When Too Much is Too Much: Reducing Opioid Use Through Multimodal Management

Jim DeMasi APRN, CPNP-AC/PC, AP-PMN
American Society for Pain Management Nursing
Webinar
February 23, 2022

Target Audience

• The overarching goal of PCSS is to train healthcare professionals in evidence-based practices for the prevention and treatment of opioid use disorders, particularly in prescribing medications, as well for the prevention and treatment of substance use disorders.

Educational Objectives

• At the conclusion of this activity participants should be able to:
  ▪ Review the 5As tool as a method of determining success in ongoing opiate therapy and its applicability with young people with Sickle Cell Disease (SCD)
  ▪ Differentiate possible etiologies to explain worsening pain and deteriorating function in adolescents with SCD
  ▪ Discuss ethical considerations, assumptions and biases seen in this population and how effective pain management is often impacted
  ▪ Understand our pediatric multi-modal approach at Children’s Medical Center Dallas
  ▪ Illustrate how changes in acute pain management for SCD can produce better outcomes in terms of both analgesia and functioning
Disclosures

• I have NO financial or personal disclosures

The content of this activity may include discussion of off-label or investigational drug uses.
The faculty is aware that is their responsibility to disclose this information.

Epidemiology of chronic pain in young people with sickle cell disease (SCD)

• By age 18, more than 55% of patients experience pain on more than half of days
• One third report pain on 95% of the days
• True prevalence of chronic pain in SCD is likely under appreciated because most patients manage their pain at home
• These young people often seek acute care for their underlying chronic condition, which is difficult to differentiate between acute occlusive crises
• No laboratory marker help with its distinction
• Chronic pain often associated with comorbid psychiatric illnesses such as depression and anxiety
• Challenging to get good sleep with pain, various somatic symptoms, chronic fatigue that often impairs quality of life

Problems Identified

• There is a very small number of older adolescent, SCD patients (10-15 patients) with frequent re-admission for pain that is refractory to standard treatment with poor outcomes
• Outcomes not improved with opiate escalation or rotation
• Pattern of frequent/prolonged admissions without return to function or school attendance between admissions
• Escalating behavioral problems during admission with verbal abuse of staff, throwing objects, non-compliance with recommended therapies
• Growing difficulty to obtain good patient centered care during the Covid-19 pandemic due to bed issues, fear of providers to admit those with SCD, socioeconomic factors impacting ability to access healthcare, loss of insurance, loss of job, etc.
• Lack of objective method of verifying pain etiology
  acute pain / VOC?
  chronic pain flare?
  opiate induced hyperalgesia (OIH)?
  opiate misuse / pseudoaddiction?
  mood problem?
• Barriers or preconceptions by practitioners caring for them
The 5A’s of Analgesia:
Measuring Success with Opioid Therapy

**ACTIVITY:** Poor functioning, sleeping during therapies, lack of self-care, poor nutrition without regular meals, minimal social involvement with peers

**ANALGESIA:** Poor pain relief, 10/10 pain score without improvement despite opiate escalation

**ADVERSE EFFECTS:** Sedation, Constipation, undesired side effects from prescribed medications (such as weight gain from SSRI)

**ABERRANT BEHAVIORS:** Demanding frequent early refills, demanding specific medications by name/routes, Resisting Changes to the Medication Regimen, Deteriorating Function, Using medications for non-pain treatment (relaxation, mood, euphoria, sleep assistance), Third party concerns about opioid use per parents/nursing or providers, Unauthorized dose escalation or lack of compliance with prescribed home regimen, Concurrent use of ETOH/Illicit Substances

**AFFECT:** Poor mood, Untreated anxiety/depression, Poor compliance with SSRI dosing and psychological support

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Etiology of Worsening Pain and Deteriorating Functioning

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Etiology of Worsening Pain and Deteriorating Functioning

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Etiology of Worsening Pain and Deteriorating Functioning

