

Rapid Conversion of High Dose Oxycodone to Buprenorphine with Ketamine and Lidocaine Infusion in Complex Regional Pain Syndrome

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Table 1: Summary of Medication Changes

Admission Day	Oxycodone Extended Release	Oxycodone Immediate Release	Hydromorphone PCA	Ketamine Infusion (mg/hr)	Lidocaine Infusion (mg/hr)	Buprenorphine (SL, mg)	24 Hour Morphine Equivalent Dose (buprenorphine excluded)
1	80 mg TID, 60 mg PRN Daily	30 mg prn q4hrs prn	None	10 in the morning, increased to 20	1	None	585
2	80 mg TID, 60 mg PRN Daily	30 mg prn q4hrs prn	None	25	1	None	585
3	40 mg BID	Discontinued	0.2mg per dose with 6 minute lockout for a total of 2mg	50	1	None	185
4	20 mg BID	Discontinued	0.2mg per dose with 6 minute lockout for a total of 2mg	35	1	None	175
5	Discontinued	Discontinued	0.2mg per dose with 6 minute lockout for a total of 2mg	35	1	Trial 2mg once then 2mg BID*	100
6	Discontinued	10 mg prn q4hrs for withdrawal	Discontinued	36	1	Trial 2mg once then 4mg BID**	60
7	Discontinued	Discontinued	Discontinued	Discontinued	Discontinued	4mg TID with 2 mg prn q12h	15
Outpatient	None	None	None	None	None	8mg TID with 2mg prn q12h	0

*Buprenorphine not administered

**Patient only received 2mg in the afternoon due to withdrawal symptoms, given a one-time dose of 10mg oxycodone with relief

Introduction

- Despite having an adverse side effect profile, physicians continue to encounter patients on high dose opioid regimens
- The inpatient setting allows for a monitored, controlled transition from high-risk opioid regimen to safer alternatives upon discharge

Case Description

- 44-year-old female with a complex medical history including CRPS admitted for worsening extremity pain
- Outpatient opioid medications included oxycodone 80 mg ER TID, an additional oxycodone 60 mg ER daily, and oxycodone 30 mg IR q4hrs prn (585 ME)
- Initial treatment of hydromorphone PCA, lidocaine infusion, and a ketamine infusion, with clonidine and lorazepam prn for side effects
- Weaning of oxycodone began on the 3rd day of admission
- Oxycodone ER was reduced to 40 mg BID on the 1st day of the conversion, 20mg BID on the 2nd day, and then discontinued on the 3rd day
- Buprenorphine was started on the 3rd day of weaning
- The patient tolerated conversion with one instance of withdrawal symptoms after receiving 2mg of buprenorphine
- Patient was discharged on buprenorphine 4 mg TID with 2mg prn. This was increased to 8mg TID as an outpatient and she continues this regimen

Discussion

- Chronic opioid use (1-3):
 - increases risk of adverse respiratory events
 - increases rate of re-admissions
 - increases risk of developing Opioid Use Disorder
 - suppresses immune function
 - causes hyperalgesia
 - leads to overutilization of healthcare resources
- Buprenorphine has a superior side effect profile given its a selective mu receptor agonist and kappa receptor antagonist (4). Most patients initiated on buprenorphine in the hospital will fill their first prescription as an outpatient (5)
- Despite complex barriers to conversion, patients can transition to safer opioid options rapidly using ketamine and lidocaine infusions to both treat underlying pain conditions and stave off withdrawal symptoms

References

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