7. PELVIC ORGANS/WOMAN'S HEALTH

Periodontal disease and impact on neonate

PLoS One. 2019 Nov 22;14(11):e0225036. doi: 10.1371/journal.pone.0225036. eCollection 2019.

Periodontal disease: Repercussions in pregnant woman and newborn health-A cohort study.

Figueiredo MGOP[1], Takita SY[1], Dourado BMR[1], Mendes HS[2], Terakado EO[3], Nunes HRC[1], Fonseca CRBD[1].

OBJECTIVE:
To investigate the repercussion of periodontal disease (PD) in the pregnant woman health and the complications during pregnancy and delivery, as well as negative outcomes for the newborn (as infections, prematurity, low birth weight and fetal growth restriction).

METHOD:
Retrospective cohort study, based on medical records of 142 pregnant women assisted at a prenatal service of usual risk between 2012-2014, with a dental evaluation for PD. Maternal variables, along with labor and newborn variables, were analyzed. The newborns were stratified into two groups: offspring of mothers with PD (subdivided into Severe Periodontal Disease-SPD) and offspring of mothers without PD. Each outcome was adjusted by a multiple logistic regression model, with significance for p-value <0.05, considering all potential confounding factors.

RESULTS:
Among women diagnosed with SPD, the odds ratio for vulvovaginitis was 3.45 times greater (OR = 3.45, p-value = 0.050) and 5.59 times higher for premature rupture of membranes (OR = 5.59; p-value = 0.017). For neonates, the chance of fetal growth restriction was 11.53 times higher for pregnant women with SPD (OR = 11.53, p = 0.041).

CONCLUSION:
The periodontal disease increased the chance of neonatal and maternal negative outcomes, being the fetal growth restriction, vulvovaginitis and premature rupture of the membrane (PROM) the main results driven by the presence of Severe Periodontal Disease

ABSTRACTS

MRI dense breast tissues

Published in Primary Care and 1 other channel
Journal Scan / Research · December 03, 2019

Supplemental MRI Screening for Women With Extremely Dense Breast Tissue

The New England Journal of Medicine

TAKE-HOME MESSAGE

- In this study, 40,373 women aged 50 to 75 years with extremely dense breast tissue and normal screening mammography results were randomized to undergo supplemental MRI or to receive mammography only. The interval cancer rate was significantly lower in the MRI-invitation group compared with the mammography-only group. Among the 20 interval cancers diagnosed in the MRI-invitation group, 4 were diagnosed in women who underwent MRI and 16 were diagnosed in those who did not accept the invitation. Among the women who underwent MRI screening, the cancer-detection rate was 16.5 per 1000 screenings. The positive predictive value was 17.4% for recall for additional testing and 26.3% for biopsy, whereas the false-positive rate was 79.8 per 1000 screenings.

- These findings demonstrate that the use of supplemental MRI screening in women with extremely dense breast tissue and normal mammography results led to significantly fewer diagnoses of interval cancers compared with mammography alone.

ABSTRACTS

Pilates and incontinence

Electromyographic characteristics of pelvic floor muscles in women with stress urinary incontinence following sEMG-assisted biofeedback training and Pilates exercises
PLoS Neglected Tropical Diseases — Chmielewska D, et al. | December 06, 2019

Researchers compared the bioelectrical activity of pelvic floor muscles in women with stress urinary incontinence following pelvic floor muscle training with surface electromyographic (sEMG) biofeedback (BF group) vs Pilates exercises (P group).

Further, changes in voiding diaries and scores on quality of life questionnaire were compared against baseline values and between the groups. Eighteen women comprised the BF group and participated in pelvic floor muscle training with sEMG biofeedback; 13 women comprised the P group and participated in basic level Pilates workouts. The participants continued the protocols for eight weeks.

Training with sEMG biofeedback or Pilates exercises led to no marked improvement in bioelectrical activity of the pelvic floor muscles during contraction illustrating no supremacy of any of the two methods concerning the bioelectrical activity of pelvic floor muscles in patients with stress urinary incontinence.

After 8 weeks of sEMG biofeedback training, they observed a reduction in resting bioelectrical activity of pelvic floor muscles and during relaxation after sustained contraction, but only in supine-lying.

The groups were comparable regarding the alleviation of urinary incontinence symptoms, whereas the Pilates group showed more notable improvement in the quality of life.

