

Pain Management in Gastroenterology. Opioids: More? Less?

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Learning Objectives

At the end of this session, the participants should be able to:

1. Identify risk tools for assessment of opioid overuse
2. Identify alternative management for patients on opioids for pain control, including cannabis
3. Identify cutting edge strategies for pain management (i.e., neuromodulation)

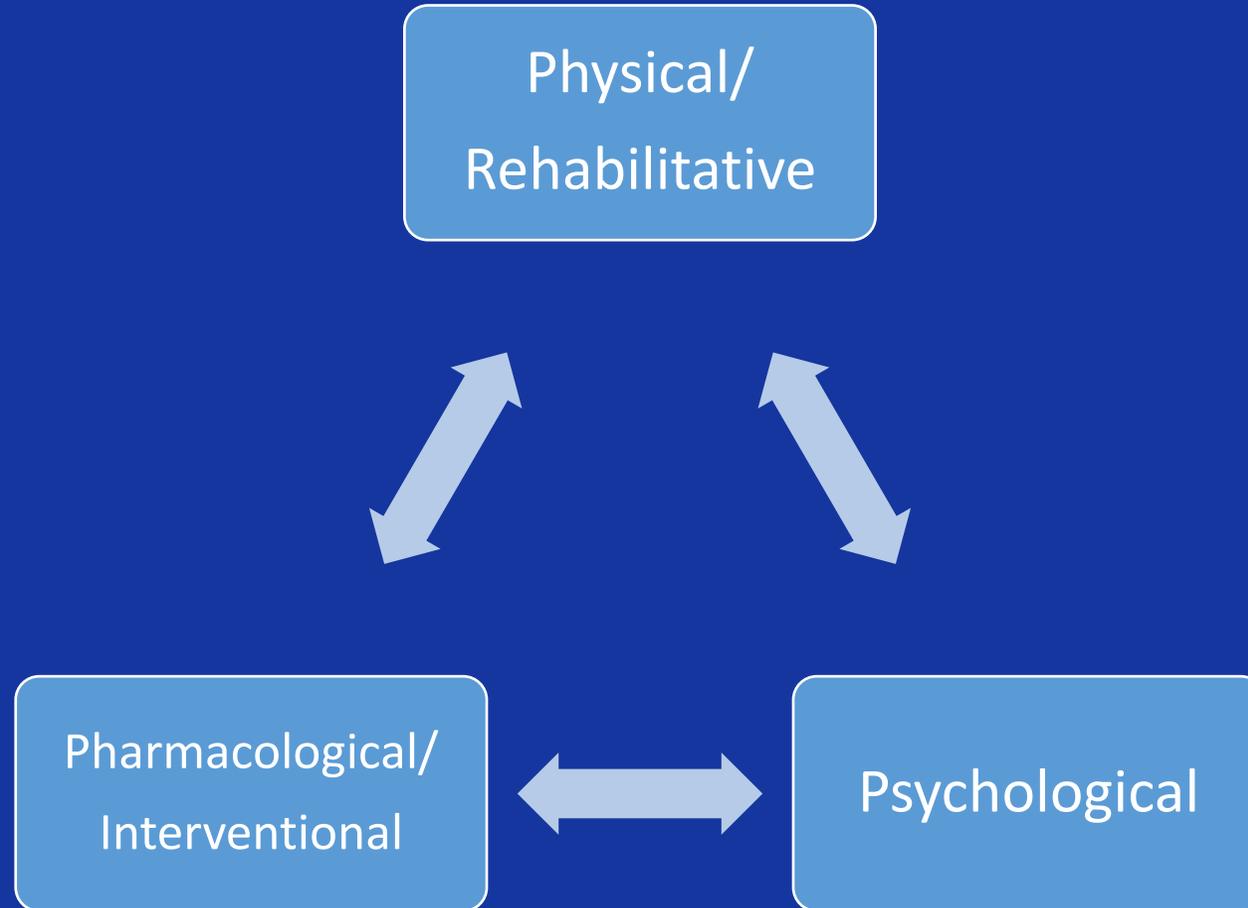
Case Study #1

- S.B.: 33 y.o. Female
- Chronic abdominal pain, cyclical nausea/vomiting, chronic constipation, diffuse myalgia, neuropathic hand and foot pain, overwhelming fatigue
- Multiple hospital ED visits and admissions
- PMHx:
 - Type 1 DM, Mitochondrial disease, Gastroparesis, Anxiety
- Medications:
 - Metoclopramide, Hydromorphone oral and SC, Fentanyl, Lyrica, Pantoloc, Gravol, Clonazepam, Humalog, Lantus, Diclectin, TPN
 - MEQ = ~500
- ORT = 3 (low risk); OCD and age 33
- BPI = 5-10/10, Avg = 8/10, Interference = 51/70

Case Study #2

- M.H.: 39 y.o. Female
- Long Hx chronic abdominal pain NYD, with associated nausea, vomiting, constipation
 - Multiple investigations and surgeries
 - Refractory to various interventions and pharmacotherapies
- Multiple hospital ED visits and admissions
- PMHx:
 - Appendectomy, Cholecystectomy, Sigmoid resection, GJ tube placement, Dx laparoscopies and adhesiolysis, Chronic gastritis, Anxiety, Depression
- Medications:
 - Hydromorphone, Topiramate, Constella, Metoclopramide, Targin, Pantoloc, Lorazepam
 - MEQ = 488-500
- ORT: 2 (low risk); Depression and age 39
- BPI = 5-10/10, Avg = 5/10, Interference = 65/70

Ideal Treatment of Persistent Pain



Pain Management Goals

- Decrease pain
- Improve function
 - Physical
 - Psychological
 - Social
- Minimize risk
 - Patient
 - Physician
 - Society

Minimizing the Risks of Opioid Misuse

Universal Precautions

- Think carefully before you start
- Screen for addiction risk in all patients
- Set boundaries around medication use (treatment agreement)
- Use random urine drug screening
- Identify drug misuse behaviours early and intervene
- Introduce opioids as a “trial of therapy” with agreed upon goals
- Taper opioids when goals are not achieved
- At every visit, 6 A’s

Long-term opioid therapy for chronic non-cancer pain. Review

