations. The present study analyses Breathworks' MfH course outcomes with 3 and 12-month follow-ups, including preliminary assessments of changes in health resource and medication use.

Aims

To evaluate the impact of participation in the Mindfulness for Health (MfH) course on quality of life for people with chronic pain, as well as changes in health resource use.

Methods

MfH course participants were invited to complete online questionnaires at baseline, post-course, and, where eligible, during follow-up at 3 and 12 months. Baseline questionnaires were completed by 174 (150 female) participants, with follow-up questionnaires completed at post-course, 3 and 12 months. Measures used included pain and pain interference (BPI), pain acceptance (CPAQ), fatigue, emotional distress (HADS), pain catastrophizing (PCS), and quality of life (WHOQOL-5). Questions on health resource and medication usage were also completed.

Results

Interim baseline and post-course repeated measures tests showed statistically significant improvements for all measures, including quality of life (44%, p=<.001), pain catastrophizing (37%, p=<.001), and emotional distress (28%, p=<.001). Clinically significant improvements were found in 41.5%, 13.2% and 26.4% of the sample respectively. All measures were significantly improved in the baseline to 3-month follow-up comparisons; pain intensity (17%, p=.01); pain interference (27%, p=<.001); pain acceptance (24%, p=<.001); pain catastrophizing (54%, p<.001); fatigue interference (23%, p=.004); quality of life (46%, p<.001); and emotional distress (32%, p=<.001). Improvements were largely maintained at 12-month follow-up. Initial health economics findings are presented, which suggest that the course may be useful in reducing healthcare service and medication use, including 50% of participants reporting reductions in medication use at 3-month follow-up.

Conclusion

The present study indicates that the Breathworks MfH course can be effective in improving the wellbeing of the chronic pain population in key areas of life and quality of life. Follow-up data suggests that such benefits can be sustained 12-months after having completed the course.

Other (research)

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INVESTIGATING IgG MEDIATED AUTOIMMUNITY IN COMPLEX REGIONAL PAIN SYNDROME (CRPS) USING PRIMARY MOUSE CELLS

Category: Other (research)

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Background

Recent works suggest that some CRPS may be caused by an auto-antibody response against surface markers on sensory neurons, but cellular and molecular targets are unknown, and staining experiments in naïve rodent Dorsal Root Ganglia (DRG) were non-conclusive.

Aims

Using immunohistochemistry (IHC) staining we investigated binding of CRPS-serum-IgG to primary DRG derived from hind paw injured mice.

Methods

A small skin-muscle incision was applied to the right hind paw of each mouse under general anaesthesia on day 0. On day 2 mice were perfused with 4% Paraformaldehyde and DRG corresponding to the incised paw (L3, L4, L5) were harvested, fixed in 4% Paraformaldehyde, immersed in 3% agar, paraffin embedded together and cut with a microtome for IHC staining. Paraffin slides were stained with affinity purified CRPS/HC-IgG and then with anti-human-IgG-HRP. We firstly stained slides with a pool of 27 CRPS patient IgG and a pool of 7 HC, and then we stained with three different CRPS patient IgG chosen from the pool.

Results

We found consistent difference between HC and CRPS IgG staining, in particular slides cut deeper in paraffin block showed consistent strong staining only on certain large-diameter neurons when stained by pooled and single CRPS preparation, and not by controls. The staining pattern was mostly membrane.

Conclusion

In conclusion, in this initial assessment of DRG binding by CRPS serum IgG, certain large-diameter neurons showed membrane binding.

Psychology

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TRAIT MINDFULNESS IS ASSOCIATED WITH REDUCTION IN PAIN UNPLEASANTNESS BUT NOT INTENSITY

Category: Psychology

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Background

Mindfulness is associated with beneficial responses to pain. Mindfulness can be seen as a state, or as an intrinsic trait. Trait mindfulness is associated with lower chronic pain severity (Munn et al, 2014; Petter et al 2013), higher pain thresholds (Zeidan et al., 2016) and lower levels of pain catastrophizing (Prinz et al, 2014). Neural findings suggest that mindfulness may alter pain through a unique mechanism, simultaneously involving increased attention to sensory input but reduced evaluative and negative affective responses (Harrison et al., 2018; Salomons and Kucyi, 2011). Here, we investigated whether untrained trait mindfulness was associated with a reduced negative affective response to repeated pain stimuli.

