

Pain, Addiction, and Opioid Strategies

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Faculty/Presenter Disclosure

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Learning objectives

1

Discuss effectiveness and clinical pearls of non-opioid management for CNCP

2

Review evidence for effectiveness and risks of opioids for CNCP

3

Obtain strategies for opioid risk mitigation and tapering protocols

Non-pharmacological Therapies

Cochrane Reviews

- Psychological therapies – CBT
 - Mild-mod effect: depression, disability, +/- pain (Williams, 2012)
- Physical therapy – Some evidence for shoulder (Green, 2003)
- TENS – Conflicting evidence (Khadilkar, 2008)
- Prolotherapy – Not effective alone, unclear with co-interventions (Dagenaise 2007)
- Spinal manipulation for CLBP – No better/worse than tx like PT/exercise, unclear compared to sham (Rubinstein 2011)
- Massage – Beneficial, especially combined with stretching and education (Furlan 2008)

Papaver Somniferum



Opioids

Bind to opioid receptors

- Relieving pain (psychological and physical)
- **↑ dopamine** (DA) in pleasure centres (ventral tegmental area → nucleus accumbens)
- **↓ noradrenalin** (NOR) in the fight or flight centres (locus coeruleus and amygdala), calming
- Affects brainstem (OD from respiratory depr.)
- Can produce dysphoria, sedation, impaired judgment, constipation, weight gain, erectile dysfunction (from decreased testosterone)

Limitations of the evidence on LOT

- Effects on function generally smaller than effects on pain, with some trials showing no or minimal benefit
- High loss to follow-up
- Trials typically excluded patients at higher risk for abuse or misuse, psychological comorbidities, and serious medical comorbidities
- Limited evidence on commonly treated conditions
 - Low back pain, fibromyalgia, headache, others
- No trials compared LOT vs. CBT-based exercise therapy or interdisciplinary rehabilitation

Analgesic Efficacy of Opioids (Chou, 2015)

- Systematic review and meta-analysis
- Some evidence for opioid use acutely and under 6 months, lack of studies on benefits > 1 yr
- Many studies show long term harms of LOT vs non opioid tx for CNCP:
 - Increased risk of overdose, substance abuse and dependence, fractures, myocardial infarction, and use of medication to treat erectile dysfunction.
- “Evidence is insufficient to determine the effectiveness of long-term opioid therapy for improving chronic pain and function. Evidence supports dose dependent risk for serious harms”

Opioids ... for chronic low-back pain.

Cochrane Review (Chaparro 2013)

- 15 trials which included 5540 participants
- More pain relief and fxn in short term
- No information from RCTs supporting the efficacy and safety of opioids used for more than four months
- The **current literature does not support that opioids are more effective than other groups of analgesics** for LBP such as anti-inflammatories or antidepressants

Oxycodone for neuropathic pain and fibromyalgia. Cochrane Review (Gaskell 2014)

- Oxycodone was not convincingly shown to help relieve the pain (very low quality evidence)
- Compared with placebo, fewer people stopped taking oxycodone because they felt it was not effective, but more people experienced adverse effects (very low quality evidence)
- Oxycodone has not been shown to work as a pain medicine in diabetic neuropathy or postherpetic neuralgia. No studies have examined its use in other types of neuropathic pain, or in fibromyalgia

Opioids

May increase the risk of the following processes in a dose dependent manner...