- Acute pain
- Chronic pain
- Loss of function

Genotype within the Environment in SCD

<table>
<thead>
<tr>
<th>Type</th>
<th>Clinical Features / Pathological Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>HbSS (Sickle Cell)</td>
<td>Acute vascular occlusion by sickled cells</td>
</tr>
<tr>
<td>HbSC (Sickle Cell</td>
<td>Chronic inflammation</td>
</tr>
<tr>
<td>genotype with</td>
<td></td>
</tr>
<tr>
<td>Thalassemia)</td>
<td></td>
</tr>
<tr>
<td>HbSD (Sickle Cell</td>
<td>Chronic inflammation</td>
</tr>
<tr>
<td>genotype with</td>
<td></td>
</tr>
<tr>
<td>Diamond-Blackfan)</td>
<td></td>
</tr>
</tbody>
</table>

Potential Pathophysiology

- HbF protective against effects of HbS
- Acute vascular occlusion and tissue ischemia by sickled cells
- Decrease in HbF accompanied by increased HbS
- Acute vascular occlusion and tissue ischemia by sickled cells
- Chronic inflammation

Changes in SCD Pain with Age:

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Manifestations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infancy</td>
<td>HbF elevated</td>
</tr>
<tr>
<td>Toddler</td>
<td>Minimal pain</td>
</tr>
<tr>
<td>Childhood</td>
<td>Acute intermittent pain and dactylitis</td>
</tr>
<tr>
<td>Adolescence</td>
<td>Splenic sequestration</td>
</tr>
<tr>
<td>Adulthood</td>
<td>HbF reaches nadir</td>
</tr>
<tr>
<td></td>
<td>Acute, intermittent pain events resulting in emergency department visits and hospitalizations</td>
</tr>
<tr>
<td></td>
<td>Continued acute, intermittent pain events resulting in emergency department visits and hospitalizations</td>
</tr>
<tr>
<td></td>
<td>Acute pain events increase in frequency</td>
</tr>
<tr>
<td></td>
<td>Length of hospital stay becomes longer</td>
</tr>
<tr>
<td></td>
<td>Chronic pain starts</td>
</tr>
<tr>
<td></td>
<td>Pain affects school attendance</td>
</tr>
<tr>
<td></td>
<td>Chronic daily pain is the norm</td>
</tr>
<tr>
<td></td>
<td>Acute intermittent pain crises continue, superimposed on chronic pain</td>
</tr>
<tr>
<td></td>
<td>Pain affects work attendance and employment</td>
</tr>
<tr>
<td></td>
<td>Higher rate of pain associated with increased mortality</td>
</tr>
</tbody>
</table>

Source: https://thalassaemia.org.cy/haemoglobin-disorders/sickle-cell-disease
Pain Crises More Frequent and Chronic Pain More Likely with Age

- Pain crises increase in number, duration and intensity as patients age
- May be in one or more location, might be non-specific “it’s everywhere”
- Patients require increasing dose/duration of opiates
- Pain becomes increasingly refractory to opiates
- Some patients develop opiate-induced hyperalgesia (OIH) which may lead to central sensitization
- Increased pain burden with age
- Chronic SCD pain is associated with functional and psychosocial morbidity including school absenteeism

Additional challenges for the readmitted child with SCD in comparison to “one and done” SCD admission

- Ischemic / Inflammatory / Neuropathic components
- Sources can include bony infarcts, avascular necrosis and leg ulcers
- Most SCD patients with chronic pain do not have an obvious anatomic source
- MRI changes suggest both peripheral and central nervous system abnormalities
- Hydroxyurea (Hydroxycarbamide) therapy is more effective for acute pain crises often with less benefit for chronic pain
- Some patients that have undergone BMT to cure the SCD continue with chronic pain >6 months post transplant
- If symptoms not mitigated, many young people go on to suffer as adults with chronic pain syndromes

Factors Associated with Risk of Developing Chronic Pain

- Vasculopathic Pain
- Central Sensitization
- Cyclic Optic Withdrawal

Factors associated with chronic pain include:
- Age
- Severity of initial crises
- Length of hospital stay
- Number of hospital admissions
**Opioid induced hyperalgesia in SCD**

This study published in The Journal of Pain categorized 83 patients with SCD based on quantitative sensory testing (QST) into a high or low central sensitization (CS) phenotype and compared clinical outcomes.