Aims

The aim of this study was to explore whether trait mindfulness was associated with reduction in perceived pain unpleasantness over repeated sessions. We hypothesised that participants high in trait mindfulness would find a recurring stimulus less unpleasant over time, but not less intense.

Methods

43 participants (22 females) completed the five facet mindfulness questionnaire (FFMQ) and underwent three sessions of pain stimulation on separate days (Mduration= 4 days between first and third session). At each session, 44 eight-second thermal stimuli were administered to the centre of the calf, at a temperature individually calibrated to 7/10 pain percept. Participants were asked to provide ratings for pain intensity and pain unpleasantness 4 times during the series. Change in intensity and unpleasantness were calculated as the difference between mean ratings in the first and third sessions.

Results

FFMQ was significantly correlated with a reduction in pain unpleasantness ratings over time ($r=-.32$, $p=.038$), whereas FFMQ was not correlated with a reduction in pain intensity ratings ($r=.10$, $p=.515$). These two correlations were significantly different ($T=-2.66$, $p=.011$), despite the change in pain intensity and unpleasantness being significantly correlated with each other ($r=.40$, $p=.007$), indicating that the effect of trait mindfulness was specific to the affective component of pain.

Conclusion

Mindfulness was significantly correlated with a reduction in pain unpleasantness, but not pain intensity. This provides support for

previous theories suggesting that mindfulness affects pain through a unique mechanism, whereby attention to sensory aspects of pain are maintained but emotional responses are reduced.

Reviews

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THE EFFECTIVENESS OF INTERVENTIONS FOR PREVENTING CHRONIC PAIN AFTER TOTAL KNEE REPLACEMENT: SYSTEMATIC REVIEW AND META-ANALYSIS

Category: Reviews

Authors: Vikki Wylde - Bristol Medical School, University of Bristol, Andrew Beswick - Bristol Medical School, University of Bristol, Jane Dennis - Bristol Medical School, University of Bristol, Rachael Gooberman-Hill - Bristol Medical School, University of Bristol

Background

Primary total knee replacement (TKR) is one of the most common elective operations, with over 100,000 TKRs performed annually in the NHS. The primary reason that patients choose TKR is chronic pain that fails to improve with conservative management. Despite good outcomes for many, approximately 20% of patients experience chronic pain after TKR. This equates to approximately 20,000 new patients every year developing chronic pain after TKR. The impact of chronic pain after TKR is considerable and many patients struggle to cope and adjust to this pain. Provision of services for patients with this pain condition is patchy and inconsistent, with a lack of explicit access points. Risk factors for chronic pain after TKR can be present in the pre-operative, peri-operative or post-operative period. Chronic pain is difficult to treat once established, and therefore it is important to evaluate the effectiveness of interventions for preventing chronic pain after TKR.

Aims

The aim of our series of systematic reviews was to evaluate the effectiveness of pre-operative, peri-operative and post-operative interventions in preventing chronic pain after TKR.

Methods

Searches for all randomised controlled trials (RCTs) in TKR were conducted in MEDLINE, Embase, CINAHL, PsycINFO and The Cochrane Library from inception to November 2016 - December 2018 (depending on the review). No language restrictions were applied and relevant non-English articles were translated and included if appropriate. Citations of key reviews and studies were checked in Web of Science. Records identified in searches were imported into Endnote X7 and screened to identify eligible studies that evaluated an intervention with the potential for reducing chronic pain. Data from studies that met the eligibility criteria were extracted onto a standardised pro forma. Screening and data extraction were performed in duplicate by two reviewers. The primary outcome of the review was self-reported pain severity at 6 months or longer after TKR. Narrative synthesis or meta-analysis was conducted as appropriate. Risk of bias was assessed using the Cochrane risk-of-bias tool.