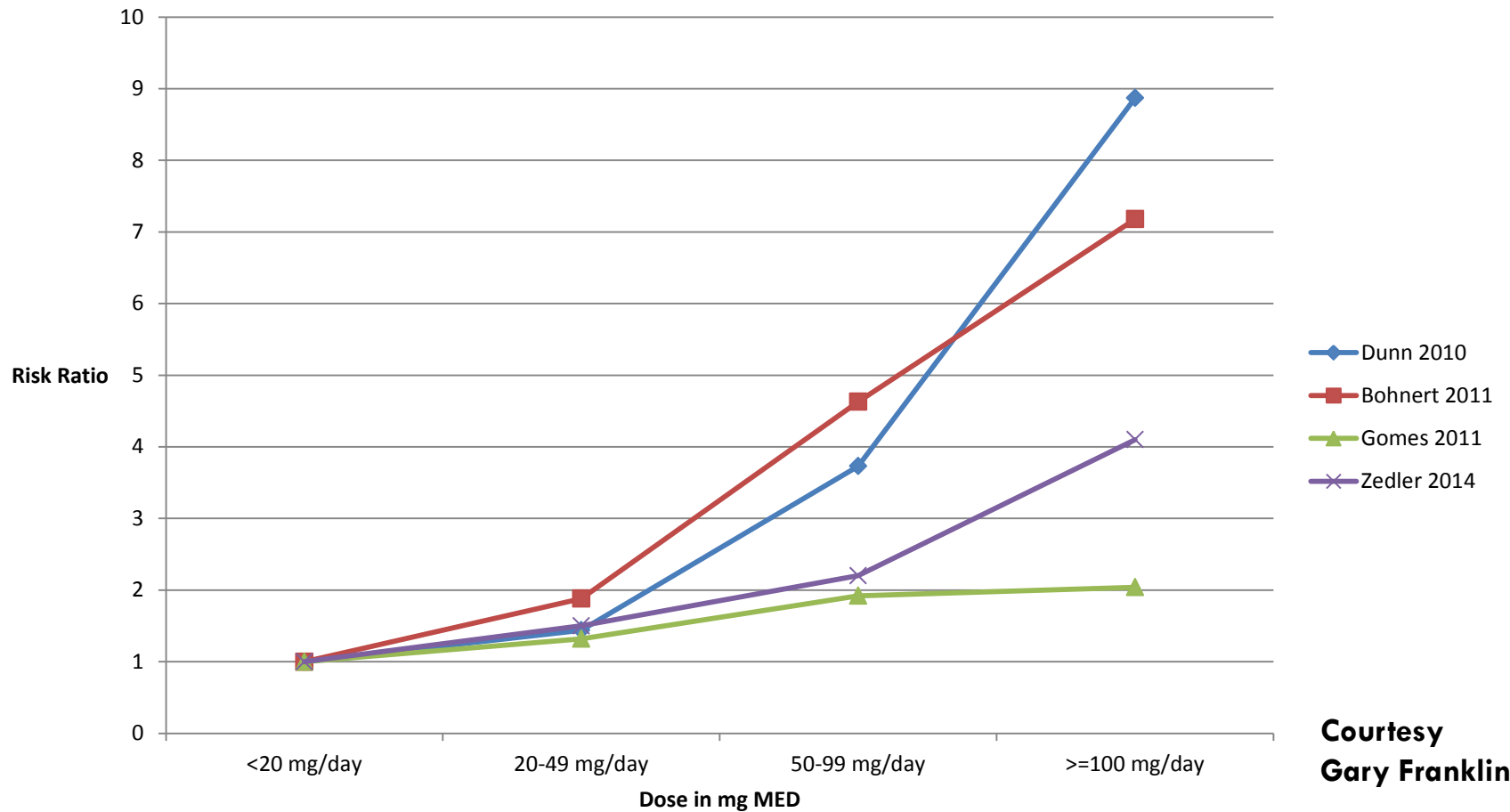
- Unintentional **overdose**
- Substance misuse and **addiction**
- Opioid induced hyperalgesia (**OIH**)
- Withdrawal induced hyperalgesia (**WIH**)
- Withdrawal-associated injury site pain (**WISP**)
- **Testosterone suppression** in men

Factors Associated with OD

- Aberrant behaviors
- Recent initiation of opioids
- Methadone
- Concomitant use of benzodiazepines
- Obtaining opioid prescriptions from multiple providers
- Substance abuse and other psychological comorbidities
- **Higher dose**

