

LIVING WITH CHRONIC PAIN

Jakun Ing, MD, MPH, Assistant Clinical Professor in Anesthesiology and Pain Management at UCLA School of Medicine discussed chronic pain management for patients with VHL. Pain can arise from VHL manifestations themselves (ie: back pain from kidney cancer) or from treatments (ie: pain associated with brain surgery recovery). Since

VHL patients may have multiple causes of pain, it is important to use a regimen that treats multiple causes, not just one. This is a summary of different drug classes and considerations, for example regarding kidney health, that may be especially important for VHL patients.

Class of drug	Example	Considerations
Opioids	Hydrocodone, fentanyl	Require good liver and kidney function; can cause dependence (addiction)
NSAIDs	Ibuprofen (Advil, Motrin)	Can cause kidney injury
Anticonvulsants	Gabapentin	Must decrease dose in patients with kidney problems
Acetaminophen	(Tylenol)	Unclear how much is "safe" for a patient in liver failure
Antidepressants	Duloxetine (Cymbalta)	Often an off-label treatment for pain
Muscle Relaxants	Baclofen, cyclobenzaprine (Flexeril)	Can be especially helpful post-surgery

Non-pharmacological therapies such as physical therapy, aqua therapy, acupuncture, and others may also be good options. Talk

with your care team to see what portfolio of therapies might be best for you

Von Hippel-Lindau Syndrome and Chronic Pain

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Goals

- Understand how Von Hippel-Lindau Syndrome causes chronic pain
- Understand treatments for chronic pain



Chronic Pain

- Chronic pain is defined as pain that lasts >3 months or past the time of normal tissue healing
- Chronic pain may be the result of underlying medical condition, injury, inflammation, medical treatment, etc.
- Chronic pain often has multiple generators

Dowell et al. CDC Guideline for Prescribing Opioids for Chronic Pain. JAMA. 2016;315(15):1624-1645.



How does Von Hippel-Lindau Syndrome cause chronic pain?

- Von Hippel-Lindau Syndrome leads to the formation of tumors or cysts throughout the body
- Locations can include eyes, brain, spinal cord, kidneys, pancreas, uterus



How does Von Hippel-Lindau Syndrome cause chronic pain?

- Nociceptive pain
 - Pain caused by release of inflammatory substances from tissue damage
- Neuropathic pain
 - Pain caused by nerve damage

How does Von Hippel-Lindau Syndrome cause chronic pain?

- Interventions can also lead to chronic pain
 - Surgery
 - Radiation therapy

Treatments for Chronic Pain

- Multiple pain generators usually mean that chronic pain is better treated with medications from different classes
- What are examples of these medications?

Treatments for Chronic Pain

- Opioid therapy
 - Codeine
 - Fentanyl
 - Hydrocodone
 - Hydromorphone
 - Meperidine
 - Methadone
 - Morphine
 - Oxycodone
 - Tramadol

Treatments for Chronic Pain

- NSAIDs
 - Celecoxib (Celebrex)
 - Diclofenac (Voltaren)
 - Etodolac (Lodine)
 - Ibuprofen (Motrin, Advil)
 - Indomethacin
 - Ketorolac (Toradol)
 - Meloxicam (Mobic)
 - Naproxen (Aleve)
- Acetaminophen

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Treatments for Chronic Pain

- Anticonvulsants
 - Gabapentin (Neurontin)
 - Pregabalin (Lyrica)
 - Carbamazepine
- Antidepressants
 - Duloxetine (Cymbalta)
 - Tricyclic Antidepressants (TCA)
 - Amitriptyline
 - Nortriptyline
 - Desipramine

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Treatments for Chronic Pain

- Skeletal Muscle Relaxants
 - Baclofen
 - Cyclobenzaprine (Flexeril)
 - Methocarbamol (Robaxin)
 - Tizanidine (Xanaflex)
 - Metaxalone (Skelaxin)

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Treatments for Chronic Pain

- Nonpharmacologic therapies
 - Physical therapy or aquatic therapy
 - Pain psychology
 - Biofeedback
 - Cognitive behavioral therapy
 - Acupuncture
 - Pain interventions
 - Nerve blocks
 - Neurolysis
 - Trigger point injections
 - Intrathecal pumps

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Opioids

- Widely used family of medications to treat acute and chronic pain
- Highly versatile
 - Short acting or long acting
- May be in combination medications
 - Norco/Vicodin, Percocet all have acetaminophen

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Opioids

- Multiple routes of administration
 - Oral
 - Intravenous
 - Intrathecal
 - Epidural
 - Rectal
 - Sublingual
 - Intranasal
 - Buccal
 - Transdermal

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Opioids

- Adverse effects
 - Constipation
 - Nausea
 - Pruritus
 - Sedation
 - Respiratory depression
 - Tolerance
 - Dependence

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Opioids

- Some opioids depend on good liver and kidney function to work appropriately
- ALL opioids have the potential to cause tolerance and dependence
- ALL opioids can be abused

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Opioids

- Minimization of opioids is always ideal to prevent complications
- May achieve this by adding non-opioid treatments
- Caution when using combination opioids (with acetaminophen)

Antidepressants

- Wide variety of medications which have properties of neuropathic pain medication
- These treatments are often off-label

Antidepressants

- Tricyclic antidepressants
 - Examples
 - Amitriptyline
 - Nortriptyline
 - Doxepin
 - Readily available and very effective off-label treatment for neuropathic pain

Antidepressants

- Side effects
 - Dry mouth
 - Blurry vision
 - Drowsiness
 - Tachycardia
 - Urinary retention
 - Orthostatic hypotension
 - Constipation
 - Weight gain
- Avoid in significant cardiovascular disease, glaucoma, symptomatic prostatic hypertrophy, GI dysfunction

Antidepressants

- Serotonin-Norepinephrine Reuptake Inhibitors (SNRIs)
 - Duloxetine (Cymbalta)
 - FDA approved for diabetic neuropathy, fibromyalgia, osteoarthritis, chronic back pain
 - Side effects: dizziness, nausea/vomiting, abdominal pain
 - Avoid in severe kidney or liver disease

Anticonvulsants

- Gabapentin
 - Very easy to obtain
 - Most effective if taken three times a day
 - Side effects: somnolence, dizziness, weight gain
 - Must decrease dose in patients with kidney problems

Anticonvulsants

- Pregabalin
 - Similar in mechanism to gabapentin
 - Renal impairment: must decrease dose

NSAIDs

- Highly versatile medications
 - Analgesia
 - Antipyretic
 - Anti-inflammatory

NSAIDs

- Short-acting
 - Ibuprofen, ketorolac
- Long-acting
 - Naproxen, meloxicam

NSAIDs

- Can cause GI upset
- Can cause kidney injury
- Can increase bleeding risk
- Can increase risk of heart disease in a patient who pre-existing heart disease

Acetaminophen

- Analgesic
- Antipyretic
- Mechanism of action not clearly understood
- May be taken safely if total intake is 3 grams a day
 - This includes opioid combination drugs!
- Limit alcohol intake!

Acetaminophen

- Unclear how much is “safe” for a patient in liver failure
- Beware combination analgesics (hydrocone-acetaminophen or oxycodone-acetaminophen)

Skeletal Muscle Relaxants

- Highly diverse group of medications with very different mechanisms of action
- Examples
 - Cyclobenzaprine, methocarbamol, tizanidine, baclofen, carisoprodol

Summary

- Chronic pain in a patient with Von Hippel-Lindau Syndrome should be approached using multimodal pharmacotherapy and a multidisciplinary approach
 - In other words, treated with medications from different classes as well as non-medication therapies!

Questions?

