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PHAX

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Methadone for Pain

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Methadone, a potent opioid agonist, has many characteristics that make it useful for the treatment of pain when continuous opioid analgesia is indicated. Although available for decades, its use has gained renewed interest due to its low cost and potential activity in neuropathic pain syndromes. Unlike morphine, methadone is a racemic mix; one stereoisomer acts as a NMDA receptor antagonist, the other is a mu-agonist opioid. The NMDA mechanism plays an important role in the prevention of opioid tolerance, potentiation of opioid effects, and efficacy for neuropathic pain syndromes, although this latter impression is largely anecdotal.

Methadone is highly lipophilic with rapid GI absorption and onset of action. It has a large initial volume of distribution with slow tissue release. Oral bioavailability is high, ~ 80%. