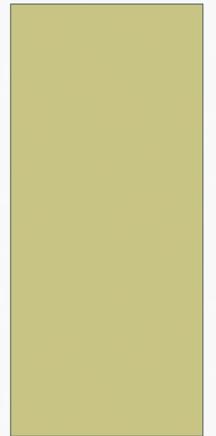


PAIN MANAGEMENT STRATEGIES

COMPLEMENTARY AND ALTERNATIVE MEDICINE



CAM AND PAIN MANAGEMENT

- CAM is an important component of a shift toward a more comprehensive, patient-centered, and health focused model
 - Team based, interdisciplinary, pharmacologic and non-pharmacologic
- Over 50% of chronic opioid use begins in the acute care setting, after surgery, or for treatment of acute injury related pain
- Inadequate post procedural pain management strategies for the growing number of outpatient surgical interventions are contributing to the chronic pain burden

CAM AND PAIN MANAGEMENT

- There is evidence for CAM strategies showing reduced post op pain severity and opiate sparing in hospital settings for inpatient post-op pain and acute pain not related to surgery
- Additional benefits include:
 - Reduced anxiety and depression
 - Reduced nausea and vomiting
 - Improved sleep quality
 - Increase in a patient's sense of well being and desire to participate in their own recovery

EVIDENCE BASED NON-PHARMACOLOGIC OPTIONS FOR POST OPERATIVE PAIN

- Acupuncture
- Auriculotherapy
- Mind Body Medicine
 - Mindfulness Techniques
 - Guided Imagery
 - Hypnosis
- Botanical Medicine

ACUPUNCTURE AND POST OP PAIN

- Most robust body of CAM evidence for post operative pain
- Requires qualified practitioner for safe application
- Low side effect profile
- Low economic burden

ACUPUNCTURE AND POST-OP PAIN

- Systematic review and meta-analysis demonstrated reduced post-op pain and need for analgesic use compared to sham acupuncture or standard of care (usual care or no care) controls
 - 59 RCTs included using both body and auricular points
 - Acupuncture point stimulation (APS) improved VAS scores significantly and reduced total morphine consumption
 - No serious related APS adverse events
 - Conclusion: There is insufficient evidence to conclude that acupuncture is an effective postoperative pain therapy in surgical patients, although the evidence does support the conclusion that APS can reduce analgesic requirements without AEs.

ACUPUNCTURE AND POST-OP PAIN

- Systematic review and meta-analysis evaluating the effectiveness of acupuncture and acupuncture related techniques in treating acute postoperative pain
 - RCTs including acupuncture, electroacupuncture, or acupoint electrical stimulation
 - Less pain and used less opioid analgesics on Day 1 after surgery compared to those treated with control
 - Subgroup analysis with conventional acupuncture and transcutaneous electric acupoint stimulation (TEAS) with significant benefit in pain level over control, while electroacupuncture was similar to control. TEAS with significantly greater reduction in opioid analgesic use on Day 1 after surgery than control, however conventional acupuncture and electroacupuncture showed no benefit in reducing opioid analgesic use compared with control.
 - Overall, results support use of acupuncture as adjuvant therapy in treating postoperative pain.

ACUPUNCTURE AND POST-OP PAIN

- Systematic review of 15 RCTs comparing acupuncture with sham control in the management of acute postoperative pain
 - Weighted mean difference for cumulative opioid analgesic consumption was -3.14mg (95% CI), -8.33mg (95% CI) and -9.14mg (95% CI) at 8, 24, and 72h , respectively.
 - Postoperative pain intensity using VAS was significantly decreased in the acupuncture group at 8 and 72h compared with controls.
 - Acupuncture treatment group was associated with a lower incidence of opioid related side effects including nausea, dizziness, sedation, pruritis, and urinary retention

AURICULOTHERAPY

- Systematic review and meta-analysis of RCTs comparing auriculotherapy to sham, placebo, or standard of care controls that measured outcomes of pain or medication use
 - 17 studies included, including 8 perioperative pain, 4 acute pain, and 5 chronic pain
 - For perioperative pain, auriculotherapy reduced analgesic use
 - No significant heterogeneity among perioperative pain studies
 - Conclusion: Auriculotherapy may be effective for the treatment of a variety of types of pain, especially postoperative pain.

ACUPUNCTURE FOR ACUTE PAIN IN ED SETTING

- RCT with 300 patients presenting to ED with acute pain
 - Acupuncture found to be superior to morphine for pain relief and onset of action with fewer adverse effects
- Retrospective study of acute pain patients in ED
 - Acupuncture decreased pain comparable to analgesics with additional benefit of reduction in anxiety
- Systematic review with meta-analysis of acupuncture analgesia in ED setting found that it “provided statistically significant, clinically meaningful, and improved levels of patient satisfaction with respect to pain relief in the emergency setting”.
- Acupuncture vs IV morphine in management of acute pain in ED settings
 - Prospective randomized trial in patients with acute onset of moderate to severe pain
 - Significance defined as 50% decrease from baseline pain score. Also analyzed pain reduction time and occurrence of short term side effects
 - 92% success rate in the acupuncture group vs. 78% in the IV morphine group
 - Resolution time 16+/-8 min in acupuncture group vs 28+/-14 min in morphine group
 - Minor s/e occurred in 56.6% of morphine group vs. 2.6% in acupuncture group
 - Acupuncture associated with more effective and faster analgesia with better tolerance
- Lower cost and and low adverse effects profile