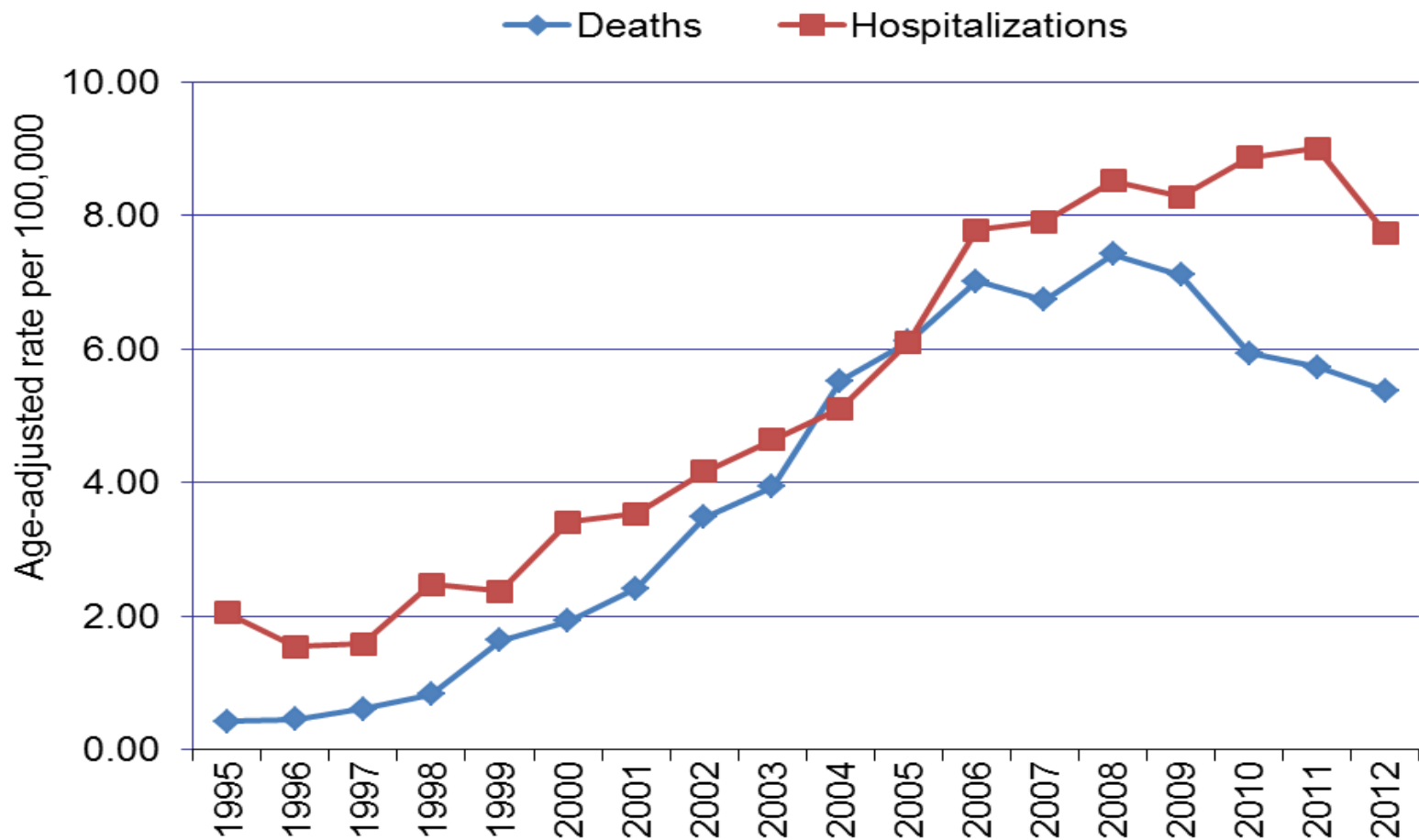
Dose-related risk of opioid overdose

Risk of adverse event



Courtesy
Gary Franklin

Prescription Opioid Involved Overdoses Washington State



Opioid Abuse and Addiction is Dose Dependent

- Long-term prescribed opioid use (>90 days' supply) associated with increased risk of an opioid abuse or dependence diagnosis vs. no opioid treatment
 - Low dose (1-36 mg MED/day): OR 15
 - Moderate dose (36-120 mg MED/day): OR 29
 - **High dose (≥ 120 mg MEDD): OR 122**

(Edlund 2014)