- The findings of this systematic review suggest that proper management of a type of strong painkiller (opioids) in well-selected patients with no history of substance addiction or abuse can lead to long-term pain relief for some patients with a very small (though not zero) risk of developing addiction, abuse, or other serious side effects

Essential Follow-up Documentation

The “6 A’s”

1. Analgesia (pain relief)
2. Activities (physical and psychosocial functioning)
3. Adverse Effects (and your advice)
4. Ambiguous Drug Taking Behaviours (and your response)
5. Affect (depression, anxiety)
6. Accurate medication record
Name of drug, strength, directions, # units to dispense

Written Treatment Agreements

- Often recommended in guidelines (expert advisory in the 2017 COG)
- Low cost, low tech strategy
- Helps to demonstrate informed consent
- Effective boundary setting tool
- Must be readable, reasonable, and have some flexibility

Fishman S. 1999, 2000, 2002.

Wallace LS, et al. *J Pain* 2007;8(10):759-766.

Written Treatment Agreements

- **COG- Guidance statement 7: Treatment agreements**
- The benefits of treatment agreements are limited by low-quality evidence with equivocal effects on opioid misuse. A written treatment agreement may, however, be useful in structuring a process of informed consent around opioid use, clarifying expectations for both patient and physician, and providing clarity regarding the nature of an opioid trial with endpoints, goals, and strategies in event of a failed trial.

<http://nationalpaincentre.mcmaster.ca/guidelines.html>

Busse et al CMAJ 2017

Managing the High Risk Patient

- Confirm the pain diagnosis and non-response to non-opioid options first
- Use functional improvement as a treatment goal
- Collateral information / supportive network
- Short dispensing intervals (part-fills)
- Fax prescriptions where legal for high risk pts
- Little or no use of IR/SA opioids for breakthrough pain
- Document episodes of ambiguous behaviours
- Tighten the boundaries in response

Summary of Recommendations

Initiation and Dosing of Opioids in CNCP

6. Recommend restricting the prescribed dose to under 90 mg/day MEQ, rather than no upper, or higher limit on dosing.

(Strong Recommendation)

As some individuals may benefit from doses above 90mg/day MEQ, a referral to a colleague for a second opinion may be warranted.