8. VISCERA

Probiotics helps IBS

Published in Gastroenterology Expert Opinion / Commentary · December 04, 2019

2019 Top Stories in Gastroenterology: Probiotics in Irritable Bowel Syndrome

Written by

My choice for top story of 2019 is the mini-review, "Probiotics in Irritable Bowel Syndrome: Where Are We?"[1] This article was published by Giovanni Barbara and colleagues from Italy and Spain. I selected this mini-review because of its importance and interest to the practicing gastroenterologist and to primary care providers. These providers will attest to the numerous and repeated visits by individuals looking for ways to cure or improve their IBS symptoms. To date, there are no specific treatments for this compilation of symptoms. Instead, clinic visits are spent attempting to discern the major symptoms from a complex of symptoms, identifying any triggers that induce or worsen the symptoms, and searching for treatment strategies, including medications and lifestyle changes, that will help to relieve the discomfort and associated anxiety that often accompanies IBS.

With the recent focus on the role of the gut microbiome and its associated metabolites that contribute so significantly to various aspects of our health and disease, many investigators have sought to understand whether specific probiotic consortia will alleviate IBS symptoms in specific subsets of IBS patients. Although some studies report benefit from probiotics, others show no difference from placebo. In any case, for those studies that show positive benefit, the mechanisms by which the administration of probiotics to IBS patients reduce symptoms are unknown. Likely, much of the difficulty in identifying specific combinations of probiotics that will reliably help in the management of IBS symptoms lies in the fact that IBS itself is not well-understood and symptoms stem from a number of different factors that may be relatively unique to each patient.

This mini-review offers insight into potential mechanisms through which probiotics may provide benefit to IBS patients, and the authors discuss clinical factors that may help to predict patients who will respond to such therapies. Clearly, much more work is needed in this area and we look forward to continued enlightenment that will emerge from such future studies.

ABSTRACTS

GERD increased with coffee, tea and soda

Clin Gastroenterol Hepatol. 2019 Nov 28. pii: S1542-3565(19)31380-1. doi: 10.1016/j.cgh.2019.11.040.

Association Between Beverage Intake and Incidence of Gastroesophageal Reflux Symptoms: Beverages and GER symptoms.

Mehta RS[1], Song M[2], Staller K[1], Chan AT[3].

BACKGROUND & AIMS:
Patients are frequently advised to eliminate coffee, tea, and/or soda to reduce symptoms of gastroesophageal reflux (GER), such as heartburn or regurgitation. However, there are no data from prospective studies to support these recommendations.

METHODS:
We collected data from the prospective Nurses' Health Study II from 48,308 women, 42-62 years old, who were free of regular GER symptoms, without cancer, and not taking proton pump inhibitors or H2 receptor agonists. Multivariate Cox proportional hazards models were used to assess associations between beverage intake and risk for GER symptoms.

RESULTS:
During 262,641 person-years of follow up, we identified 7961 women who reported symptoms of GER once or more per week. After multivariable adjustment, hazard ratios (HRs) for women with the highest intake of each beverage (more than 6 servings/day) compared to women with the lowest intake (0 servings/day) were 1.34 for coffee (95% CI, 1.13-1.59; Ptrend<.0001), 1.26 for tea (95% CI, 1.03-1.55; Ptrend<.001), and 1.29 for soda (95% CI, 1.05-1.58; Ptrend<.0001). We obtained similar results when we stratified patients according to caffeine status. No association was observed between milk, water, or juice consumption and risk for GER symptoms. In a substitution analysis, replacement of 2 servings/day of coffee, tea, or soda with 2 servings of water was associated with reduced risk of GERD symptoms: coffee HR, 0.96 (95% CI, 0.92-1.00); tea HR, 0.96 (95% CI, 0.92-1.00); and soda HR, 0.92 (95% CI, 0.89- 0.96).

CONCLUSIONS:
In an analysis of data from the prospective Nurses' Health Study II, intake of coffee, tea, or soda was associated with an increased risk of GER symptoms. In contrast, consumption of water, juice, or milk were not associated with GER symptoms. Drinking water instead of coffee, tea, or soda reduced the risk of GER symptoms.

14. HEADACHES

Botox and central sensitization

Headache. 2019 Nov 22. doi: 10.1111/head.13713.

Wearing Off Effect of OnabotulinumtoxinA Near the End of Treatment Cycle for Chronic Migraine: A 4-Year Clinical Experience.

Khan FA[1,2,3], Mohammed AE[4], Poongkunran M[1], Chimakurthy A[1], Pepper M[1,2].

INTRODUCTION:
The injection interval for onabotulinumtoxinA (BoNTA) in the management of chronic migraine (CM) is 12 weeks (78-84 days). The aim of this study was to review patient-reported wearing off effect (WOE) of the therapeutic benefit of BoNTA near the end of the treatment cycle. We intended to describe the demographics of patients at baseline and compare groups of patients with multiple episodes of WOE.

METHODS:
We conducted a retrospective review of patients with CM who received uninterrupted BoNTA therapy from January 2014 to March 2018. The data from patient-reported WOE (worsening headache variables and neck pain) that occurred during the 4 weeks (28 days) prior to the scheduled re-injection of BoNTA for treatment cycles with injection interval ≤13 weeks and without obvious confounding factors were reviewed.

RESULTS:
We identified 98 eligible patients and analyzed 471 treatment cycles. Forty-three unique patients reported at least 1 occurrence of WOE. About 24/43 patients reported 1 WOE event and 19/43 patients reported ≥2 WOE events. Between the 2 groups, anxiety disorder and opioid use for headache were statistically significantly different. In the former group, the median interquartile range (IQR) dose of BoNTA was 165 (155, 175) units and the median IQR duration of the antinociceptive effect of BoNTA was 66.5 (63, 71.5) days. In the latter group, the median IQR dose of BoNTA was 167 (155, 173.3) units and the median IQR duration of the antinociceptive effect of BoNTA was 65.3 (62.5, 68.8) days. Up to 32% of these patients reported an increase in the use of abortive therapies to manage the symptoms of WOE.

DISCUSSION:
The primary goal of BoNTA in the treatment of CM is to mitigate the development of central sensitization. Since the 12-week injection paradigm may not provide sustained antinociceptive effect in all patients, it may account for the failure of response to BoNTA. Repeated occurrences of the WOE can potentially lead to medication overuse and impact quality of life.

20 A. ROTATOR CUFF

Mesenchymal cell injections effective and safe

Arthroscopy: The Journal of Arthroscopic & Related Surgery

Intratendinous Injection of Mesenchymal Stem Cells for the Treatment of Rotator Cuff Disease: A 2-Year Follow-Up Study

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https://doi.org/10.1016/j.arthro.2019.11.120Get rights and content

Purpose
To assess the mid-term safety and efficacy of an intratendinous injection of autologous adipose tissue derived MSCs (AD MSCs) for rotator cuff disease at 2-year follow-up.

Methods
The first part of the study consists of 3 dose-escalation groups; the low- ($1.0x10^7$ cells), mid- $5.0x10^7$), and high-dose ($1.0x10^8$) groups with 3 patients each for the evaluation of the safety. The second part was planned to include nine patients receiving the high-dose for the evaluation of the exploratory efficacy. Clinical outcomes were assessed according to pain, range of motion, muscle strength, functional scores, overall satisfaction and function, and the presence of failure. Structural outcome included changes of volume of tendon defects measured using MRI.

Results
Nineteen patients (9 for the first study, and 10 for the second) with a partial-thickness rotator cuff tear were enrolled. There were no treatment-related adverse events at minimum 2-year follow-up. Intratendinous injection of AD MSCs reduced shoulder pain by approximately 90% at 1 and 2 years in the mid- and high-dose groups. The strengths of the supraspinatus, infraspinatus, and teres minor significantly increased greater than 50% at 2 years in the high dose group. Shoulder function measured with the six commonly used scores improved for up to 2 years in all dose groups. The structural outcomes evaluated with MRI showed volume of the bursal-side defect in the high-dose group nearly disappeared from 1 year, and did not recur up to 2 years. There were no failures defined as occurrence of any kind of shoulder surgery or the return of the SPADI score back to preinjection level during the follow-up.

Conclusions
This study demonstrated continued safety and efficacy of intratendinous injection of AD MSCs of for the treatment of a partial-thickness rotator cuff tear over 2 years through regeneration of tendon defect.

45 A. MANUAL THERAPY LUMBAR & GENERAL

Researching mobilization and manipulation

Completeness of the description of manipulation and mobilisation techniques in randomized controlled trials in neck pain; A review using the TiDieR checklist

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DOI: https://doi.org/10.1016/j.msksp.2019.102098

Highlights

- •Manipulation or mobilization techniques are difficult to replicate.
- •Poor reporting jeopardizes the external validity of RCTs.
- •Due to poor reporting it is difficult to judge the effectiveness of interventions.
- •A checklist like the TIDieR checklist should be recommended.

Abstract

Study design

A secondary analysis of a systematic review.