SUD in patients on LOT

- Systematic review and meta analysis
 - Based on history and physician suspicion alone rates of substance dependence with opioid therapy was under 5%, under 1% if no past hx SUD
- However 5 studies did UDS as well:
 - 21% of patients had either no prescribed opioid and/or a non-prescribed opioid in their UDS
 - 15% had illicit drugs (Fishbain 2008)

Prescription Opioid Misuse and Addiction

- Estimates vary from 4% to 26%, or higher
 - Study (n=801) of pts with CNCP based on standardized interviews
 - 26% purposeful oversedation
 - 39% increased dose without prescription
 - 8% obtained extra opioids from other doctors
 - 18% used for purposes other than pain
 - 12% hoarded pain medications

(Fleming et al. J Pain 2007)

Opioid Use Guidelines (Furlan, 2010; Chou 2009)

- Do complete hx + px
- DDx
- screen – SUD, MDD
- Opioid Manager, PharmaNet, UDS, contract
- Watchful dose – review above

– **FUNCTION** must change for prescribing to continue

Opioid Issues - Pearls

- Generally avoid caffeinated products
- Use long acting formulations for baseline control with caution about peak serum levels
- Use short acting formulations as occasional prn doses, or if chronic - dose on the half life
- Use **ONLY ONE** opioid for both short and long, do not mix (unless patch used)

When to Suggest Opioid Taper?

- Patient on opioids without significant improvement in pain and function
- Safety sensitive position
- Spread of pain in the absence of disease progression
 - allodynia and hyperalgesia
- Active substance abuse/dependence where harm reduction not viable
- Patient requests to come off

Opioid Lowering Options

1. Convert to long acting opioid – taper
2. Taper with short acting opioid
3. Withdrawal symptom management
4. Opioid substitution/rotation - taper

Opioid Short > Long Conversion

- Long acting can provide smoother control
- But beware of high peak of some long acting formulations which can produce euphoria
- Change 50-75% of the total dose over to the long acting formulation – provide the rest in short acting with a warning for sedation
- Review in 1 week and convert more to long
- Ideally very little to no breakthrough

Opioid Dose Adjustments - Pearls

- Physician adjusts dose as required:
 - Increase or decrease by 5-10% at a time
 - The earliest dose change should be after 5 half lives of that particular drug
 - Morphine (1/2 life 3 hr) daily adjust in hospital
 - Methadone (1/2 life 24-36h) adjust q5+ days
 - Comfortable change is every 1-4 weeks – PT input
- If unsuccessful (no change pain + function)
 - taper off, might try a diff opioid, or not
- Go slower at the end of a taper – last 20%

Opioid Tapering – Example

- Pt taking hydromorphone (short) 200 mg/d
- **1st conversion:** Hydromorphone (long) 75 mg q12 h plus hydromorphone (short) 4mg 1q4h prn – warn about driving, sedation
- **2nd week:** see if prn doses needed – if so add in as long acting, e.g. 100 mg q12h
- **3rd week** on...taper 5-10%, typically faster at first and slower at the end of the taper
- **Taper** until on lowest dose strength long 3q12h
- Then **re-introduce** short to complete weekly taper, e.g. hydromorphone (short) 2mg q8h; 1mg q6h; 1mg q8h; 1mg am and hs; 1mg hs; off

Opioid Tapering – Short

- Sometimes easiest to simply taper what the patient is **currently using**
 - E.g. Percocet 16-20/d, taken 6 tid +/- 2/d
- If it is a dual agent first switch to **eliminate the ASA or acetaminophen** (bloodwork?)
 - E.g. Oxycodone 5 mg 18/d
- Next spread out the daily dose evenly based on the **1/2 life** of the medication
 - E.g. Oxycodone 5 mg 5/4/4/5 spread q6h

Opioid Tapering – Example

- Next taper the medication – depending on the patient's symptoms the drop can be over 4 -14 days, always dropping nighttime dose last
- Oxycodone 5 mg 4/4/4/5 spread q6h
- Oxycodone 5 mg 4/4/4/4 spread q6h
- Oxycodone 5 mg 4/3/4/4 spread q6h
- Oxycodone 5 mg 4/3/3/4 spread q6h
- Oxycodone 5 mg 3/3/3/4 spread q6h
- Oxycodone 5 mg 3/3/3/3 spread q6h
- Continue this pattern until 0/0/0/1, then off