Summary of Recommendations

Initiation and Dosing of Opioids in CNCP

7. For patients beginning opioid therapy, recommend restricting the prescribed dose to under 50mg/day MEQ.

(Weak Recommendation).

***Some patients may accept the increased risks associated with a dose over 50mg to potentially achieve better pain control. ***

Other Management Options

- Develop treatment strategies
 - Dietary modification
 - Other pharmacotherapy
 - Behavioural or psychological therapy
 - Interventional treatments

Interdisciplinary Pain Management

Recommendation 10: For patients with chronic non-cancer pain who are using opioids and experiencing serious challenges in tapering

Strong recommendation

- We recommend a formal multidisciplinary program.
- Recognizing the cost of formal multidisciplinary opioid reduction programs and their current limited availability/capacity, an alternative is a coordinated multidisciplinary collaboration that includes several health professionals whom physicians can access according to their availability (possibilities include, but are not limited to, a primary care physician, a nurse, a pharmacist, a physical therapist, a chiropractor, a kinesiologist, an occupational therapist, a substance use disorder specialist, a psychiatrist, and a psychologist).

- Busse et al CMAJ 2017

Interdisciplinary Pain Management Treatment Plan

- What is an interdisciplinary team?
 - A group of health care professionals from diverse fields who work in a coordinated fashion toward a common goal for the patient
 - Advantage to conducting treatment in this type of milieu is that a patient receives a time limited, intensive, and comprehensive treatment program that takes place in one location with a unified treatment approach

Evidence for Interdisciplinary Pain Management

- IASP, Vol. XX, Issue 7. Dec 2012
 - “Of all approaches to the treatment of chronic pain, none has stronger evidence basis for efficacy, cost-effectiveness, and lack of iatrogenic complications than interdisciplinary care”
- Typical treatment involves:
 - (1) Medication management
 - (2) Graded physical exercise
 - (3) Cognitive and behavioural techniques for pain and stress management

The Role of Medical Cannabis

Very few drugs, if any, have such a tangled history as a medicine. In fact, prejudice, superstition, emotionalism, and even ideology have managed to lead cannabis to ups and downs concerning both its therapeutic properties and its toxicological and dependence-inducing effects.