<table>
<thead>
<tr>
<th>No/low CS n=17</th>
<th>High CS n=21</th>
<th>Healthy Controls n=47</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients completed:</td>
<td>High CS patient group reported higher rates of:</td>
<td>Pain. 2016 May; 17(5): 617-627</td>
</tr>
<tr>
<td>• Quantitative Sensory Testing (QST) – Tests:</td>
<td>• Clinical pain</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Vaso-occlusive crises</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Catastrophizing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Negative mood</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Poorer sleep</td>
</tr>
</tbody>
</table>

Patients completed:
• Quantitative Sensory Testing (QST) – Tests thermal/mechanical temporal summation and allodynia
• Daily sleep diary
• Daily pain diary
• Weekly calls for 3 months
• Monthly calls for 12 months

High CS patient group reported higher rates of:
• Clinical pain
• Vaso-occlusive crises
• Catastrophizing
• Negative mood
• Poorer sleep

**Pseudoaddiction**

An iatrogenic syndrome of abnormal behavior developing as a direct consequence of inadequate pain management.

3 Characteristic Phases of Pseudoaddiction:

1. Inadequate prescription of analgesics to meet the primary pain stimulus
2. Escalation of analgesic demands by the patient associated with behavioral changes to convince others of the pain's severity
3. Crisis of mistrust between the patient and the health care team

**DSM-IV and DSM-5 Criteria for Substance Use Disorders**

<table>
<thead>
<tr>
<th>DSM-IV Criteria</th>
<th>DSM-5 Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. One or more abuse criteria within a 12-month period and no dependence criteria; applicable to all substances except nicotine, for which DSM-IV abuse criteria were not given.</td>
<td>a. Two or more abuse criteria within a 12-month period</td>
</tr>
<tr>
<td>b. Three or more dependence criteria within a 12-month period.</td>
<td>b. Three or more dependence criteria within a 12-month period</td>
</tr>
<tr>
<td>c. Two or more substance use disorder criteria within a 12-month period.</td>
<td>c. Two or more substance use disorder criteria within a 12-month period</td>
</tr>
</tbody>
</table>
Comparing Opiate Overdose Deaths in SCD vs Non-SCD Patients

<table>
<thead>
<tr>
<th>Year</th>
<th>Non-SCD Patients Who Died Due to OPI</th>
<th>SCD Patients Who Died Due to OPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>4300</td>
<td>6</td>
</tr>
<tr>
<td>2001</td>
<td>4,300</td>
<td>7</td>
</tr>
<tr>
<td>2002</td>
<td>4,301</td>
<td>8</td>
</tr>
<tr>
<td>2003</td>
<td>4,302</td>
<td>9</td>
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<tr>
<td>2004</td>
<td>4,303</td>
<td>10</td>
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<tr>
<td>2005</td>
<td>4,304</td>
<td>11</td>
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<tr>
<td>2006</td>
<td>4,305</td>
<td>12</td>
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<tr>
<td>2007</td>
<td>4,306</td>
<td>13</td>
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<td>2008</td>
<td>4,307</td>
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<tr>
<td>2009</td>
<td>4,308</td>
<td>15</td>
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<tr>
<td>2010</td>
<td>4,309</td>
<td>16</td>
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<tr>
<td>2011</td>
<td>4,310</td>
<td>17</td>
</tr>
<tr>
<td>2012</td>
<td>4,311</td>
<td>18</td>
</tr>
<tr>
<td>2013</td>
<td>4,312</td>
<td>19</td>
</tr>
</tbody>
</table>