Opioid Tapering – Combo

- If patient using a combination of short and long acting – conventional wisdom is to taper short first, but since often this is what patients “feel” and are attached to **you can taper it last**
- Oxycodone ER 80 mg q12 h plus oxycodone 10mg 1-2 prn 4/d max
- Taper Oxycodone ER first by 10 mg every 4-14 days dropping morning dose, then evening dose
- Hold the oxycodone short 10 mg at q6h until off the Oxycodone ER then taper by 5 mg as per previous schedule leaving the hs to be last off

Bup/nx and Pain

Pain Medicine



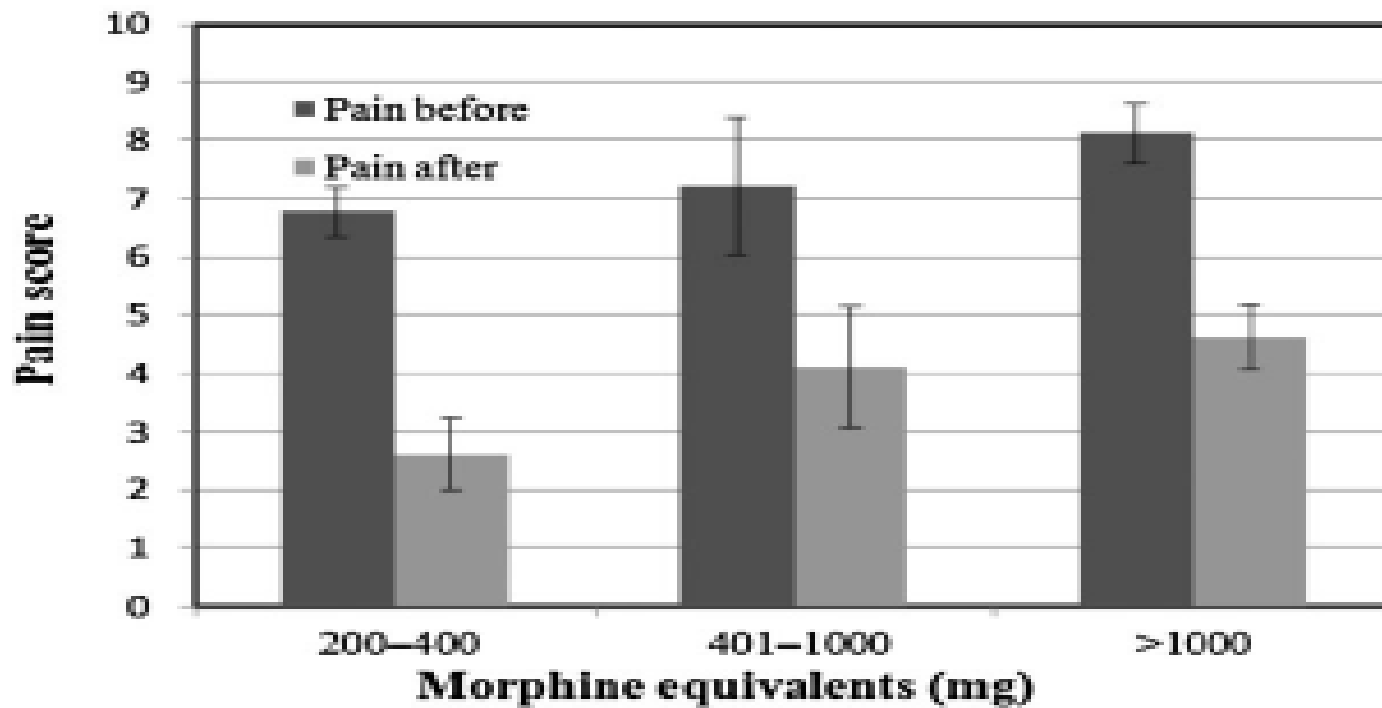
*Pain Medicine 2014; *: **-***
Wiley Periodicals, Inc.*