E. A. Carlini

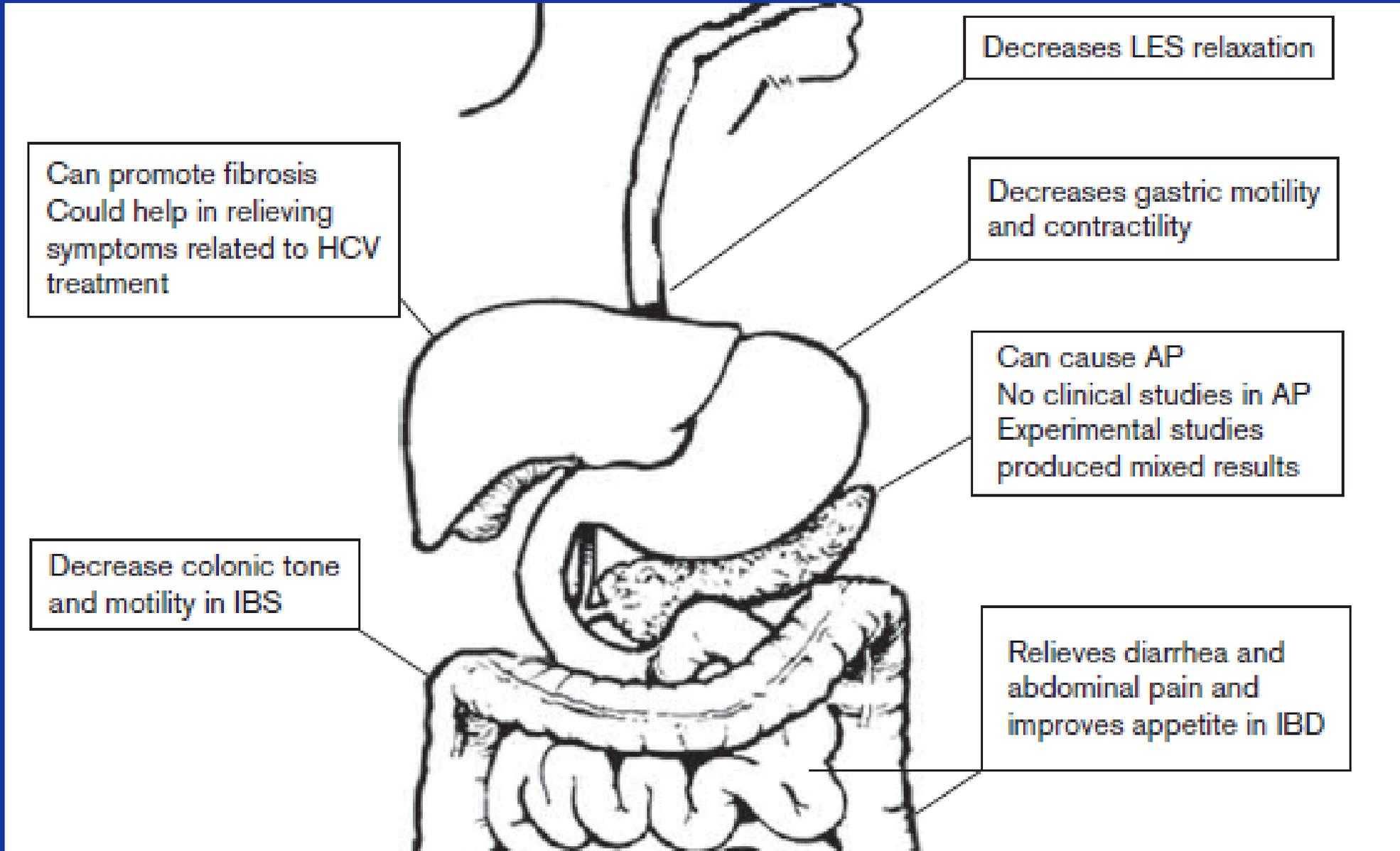
Endocannabinoid System

- The endocannabinoid system is a lipid signaling system that is found in human body
- This system has regulatory functions in the body
- It contains several receptors including CB1 and CB2
- The cannabinoids also act on the endocannabinoid system by binding to receptors such as CB1.
- The CB1 receptor is involved in:
 - Homeostasis
 - Motor control
 - Cognition
 - Emotional responses
 - Motivated behaviour

Endocannabinoid System

- Immune function
- Inflammation
- Appetite
- Metabolism
- Cardiovascular function
- Digestion
- Bone density
- Synaptic plasticity
- Reward/addiction
- Pain
- Reproduction
- Memory
- Sleep
- Stress regulation
- Mood