Total: 174,462

Comparing Opiate Overdose Deaths in Non-Cancer Pain Disorders (1999-2013)

The Opiate Epidemic and SCD: Guilt by Association

- There exists a negative attitude toward SCD and profound fear of catering to an opiate addiction
- The belief that SCD patients are addicts results in under treatment of their pain
- Studies have shown that racial and ethnic minorities tend to be under-treated for pain further compounding the problem
- 63% of nurses believe patients with SCD are opiate abusers
- 53% of Emergency Room Physicians and 23% of Hematologists surveyed thought >20% of patients with SCD were drug addicts
What we can do is look for early signs of misuse

**Lower level behaviors more commonly seen:**
- Demanding more medication with frequent/early refills
- Demanding specific medications by name/route
- Resisting Changes to the Medication Regimen
- Deteriorating Function
- Using medications for non-pain purposes (relaxation, mood, euphoria, sleep)
- Third party concerns about opioid use per parents, providers/care team
- Unauthorized dose escalation or lack of compliance with prescribed regimen

**Higher level behaviors rarely seen:**
- Hoarding drugs
- Seeing multiple physicians/EDs for pain Rx
- Stealing or selling drugs
- Forgery of Rx
- Concurrent use of ETOH/Illicit Substances

*Study of AYA Hematology/Oncology Patients over 17 months:*
- 11.7% exhibited aberrant behavior
- Aberrant behaviors increased with use of multiple opiates simultaneously
- Biggest predictor of aberrant behavior was past or current mental health diagnosis

Due to the inherent subjectivity of pain, assessment and treatment decisions can easily be influenced by bias and emotion

- Are the patient's preferences in pain treatment (autonomy) given the highest priority?
- Does the patient benefit (experience good) from my pain treatment decisions?
- What can I do to protect the most vulnerable patient, treating his/her pain in the best possible way with respect and without discrimination (justice)?
- "Why do my white girlfriends pull out baggies of oxycodone for their migraines but I can't get pain medications after my surgery?"
- "This kid is fakin' it."
- "Jim, I turned off the PCA.  I just can't justify a kid getting pain medication when they are on their cellphones laughing."
- "We need to turn these pain medicines off... she is screaming too loud no matter what we do."
- "I am so tired of taking care of these people."
- "God knows what else they're using."
- "He looks like he smokes a ton of weed."

The Children’s Standard of Care

- Multimodal Treatment Plan Most Effective
- Promote Self-Management & Empowerment
  - Address pain-related disability
    - Goal of maximizing functioning
    - Improving quality of life
    - Partial or complete return to school
  - Educate the child and the family about the pain experience and the pain problem
  - Provide symptom-focused management addressing pain, sleep disturbance, anxiety, or depressive symptoms
- Goal of maximizing functioning
- Improving quality of life
- Partial or complete return to school

Multimodal Flow Process

Our team approach

- Individualized - based on changes or escalation of symptoms
- Intervention NOT dictated by pain intensity scores, but rather treatment individualized based on plan defined by the patient/family and the medical team with the goal of maximizing functionality
- Appropriate treatment of chronic pain problems requires a rehabilitative focus with patient participation
- Acknowledge patient and family concerns and fears
Case Study

- 17yo deaf female with Sickle Cell Disease (Hgb SS)
- Pt followed per pain service from 2019 to present (acute pain consult and chronic pain clinic)
- Pattern of frequent admissions (>10 admissions / 8 ED visits in 2020-1)
- Developed chronic pain that limited activities mainly to long bones and back, also with AVN to both hips and right knee
- Functional decline with reduced school attendance and socialization, had a new dog but is "young and dumb, prevents me from sleeping"
- Compounded with anxiety/depression and further inactivity
- Parental concerns (father deaf) that pt taking opiates for non-pain purposes: mood, sleep, pain
- Problems with sedation, constipation and lack of participation in care escalating
- Pt angry/non-cooperative with staff, demanding specific IV medications be pushed together with diphenhydramine (Benadryl)