Conversion from High-Dose Full-Opioid Agonists to Sublingual Buprenorphine Reduces Pain Scores and Improves Quality of Life for Chronic Pain Patients

Daitch D et al. Pain Medicine. 2014

- Retrospective chart review of CNCP patients on over 200 MEDD
- converted from other opioids to bup/nx
- pain scores averaged 8/10 pre-conversion, 4/10 post conversion

Pre- and postconversion pain scores by pre-conversion morphine equivalents dosage



Co-management of SUD and Pain

- When an Substance Use Disorder is active, pain is much harder to treat due to dysregulation of all pathways involved with mood, pain, and behavioral reinforcement
- Must co-manage pain and addiction issues be it alcohol, cocaine or opioid use disorder
- No take home opioid doses if **any** active SUD
- No opioid prescribing if **any** alcohol use

Opiate Addiction

Abstinence

Counseling

Peer Support

Residential Treatment

Medications

Agonist

Methadone

Buprenorphine

Antagonist

Naltrexone

Medications are a fantastic tool, but if they are not working...

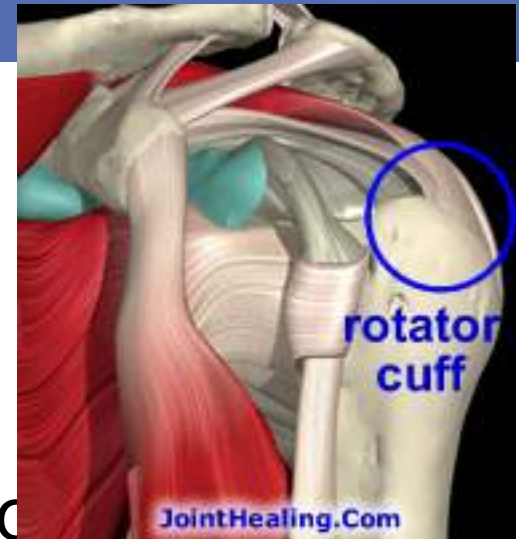
- Review the diagnosis – Repeat Hx/Px
- Screen for depression, anxiety, and PTSD
- Explore perception of disability & meaning
- Screen for a Substance Use Disorder
- Expand non-pharmacological treatments
- Ensure your prescribing is **safe**, **effective**, and cannot possibly do more harm than good
- Take an **empathetic, consistent approach**

Summary

1. Use non-opioid medications and therapies primarily
2. Rare use of opioids beyond acute setting
3. If restores function, use opioids with screening and monitoring and informed consent
4. Have an opioid exit strategy and recall these techniques of tapering and rotation

Case 3 - Ms. Z

- 55 yr. old care aid injured
- Rt. Shoulder pain, sleep and mood changes
- MRI – full thickness tear and atrophy of supraspinatus, a possible tear in subscapularis, tendonopathy in infraspinatus, fluid in the subacromial bursa and deltoid bursa
- Ortho suggested conservative management



Ms. Z. – cont.

- Tx – cortisone injections some help
- Mood – 2h sleep/night, anxious, tired
- PMH
 - Previous shoulder injury, resolved
 - Asthma
 - HTN
 - Hyperlipidemia
 - Obesity
 - Depression – “treated” for 12 years

Case 3 – Ms. Z, cont.

- Meds:
 - T#3 – 2 q3h up to 12/d, runs out early nb 50 pills given q2 wk = 3-4 pills a day allowed by prescription
 - T#1 – 3 q3h up to 18/d when out of T#3s
 - Clonazepam 0.25mg qam, 0.5mg noon, 0.25mg qpm, 1.5mg hs (dosing x 12 yrs)
 - Oxazepam 45mg hs (x 12 yrs)
 - Methylphenidate (Ritalin) 20mg tid when working, 10mg bid when off work (x 12yrs)

Ms. Z – cont.

- Meds – cont.
 - Trazadone 300mg hs
 - Chloral hydrate 500mg hs
 - Risperidone 1.5 mg hs
 - Rabeprazole (Pariet) 20 mg od
 - Montelukast (Singulair) 10mg hs
 - Salbutamol prn
 - Advair 1 puff bid

Ms. Z. – cont.