ACUPUNCTURE IN THE TREATMENT OF RENAL COLIC

- Prospective randomized study comparing efficacy of acupuncture and IM Avafortan (analgesic, antispasmodic) injection
 - Showed acupuncture to be as effective in relieving renal colic as Avafortan with a more rapid analgesic onset with no noted side effects
- Comparison study of the efficacy of IM diclofenac, acupuncture, and IV acetaminophen in the treatment of renal colic
 - Statistically significant decrease in VAS and VRS at 10, 30, 60, and 120 min demonstrating acupuncture as a viable alternative treatment modality in renal colic patients with possible NSAID and acetaminophen s/e risk
- Perhaps we can extrapolate this data to mean acupuncture is a viable alternative to opiates for renal colic, similar to the pharmacologic agents used in these studies

ACUPUNCTURE SAFETY PROFILE

- NIH Consensus Statement on Acupuncture
 - “The incidence of adverse effects is substantially lower than that of many drugs or other accepted procedures for the same conditions.”
- Safe when performed by appropriately trained practitioners based on multiple systematic reviews and surveys with infrequent and mild side effects including feeling relaxed, elated, tired, or sensation of itching at insertion site.

MIND BODY MEDICINE

- Mindfulness
 - RCT of mindfulness training and hypnotic suggestion for acute pain relief in the hospital setting
 - Hypothesis: single, scripted session of mindfulness training focused on acceptance of pain or hypnotic suggestion focused on changing pain sensations through imagery would significantly reduce acute pain intensity and unpleasantness compared to psychoeducation pain coping control. Delivered by hospital workers.
 - Significantly lower baseline-adjusted pain intensity post-intervention than those assigned to psychoeducation and lower baseline adjusted pain unpleasantness.
 - Though the mean pain reduction was modest in size, approximately 1/3 of patients treated with mind body interventions achieved at least a 30% reduction in pain intensity- a clinically significant level of pain relief comparable to 5mg of oxycodone.

MIND BODY MEDICINE

- Guided imagery
 - The use of words depicting calming images and music to evoke positive imaginative scenarios
 - RCT demonstrated that guided imagery 2 weeks before and 3 weeks after total knee replacement resulted in reduced post-op pain that persisted at 3 weeks
 - Could extrapolate for procedures that are planned further in advance including pelvic reconstruction, prostate procedures, etc.

MASSAGE THERAPY

- Systematic review and meta-analysis of massage therapy effects on post-operative pain and anxiety
 - Effect of “single dosage massage therapy” on post-operative pain showed significant improvement and low heterogeneity
- Systematic review of 16 trials, massage therapy was effective for treating pain and anxiety compared to active comparators in surgical pain populations
- Randomized trial of veterans undergoing major surgery, massage was effective and safe adjuvant therapy for relief of acute post op pain.

BOTANICAL MEDICINE

- Turmeric
 - RCT demonstrating improved patient reported outcomes in postoperative pain and fatigue after laparoscopic cholecystectomy
 - Lower mean pain scores at weeks 1 & 2 in the study group
 - Analgesic usage was significantly lower in the study group
- Aromatherapy
 - Triple blind, RCT studied effect of lavender essential oil aromatherapy on cesarean postoperative pain
 - Pts in lavender group had less postoperative pain in 4, 8, and 12h after first medication than placebo.
 - Pts in the lavender group also experienced decreased HR and increased level of satisfaction with analgesia
 - The use of diclofenac suppositories for complete analgesia was significantly higher in the placebo group than the lavender group
 - Prospective RCT comparing lavender essential oil use in post-anesthesia care unit for postoperative pain after laparoscopic adjustable gastric banding procedure
 - Significantly more patients in the placebo group required analgesics for post op pain
 - Patients in the lavender group required less morphine postoperatively
 - Results suggest that lavender aromatherapy can be used to reduce the demands for opioids in the immediate postoperative period

CHRONIC PAIN

- While urologists are not typically managing chronic opioid prescriptions for patients, patients are being prescribed these medications by PCP's and pain specialists for chronic urologic pain
- Providing recommendations and coordinating care for alternative pain management strategies may indirectly impact urology's role in the opioid epidemic

CAM CHALLENGES AND CONSIDERATIONS

- Access
 - Out-patient
 - Outside referrals vs in-clinic access
 - In-patient
 - Hospital employed CAM practitioners
- Insurance coverage
 - Acupuncturists, naturopaths, chiropractors, and massage therapists are 60-70% less likely to be reimbursed for services
 - Tedious verification process due to high variability in coverage between plans
 - Out of pocket expense for patients even with coverage
- Interdisciplinary relationships
 - Finding qualified practitioners (acupuncturists, naturopaths, mindfulness practitioners, etc.)
- Patient skepticism
- Physician skepticism
- Patients are left to navigate a fragmented system on their own

HOW DO WE INTEGRATE WITH CONVENTIONAL PRACTICE?

- Increase awareness of effective non-pharmacologic treatments for pain
- Train healthcare practitioners and administrators in the evidence base of effective non-pharmacologic practice
- Advocate for policy initiatives that remedy system and reimbursement barriers to evidence-informed comprehensive pain care
- Promote ongoing research and dissemination of the role of effective non-pharmacologic treatments in pain, focused on the short and long term therapeutic and economic impact of comprehensive pain care practices

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