Care Conference

- Hematology, Pain Management, Psychology, Social Work, Psychiatry, Nursing
- Questions regarding how long she will need to abstain from opiates
- Barriers to inpatient treatment program given comorbid SS, barriers to outpatient treatment with working parents, loss of healthcare and employment due to pandemic
- Many people resided in home, pt had no room to herself, would often be admitted to achieve "respite" from family, chronic fatigue; would often take higher doses of gabapentin to sleep
- Ethical concerns for how VOC pain will be managed in interim by parents and caregivers
- Incomplete documentation of aberrant behaviors by all teams over time
- End of patient trust in medical team and motivation to fully participate in his care
- Identified gaps in care leading to "revolving door" admissions
- Concerns with how ED visits will be handled, concerns about best method to flag his chart

Care Plan With all multidisciplinary teams

- PAIN/ADDICTIVE PSYCHIATRY: Determined that patient does not have an opioid misuse disorder but that patient's exposure to chronic opioids during readmissions was attributing to central sensitization. Everyone is of the opinion that the risks of opiate exposure now far outweigh the benefits and she was put on a 14 day taper to methadone to be followed by an opiate wash-out period. Pt will have an "allergy" to opiates added for now, indicating this is not a true allergy but that opiates are to be avoided unless through consultation with pain medicine program.
- HEMATOLOGY/PAIN: Pt was started back on hydroxyurea (Hydroxycarbamide) therapy. Compliance with gabapentin (Neurontin) / vitamin D (Ergocalciferol) was encouraged with understanding that levels will be checked to see if she has serum absorption. Added back escitalopram (Lexapro) following discussion that pt had only been on medication for period < 1 month
- PSYCHOLOGY: Motivational interviewing done with family around prioritizing substance treatment, aberrant behaviors, and social work assisted with transportation barriers. Hospital helped to hire sign language interpreter to assist with communication barriers and to maintain continuity of care.
- ED: She has not gotten any opiates outside of the Children's system in the past year, but we will continue to monitor this through the online database.
- ETHICS: We will hold for now on an ethics and legal consult regarding the withholding of opiates in SS patient.
- ENTIRE GROUP: Team met with patient to describe multifactorial problem and inability to continue on the current path given poor outcomes in terms of pain control and function, side effects and misuse behaviors. Emphasized that tolerance, opiate induced hyperalgesia and misuse are known complications of opiate therapy and not the patient's fault.
- HEMATOLOGY: Acknowledgement of pain paramount to assist moving forward with these kids.
- HEMATOLOGY: Beginning of transition to adult program at UT Southwestern NOW before she ineligible to come back to Children's Health.
Outcomes

- Pt remained off opiates completely following initial, appropriate taper which lasted a month for a period of ~3 months (Methadone)
- Pt's daily pain resolved within a month of discontinuing opiates
- Pt was compliant with hydroxyurea (Hydroxycarbamide) therapy for the first time in >5 years.
- Pain flares decreased over time (now needing to several days every 1-2 months and managed effectively with OTC analgesics (NSAIDS) and PRN muscle relaxer (methocarbamol))
- Admitted twice during this time for short duration and pain was controlled with moderate opioid (tramadol), new nonpharmacologic agents (physiotherapy), and nonpharmacologic treatments: PT, music therapy, psychological support, child life support.
- Pt was found to have significant social anxiety contributing to school avoidance, isolation and strained interactions with medical team. She is still NOT compliant with psychological support BUT is with psychotropic agent.
- Pt is working on taking a family trip to Louisiana for an entire month over the summer and is working on getting her GED.
- Pt was found to have significant social anxiety disorder contributing to school avoidance, isolation, and strained interactions with medical team. She is still NOT compliant with psychological support BUT is with psychotropic agent.
- Pt continues to remain noncompliant with physical therapy sessions or does she participate in daily exercise.
- Transition to adult sickle cell disease program will occur on her 19th birthday.
- Pt was found to have significant social anxiety disorder contributing to school avoidance, isolation, and strained interactions with medical team. She is still NOT compliant with psychological support BUT is with psychotropic agent.
- At last clinic apt, pt was working towards starting summer school and possibly her GED if Dallas ISD does not agree to allow her to enroll a second time for senior year.
- Pt was found to have significant social anxiety disorder contributing to school avoidance, isolation, and strained interactions with medical team. She is still NOT compliant with psychological support BUT is with psychotropic agent.
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Upstream Management