Background

Manipulations or mobilizations are commonly used interventions in patients with mechanical neck pain. The treatment effects have often been studied in randomized controlled trials (RCT) which are generally considered the gold standard in evaluating the treatment effects, mainly due to its high internal validity. External validity is defined as the extent to which the effects can be generalised to clinical practice. An important prerequisite for this is that interventions used in clinical trials can be replicated in clinical practice. It can be questioned if interventions utilized in randomized controlled trials can be translated into clinical practice.

Objectives

The overall aim of this study is to examine whether the quality of the description of manipulation and mobilization interventions is sufficient for to replication of these interventions in clinical practice.

Methods

A comprehensive literature search was performed. Two independent researchers used the Template for Intervention Description and Replication (TIDieR) which is a 12-item checklist for describing the completeness of the interventions.

Results

Sixty-seven articles were included that used manipulation and/or mobilization interventions for patients with mechanical neck pain. None of the articles describe the intervention e.g. all the items on the TIDieR list. Considering item 8 (a-f) of the TIDieR checklist only one article described the used techniques completely.

Conclusion

Manipulation or a mobilization interventions are poorly reported in RCTs, which jeopardize the external validity of RCTs, making it difficult for clinicians and researchers to replicate these interventions.

45 C. MANUAL THERAPY THORACIC

Thoracic manip does not help LBP

Short-term Effects of Thoracic Spine Thrust Manipulation, Exercise, and Education in Individuals With Low Back Pain: A Randomized Controlled Trial

- AUTHORS
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Study Design
Randomized controlled trial.

Objective
The determine the short-term effectiveness of thoracic manipulation (MAN) when compared to sham manipulation (SHAM) for individuals with LBP.

Background
Low back pain is one of the most prevalent and disabling musculoskeletal conditions. The management of LBP has been studied extensively, yet the most effective treatment strategies remain to be elucidated.

Methods
Patients with LBP were stratified based on symptom duration and randomly assigned to MAN or SHAM treatment groups. Groups received three visits which included core stabilization exercises and patient education. Factorial repeated measures ANOVA and multiple regression was performed for pain, disability, and fear-avoidance. Mann Whitney-U test was used to analyze patient perceived improvement with the Global Rating of Change scale (GROC) at follow up.

Results
Ninety participants completed the study (mean age 38 ± 11.5 years; 70% female, 72% chronic LBP). The overall group-by-time interaction for the ANOVA was not significant for MODQ, NPRS, FABQ. GROC was not significantly different between the groups.

Conclusion
Three sessions of thoracic manipulation, education, and exercise did not result in improved outcomes when compared to a sham manipulation, education, and exercise in individuals with chronic LBP. Future studies are needed to identify the most effective management strategies for the treatment of low back pain. Registered at clinicaltrials.gov (NCT02853357).

62 A. NUTRITION/VITAMINS

Vit D improves lean body mass

Effect of Vitamin D Supplementation on Body Composition and Physical Fitness in Healthy Adults: A Double-Blind, Randomized Controlled Trial

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Ann Nutr Metab
https://doi.org/10.1159/000504873

Introduction: This study aimed to clarify whether 1 year of vitamin D_3 supplementation has a direct effect on body composition and physical fitness in healthy adults.

Methods: Ninety-five participants randomly received either 420 IU vitamin D_3 per day (n = 48) or placebo (n = 47) in a double-blind manner for 1 year. Lean body mass and percentage body fat were determined. Physical fitness including hand grip strength, leg extension power and cardiorespiratory fitness (CRF) were assessed. Serum 25-hydroxyvitamin D (25[OH]D) and 1,25-dihydroxyvitamin D (1,25$[OH]_2$D) concentrations were assessed using ELISA kits.

Results: Serum 25(OH)D and (1,25$[OH]_2$D) concentrations significantly increased by approximately 11.2 ± 9.2 ng/mL ($p_{interaction}$ <0.001)and 7.0 ± 7.8 pg/mL ($p_{interaction}$ <0.001) after 1 year of vitamin D_3 supplementation respectively. Lean body mass significantly increased from 43.8 ± 9.6 to 44.3 ± 9.8 kg in vitamin D group, while no change was observed in placebo group (from 42.6 ± 8.9 to 42.4± 8.9 kg) after 1 year intervention. Furthermore, no treatment effects on other indicators of body composition and physical fitness were observed.

Conclusions:One year of vitamin D supplementation effectively improves lean body mass, but not muscle strength and CRF in healthy adults