



COMLEPXITIES OF ACUTE PAIN MANAGEMENT ON A BURN PATIENT



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INTRODUCTION

Burn pain can be especially difficult to treat due to the multitude of procedures, dressing changes, medication adverse effects, pain control dissatisfaction, preordained expectation about procedures and pain management. This is apparent in patient with lower percentage of TBSA as they do not meet criteria to stay intubated under sedation. Furthermore, their acute pain can progress to chronic pain, anxiety, depression, physiological and psychological stress over long admissions. We aim to demonstrate our best efforts to manage burn pain on a 32-year-old male with 15% total body surface area (TBSA) over the course of a 36-day admission.

CASE STUDY

32 yo male with 15% TBSA mixed partial and full thickness to his bilateral upper extremities, face, anterior neck and chest after a generator explosion at work.. Over the course of his 36-day admission, the patient underwent 7 operative procedures, multiple escharotomies, dressing changes, hydrotherapy sessions, split thickness skin harvests and grafts. Challenges:

- Frequency of procedures
- Mental component i.e Depression, anxiety
- Long admission
- Medication adverse effects i.e Tolerance, dependence, Hallucinations
- Staffing challenges
- Family pressure

INTERVENTIONS

We incorporated a multimodal approach utilizing medical management with acetaminophen, ketorolac, ibuprofen, gabapentin, oxycodone, intravenous and oral hydromorphone, oral and intravenous methadone, intravenous ketamine infusion and lidocaine infusions (4). In addition, we performed peripheral nerve blocks and catheters to cover both burn and skin graft sites over the course of his admission. Peripheral nerve blocks included: Supraclavicular, Femoral, Lumbar Plexus sometimes with continuous catheters.

We evaluated satisfaction by using the Numerical Rating Scale, vital signs, demand and delivery assessment from PCA pumps.

The Pain service was available to the nurses 24 hours a day for quick adjustments to the pain regimen and see the patient if pain continued to be uncontrolled (3).

FIGURES/IMAGES

PNB

s/p L SS Lumbar plexus nerve block with ropivacaine 0.5% 20cc
s/p SS Femoral Nerve Block (Left) - 9/1/2023
d/c Right Supraclavicular Nerve Block with catheter - (9/1/2023-9/4/23)
Left Femoral nerve catheter - (9/13-9/16)

- Cont MMA:

- Discontinue Ketamine
- Methadone 10mg IV Q12H , from Q8
- Acetaminophen 1000mg Q6H
- Toradol 15mg Q6H
- Dilaudid 1mg/2mg PO Q4H PRN for moderate and severe pain
- Dilaudid 0.2mg Q2H for breakthrough
- Will titrate as tolerated

- Acute pain will follow

SUMMARY

Predominantly affects patient with lower percentage of TBSA (3).

An understanding of burn pain is to plan your approach to pain control through the phases of injury, treatment and recovery (1).

1. Background pain stems from underlying thermal injury (1). 2. Procedural pain, brief and intense

3. Breakthrough pain describes unexpected spikes of pain that occur when background analgesic effects are exceeded, either at rest, during procedures and muscle spasms, or with stress and anxiety (1).

4. Chronic pain, most commonly neuropathic

This helps to tailor a wholistic multimodal approach to pain management.

Summary:

- A good history and physical exam
- Close communication between the surgical and pain -
- We recommend this opportunity also be used to set expectations.
- Multimodal pain approach with all available tools in your arsenal
- Frequent assessment and reassessment (5)
- Well thought and planned de-escalation pian

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