- Early identification of “Unique Disease” patients
- Focus on multidisciplinary/multimodal treatment, function and opiate reduction
- Modified SCD pain admission order-set
- Automatic consult: Pain Management, PT, Psych, Social Work, Child Life, Music Therapy, Massage
- Daily schedule to focus on function
- Medication management with adjuvants, non-observables, SSRIs
- Opiate reduction, focus on oral pain regimen, limiting opioid Rx for home use
- Reconsideration for hydroxyurea (Hydroxycarbamide)
- Increased monitoring, tracking of aberrant behavior
- Early consultation with addiction medicine and referral for treatment

Schedules are important for everyone especially our SCD friends
### Hydroxyurea (Hydroxycarbamide) therapy benefits

- Decreased frequency of VOCs and Acute Chest Syndrome
- Improved quality of life
- Decreased morbidity/mortality
- Decreased opiate consumption during crises
- Decreased length of hospital stay by 2 days on average

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### Gabapentin (Neurontin)

- There is emerging evidence that vaso-occlusive pain has both nociceptive and neuropathic components:
  - Pain episodes become more frequent
  - Repeated hypoxia/reperfusion injury, ischemic tissue damage and inflammation
  - Chronic pain develops
- Repeated and frequent pain stimuli sensitive the supraspinal areas responsible for nociceptive processing
- Causing them to become more active with future pain stimulation
- Decreasing the nociceptive threshold for pain processing
- Gabapentin (Neurontin) has been shown to decrease hospital admissions and provide opiate sparing for adolescents with frequent/chronic pain
- It’s effectiveness and low incidence of side effects encourage more frequent use of gabapentin (Neurontin) for refractory SCD pain

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### Ketamine

- NMDA Receptor Antagonist, Dissociative Anesthetic with potent analgesic properties
- Central sensitization: noxious stimulation leads to the opening of NMDA receptors and hypersensitivity of dorsal horn neurons, leading to increased sensations of pain/hyperalgesia.
- Opioid tolerance develops via activation of the NMDA receptors as well, resulting in the down-regulation of opioid receptors.
- Can prevent the development of opioid tolerance; reduces central sensitization and facilitates better pain relief providing opiate
- Ketamine is cheap, safe, readily available drug, with analgesic effects at sub-anesthetic doses and has been successfully used for moderate to severe sickle cell crisis pain, cancer pain.

#### Table: Ketamine vs Morphine

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Ketamine</th>
<th>Morphine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain relief score</td>
<td>66.4%</td>
<td>61.3%</td>
</tr>
<tr>
<td>Time to maximal effect</td>
<td>19.8min</td>
<td>34.1min</td>
</tr>
<tr>
<td>Duration of maximal effect</td>
<td>60min</td>
<td>120min</td>
</tr>
<tr>
<td>Incidence of side effects</td>
<td>37.5%</td>
<td>3.3%</td>
</tr>
<tr>
<td>Treatment failure</td>
<td>28.3%</td>
<td>40%</td>
</tr>
<tr>
<td>Vital signs/sedation</td>
<td>similar</td>
<td>similar</td>
</tr>
</tbody>
</table>