Cannabinoids Effect on the GI Tract

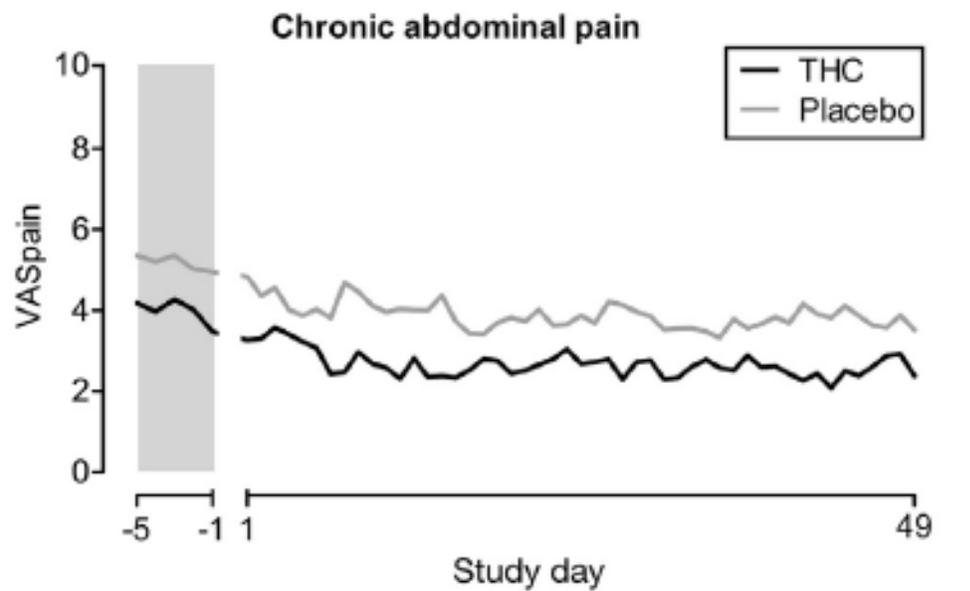


Sharkey KA & JW
Wiley. The role of the
Endocannabinoid
System in the Brain-
Gut Axis.
Gastroenterology
2016;151:252-266

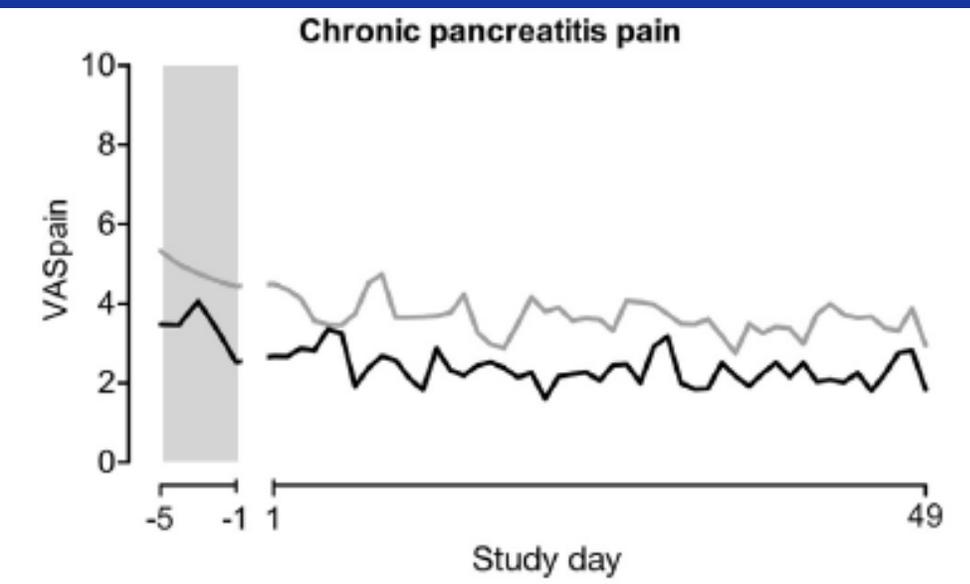
Evidence for Cannabis in Abdominal Pain

- IBS
 - No RCTs or studies with medicinal cannabis, only synthetic THC in observational studies - failed to decrease pain perception due to colonic distension^{5,6}
- IBD – Ulcerative Colitis and Crohn’s Disease
 - One RCT, and several patient surveys with smoked cannabis
 - Findings - point to reduction in N/V and abdominal pain but odds of requiring surgery (resection) were 5.03 vs. no cannabis – may worsen disease progression