Results

Pre-operative interventions: Exercise programmes had no effect on chronic pain after TKR, based on a meta-analysis of 6 RCTs with 229 participants (SMD 0.20, 95% CI -0.06 to 0.47). No evaluations of multimodal pain management interventions were identified. Peri-operative interventions: 44 RCTs at low risk of bias were included. In narrative synthesis, there was weak evidence for small reductions in chronic pain after TKR with local infiltration analgesia, ketamine infusion, pregabalin and supported early discharge. For electric muscle stimulation, anabolic steroids and walking training there was a suggestion of more clinically important benefit. For a range of interventions, there was no evidence of association with unfavourable pain outcomes. Post-operative interventions: 17 RCTs with 2485 participants were included. Most compared physiotherapy interventions (n=13); other interventions included nurse-led interventions, neuromuscular electrical stimulation and a multidisciplinary intervention. In narrative synthesis, there was little evidence of a difference in pain outcomes between interventions.

Conclusion

There is moderate quality evidence that pre-operative exercise programmes are not effective in preventing chronic pain after TKR. Furthermore, despite the existence of other pre-operative interventions, such as multi-modal pain management, there is a lack of robust evaluations of such approaches. Several peri-operative interventions show benefits and merit further research. For post-operative interventions, there was no evidence that one type of physiotherapy intervention is more effective than another at preventing chronic pain after TKR. Studies assessing long-term pain after interventions in the TKR pathway are feasible and necessary to ensure that patients achieve good long-term outcomes after TKR.

Service Management

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PROPOSED PATHWAY FOR RADIO-FREQUENCY (RF) MEDIAL BRANCH NERVE ROOT ABLATION FOR LOWER BACK PAIN (LBP) OF SUSPECTED FACET JOINT ORIGIN

Category: Service Management

Authors: Tamer Abouzied - Anaesthetic Department, Calderdale and Huddersfield NHS Foundation Trust, Pravin Dandegaonkar - Anaesthetic Department, Calderdale and Huddersfield NHS Foundation Trust

Background

NICE guidelines on LBP [NG59] provide wider perspective towards multidisciplinary management. Radio-frequency treatment is vital in the management of patients with lower back pain (LBP) of facet joint origin. Unfortunately there is no consensus amongst global pain community with regards to managing patients with suspected facet joint origin; diagnostic lumbar medial branch block (MBB) and subsequent steps up until repeat RF treatment. We reviewed the pathway included in the NICE guideline and recommended modifications to address those deficiencies.

Aims

We proposed a pathway which provides a standardised package of care to all eligible patients and provides consistency from the time of entry till care is completed. We tried to offer clarity about single/double diagnostic block, criteria of a positive block and dose of local anaesthetic used in diagnostic block.

Methods

Patient with LBP of suspected facet origin which have not responded to standard conservative measures are accepted to enter in the pathway. Offering a single diagnostic lumbar medial branch block (LMBB) is accepted due to current NHS financial situation. There is no consensus in literature regarding the volume of local anaesthetic (LA) injected for a diagnostic LMBB. We suggest injection of 0.5-1 ml of 0.5% L-Bupivacaine at each level of injection. Injection of corticosteroids or bigger volumes of LA is not advised to increase test specificity as well as avoids false positive results from the spread of larger volumes of LAs to surrounding tissues. Patient who refuses LMBB will be diverted to usual care.

Results

Patients must be seen within 4-6 weeks to assess the response by using Numerical Rating Scale (NRS) and will be complimented by Patients Global Impression of Change (PGIC) scale to decide the outcome. Again, there is no consensus in literature about the criteria of a positive diagnostic block. Block is deemed to be positive when achieving more the 50% reduction in the pain symptoms in the next few hours, days and week. Also, subjective improvement of quality of life, physical activities and less analgesic intake will add value to the block outcome assessment. Patients with positive block will be offered radiofrequency ablation of medial branch in the next 3 months. Patient with negative LMBB outcomes will be diverted to usual care. Post RF review at 3 months is proposed and if patient reported outcome measures show benefit extend over 12 months then repeat RF treatment can be offered.

Conclusion

Proposed pathway was discussed and agreed at local pain group meeting. The pathway will be shared with primary, community care colleagues so the right patient gets referred. We intend to publish the proposed pathway on the trust website. There are certain challenges around practicalities such as ability to review within 4 weeks or 18 week RTT timescales. However having consistency in most of the clinical practice areas, proposed timescales will improve overall patient experience and allow auditing our activity, compliance with the pathway. The pathway will be subjected to change based on the review at 12 months.