240 patients were enrolled, ages 7–18 years of age with severe painful sickle cell crisis (numerical rating score of greater than or equal to 7).
- Patients were consented and randomized to receive, either IV ketamine 1 mg/kg (120 patients) or IV morphine 0.1 mg/kg (120 patients)
- Demographic and baseline numeric rating scale (NRS) scores were similar in both groups.
Dexmedetomidine (Precedex)

- Highly selective α2-adrenergic agonist.
- Works by decreasing activity of noradrenergic neurons in the locus ceruleus in the brain stem, thereby increasing the activity of inhibitory gamma-aminobutyric acid (GABA) neurons in the ventrolateral preoptic nucleus.
- Has analgesic effects at the spinal cord level and other supraspinal sites.
- Can be used as an adjunct medication to help decrease the opioid requirements while still providing analgesia.
- Unlike opioids and other sedatives, it is able to achieve its effects without causing respiratory depression.
- Sedation mirrors natural sleep. Patients are often not sedated at lower doses and can be easily aroused when they are sedated.

Adjunctive medications that need to be studied in SCD

- Methadone
- SSRI
- SNRI
- Topiramate: especially with migraine comorbidity
- Naloxone
- Subloxone: Good paper in Blood 2019 for adults with sickle cell disease
- Crizanlizumab

Thank you!!

Questions ya'll??

I would like to thank the staff and my team at Anesthesia For Children, UT Southwestern Children's Health Pauline Allen Gill Center for Cancers and Blood Disorders for their continued support and friendship.

A special thank you for Alicia Harding, RN, CPNP-FAANP, AP-PMN for help with these slides.

Thank you to the wonderful children and young adults in our sickle cell population who allow us to care for them each day.
References

- American Society of Hematology Education Program. 2020 December; (1) 562-3.
- Slide 16: American Society of Hematology Education Program. 2020 December; (1) 562
- Slide 17: Damjanov, I. Clinicopathologic findings in sickle cell anemia. The findings are a consequence of infections, anemia, hemolysis, and recurrent infarction. 2000.
- Slide 19: American Society of Hematology Education Program. 2020 December; (1) 562

PCSS Mentoring Program

- PCSS Mentor Program is designed to offer general information to clinicians about evidence-based clinical practices in prescribing medications for opioid use disorder.
- PCSS Mentors are a national network of providers with expertise in addictions, pain, evidence-based treatment including medications for opioid use disorder (MOUD).
- 3-tiered approach allows every mentor/mentee relationship to be unique and catered to the specific needs of the mentee.
- No cost.

For more information visit: https://pcssNOW.org/mentoring/
PCSS Discussion Forum

Have a clinical question?

Ask a Colleague

A simple and direct way to receive an answer related to medications for opioid use disorder. Designed to provide a prompt response to simple practice-related questions.

http://pcss.invisionzone.com/register

PCSS

PCSS is a collaborative effort led by the American Academy of Addiction Psychiatry (AAAP) in partnership with:

- Addiction Technology Transfer Center
- American Academy of Addiction Psychiatry
- American Academy of Family Physicians
- American Academy of Pediatrics
- American Pharmacists Association
- American Academy of Pain Medicine
- American College of Emergency Physicians
- American Medical Association
- American Osteopathic Academy of Addiction Medicine
- Association for Multidisciplinary Education and Research in Substance Use and Addiction
- American Society of Addiction Medicine
- American Society for Pain Management Nursing
- National Association for Community Health Centers
- National Council for Mental Wellbeing
- The National Judicial College
- American Academy of Pediatrics
- Council on Social Work Education
- International Nurses Society on Addictions
- National Association of Social Workers
- Society for Academic Emergency Medicine
- Society for Academic Emergency Medicine
- Physician Assistant Education Association
- Society for Academic Emergency Medicine

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