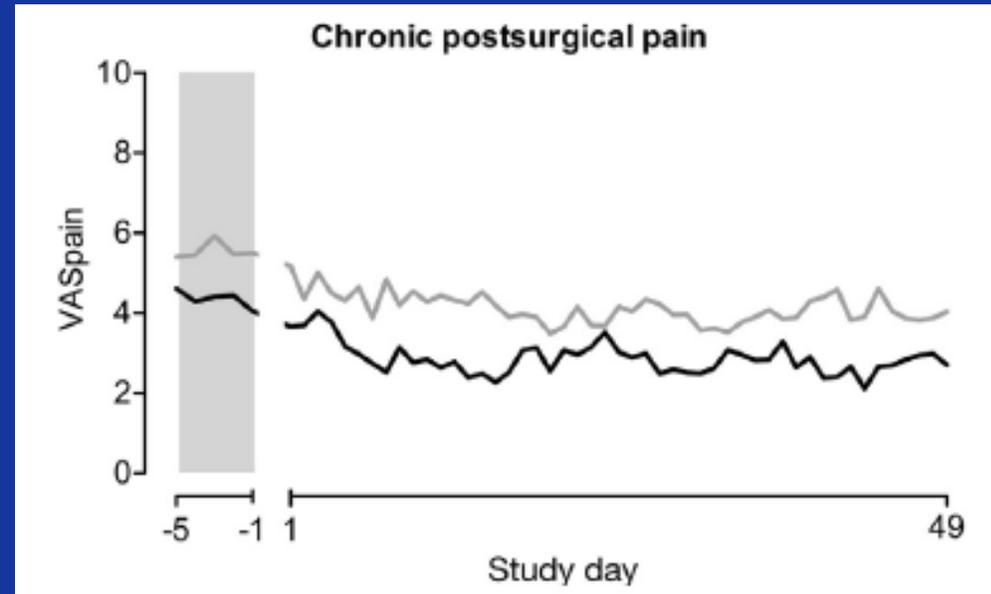
Chronic Pancreatitis and Chronic Abdominal Pain



(95% CI [-1.31 to 1.16], P = 0.901)



CP (95% CI [-2.23 to 1.78], P = 0.816)



PSP (95% CI [-1.87 to 1.70], P = 0.922)

Researchers conclusion – THC for Chronic Pancreatitis Pain is No different than Placebo

Case Study #1

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- Chronic abdominal pain, cyclical nausea/vomiting, chronic constipation, diffuse myalgia, neuropathic hand and foot pain, overwhelming fatigue
- Multiple hospital ED visits and admissions
- PMHx:
 - Type 1 DM, Mitochondrial disease, Gastroparesis, Anxiety
- Medications:
 - Metoclopramide, Hydromorphone oral and SC, Fentanyl, Lyrica, Pantoloc, Gravol, Clonazepam, Humalog, Lantus, Diclectin, TPN
 - MEQ = ~500
- ORT = 3; ?OCD and age 34
- BPI = 5-10/10, Avg = 8/10, Interference = 51/70

Case Study #1

- Probiotics discussed to stabilize gut flora
- Constipation management
 - Trial of Movantik: effective for opioid-induced constipation
- Opioid Taper
 - Recommended discontinuation of Fentanyl and overall reduction ~5% q2-4 weeks
 - Consider trial Naltrexone
- Optimize adjuvant treatments
 - Optimize Lyrica
 - Consider Nabilone trial and cannabis trial
- Interventional
 - Referral for celiac plexus block discussed
- Interdisciplinary Pain Program

Case Study #1

- Constipation
 - Initiated Movantik 12.5 mg daily
- Opioids
 - Discontinued Fentanyl and remained on Hydromorphone oral and SC with slow ongoing taper
 - Withdrawal medications given: Clonidine; Gravol and Ondansetron continued
- Adjuvant Treatments
 - Lyrica increased to 50 mg BID
 - Effexor initiated and titrated to 187.5 mg daily
 - Cannabis oils and capsules started with Rx 0.5g/day
 - CBD dominant: 4 capsules qam, THC dominant 5 capsules qhs
- No interventions initiated at this time