- Meds, cont.
 - Diltiazem CD 180mg od
 - Fosinopril 10mg od
 - Hydrochlorothiazide 25mg od
 - “Failed” + antidepressants, TCAs, neuromod.
 - So stimulant to wake, opiate and anxiolytic in day, and sedative-hypnotics and antipsychotic to sleep

Ms. Z – substance use hx

- Caffeine: 1c coffee q3d
- Tobacco: 1/2 ppd (from 1ppd), enjoyment
- Alcohol: current - 1drink q 1/2 - 2 wks (understands it is contraindicated), around 30 had 4-5 yrs of problems - once weekly 1 bottle of wine, kids taken in by cousins. Finally divorced, church, cut back on ETOH and got kids back
- Drugs: no reported use

Ms. Z – Px

Pleasant caucasian woman, slightly sedated

- Ht = 5'0" , wt = 230 lbs
- BP elevated
- Cradling right arm, head tilted to right
- Limited shoulder flex, abd., int. rotation
- Shoulder/arm strength reduced - pain limited
- Diffusely tender whole shoulder girdle

Ms. Z. - Dx

- Rt rotator cuff tear, tendonopathy, atrophy
- Mood changes & meds began when drinking and divorcing, still low, anxious, sleep disturbed
- Chronic pain disorder – physical and psych
- Overmedicated
- Substance use disorder – ETOH abuse/dep in remission with intermittent use

Ms. Z. – Dx – cont.

- Tobacco dependence
- Current opioid dependence vs pseudo-add.
- Asthma
- Hypertension
- Hyperlipidemia
- Obesity
- Positive work environment – social support

Ms. Z. – Recommendations

- Chronic pain program – guarded prognosis
- Taper methylphenidate to elimination
- Taper chloral hydrate, T#3, T#1
- Consolidate benzos and begin slow taper

Ms. Z. - Recommendations, cont.

- Discontinue alcohol,
- Hold or decrease cigarettes
- Physio + general conditioning & wt loss
- Psych support, self regulation training

- Call family MD and Psychiatrist

Ms. Z. – After 6 weeks in PMP

- Was able to completely come off methylphenidate, codeine (T#3, T#1), and chloral hydrate
- Clonazepam reduced to 1.5 mg hs
- Oxazepam reduced to 30 mg hs
- Same dose of trazadone 300mg hs
- Same dose of risperidone 1.5mg hs
- Off alcohol, nicotine <1/2ppd, +caffeine

Ms. Z. – 6 wks, cont.

- Lost 15 lbs
- BP normalized 125/76
- Sleep still 2-3 hrs/night, plus 4 hrs rest
- Activity increased – cardio: 45min from 10
- Improved head, neck & arm posture
- Improved shoulder ROM & strength
- Learned relaxation, breathing, mindfulness

Ms. Z. – 6 wks, cont.

- Pain “a little bit better, easier to deal with”
- Mood: “Gosh, a lot better and much clearer. I am much, much better than before... I am alive! I have more energy.”
- Beck depression scale went from severe range on intake to mild
- Doing a PMP has “given me my life back”

Ms. Z. – Recommendations on d/c

- Return to work (GRTW)
- Continue slow taper of clonazepam by 0.125 mg to 0.25 mg q 1-2 wks
- Then taper oxazepam by 15 mg q1-2 wks
- Then taper risperidone by 0.5mg q1-2 wks
- Leave trazadone 300mg hs for 6-12 months
- May have life long sleep disturbance – so temper the need to treat with meds
 - That said, tryptophan & melatonin yet to try

Ms. Z. – Follow up

- Successful completion of a GRTW – fit without limitations
- Happy to be back in the workplace with friends
- Continued to do well at home and work upon review 6 mo. post discharge

Ms. Z. - Reflections

- Addiction?
- Pseudo-addiction?
- Opioid induced pain sensitivity?
- Mood induced pain and disability?
- Or instead iatrogenic cause of dysfunction
 - Layering meds to offset side effects of the last one prescribed, and time pressure in office – trying to fix symptoms



Thank you!



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