Case Study #1

- Constipation
 - Regular bowel movements now reported
- Opioid Taper
 - Patient has stopped Fentanyl and continued to slowly reduce her total **MEQ to 127.5**
 - Patient reports her abdominal pain to have actually improved with the reduction
- Adjuvant Treatments
 - Improvements with anxiety with use of Effexor
 - Improvements with sleep with use of cannabis capsules
 - Improvements with cyclical nausea/vomiting with use of cannabis capsules
 - Able to manage at home requiring less ED visits and hospital admissions
- BPI = 3-8/10, Avg = 7/10, Interference = 44/70

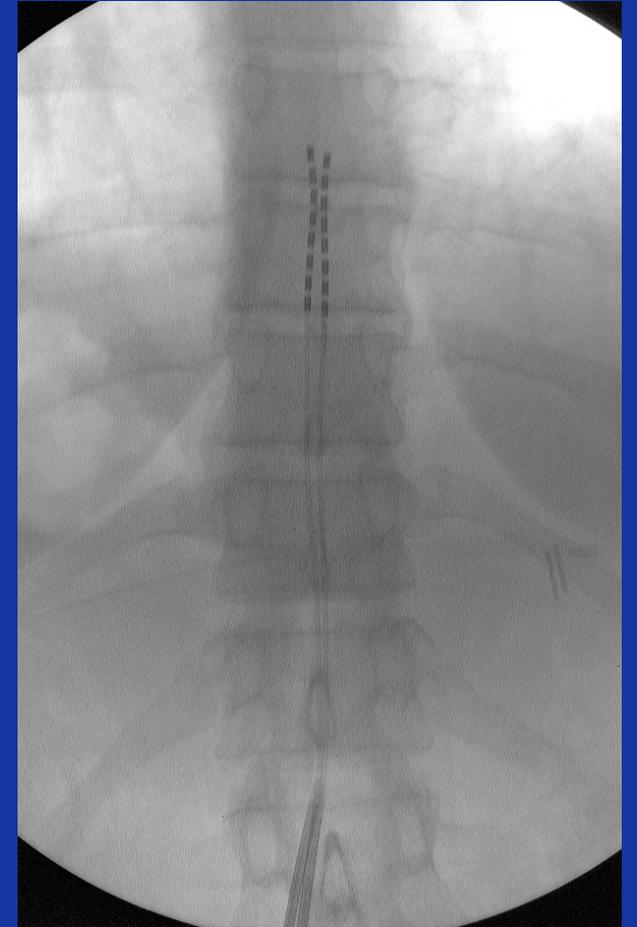
Spinal Cord Stimulation

What is SCS?

- Spinal cord stimulation (SCS) is a minimally invasive and reversible therapy
- Used as a treatment of severe, otherwise nonresponsive chronic pain
- Has also been used to treat refractory angina, chronic abdominal pain, peripheral vascular disease, and vaso-occlusive syndromes

Neuromodulation: Spinal Cord Stimulator

- Conventional stimulation
 - Paresthesia must overlap the pain distribution
 - It's all about location
- Procedural
 - Percutaneous implantation
- Two-stage procedure
 - Trial
 - Disposable electrode(s)
 - Longer better than shorter (3 weeks)
 - Second stage for permanent system



Complications

- Serious but extremely rare complication:
 - Epidural hematoma accompanied by severe neurologic deficits
- Two of the most common serious complications of SCS:
 - Lead migration
 - Infection
- Frequency of lead migration decreased over the last 10 years, due to better anchoring techniques
- Current infection rate related to SCS implantation is less than 4.5 %

Case Reports and Literature Reviews

- “SCS for the treatment of abdominal visceral pain may provide a positive patient long-term experience, significant improvements in pain scores and a decrease in opioid use”
Kapural, L. Pain Medicine 2010; 11:685-691
- “SCS may have a significant therapeutic potential for treatment of visceral pelvic pain”
Kapural, L. Pain Medicine 2006; Volume 7 (5)
- “SCS is a minimally invasive treatment option for pain in IBS”
Lind, G. AM J Physiol Regul Integr Comp Physiol 308: R887-R894, 2015
- “SCS may be a useful therapeutic option for patients with severe visceral pain from chronic pancreatitis”
Kapural, L. Neuromodulation 2011; 14: 423-427

Case Study #2

- M.H.: 39 y.o. Female
- Long Hx chronic abdominal pain NYD, with associated nausea, vomiting, constipation
 - Multiple investigations and surgeries
 - Refractory to various interventions and pharmacotherapies
- Multiple hospital ED visits and admissions
- PMHx:
 - Appendectomy, Cholecystectomy, Sigmoid resection, GJ tube placement, Dx laparoscopies and adhesiolysis, Chronic gastritis, Anxiety, Depression
- Medications:
 - Hydromorphone, Topiramate, Constella, Metoclopramide, Targin, Pantoloc, Lorazepam
 - MEQ = 488-500
- ORT: 1 (low risk); Depression
- BPI = 5-10/10, Avg = 5/10, Interference = 65/70

Case Study #2

- Pain Psychologist
 - Referral sent for appropriate evaluation and treatment/counseling
- Opioid Taper
 - Recommended overall reduction ~5% q2-4 weeks
 - Withdrawal medications given: Clonidine, Ondansetron, Buscopan
- Adjuvant Treatments
 - Trials of TCA, Pregabalin, Seroquel, Lamotrigine, Keppra, Trazodone
 - Trial of Nabilone recommended as well as medical cannabis if failed other trials
- Interventional
 - Trial of Dx Transversus Abdominal Plane Block (TAP) for possible consideration of referral to neuromodulation team
- Interdisciplinary Pain Program

Case Study #2

- Pain Psychologist
 - Ongoing counselling and CBT sessions for anxiety, depression, pain
 - Citalopram initiated and titrated to 20 mg daily
- Constipation
 - Trial of Movantik recommended for opioid-induced constipation
- Opioid Taper
 - Discontinued Targin and switched to combination of SA/LA Hydromorphone to facilitate taper
- Adjuvant Treatments
 - Patient did not tolerate trials of adjuvant medications
 - Cannabis was then considered: CBD:THC balanced oil qhs
- Interventional
 - Referred for Neuromodulation: Spinal Cord Stimulator
- Interdisciplinary Pain Program
 - Referred and enrolled in 4-week intensive self-management program

Case Study #2

- Pain Psychologist
 - Psychometric scoring shows improvements in scores over an 8 week time period
 - Patient reports significant increased mood, less anxiety
- Constipation
 - Improved with combined Movantik and Constella
- Opioid Taper
 - Ongoing ~5% reduction q2-4 weeks
 - **Current MEQ = 150**
- Adjuvant Therapies
 - Nabilone and Medical cannabis oils: improvements in sleep
- Interventional
 - SCS implanted April 2017; patient reports significant decrease in abdominal pain
- Interdisciplinary Pain Program
 - Patient reports now being able to control attacks with use of distraction, deep breathing techniques
- BPI = 2-9/10, Avg = 5/10, Interference = 48/70

Conclusions

- There may be a role for opioids in management of chronic abdominal pain however one must utilize the Universal Precautions, written prescribing agreements and urine drug testing as part of safer prescribing, with more frequent follow ups
- It is important to utilize other management strategies including adjuvant medications, behavioural/psychological therapy, and interventional methods
- Medical cannabis has shown to be an additional adjuvant therapy to consider when treating chronic abdominal pain
- Spinal cord stimulation has shown to be an effective option for management of abdominal pain allowing for a reduction in opioid dosages

Questions? Discussion

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Evidence for Interdisciplinary Pain Management

- Program Evaluation: Measuring Changes From Admission to Discharge in an Interdisciplinary Chronic Pain Management Program
 - Eleni G. Hapidou, Ph.D., C. Psych
- The efficacy of multidisciplinary chronic pain management programs to decrease pain, increase functioning, and enhance overall quality of life is well documented (Hoffman et al., 2007; Loeser & Turk, 2001; Morley et al., 1999)
- Significant differences between admission and discharge on almost all program evaluation measures ($p < 0.001$).
- Program helps all patients equally irrespective of referral source
 - (WSIB or insurance)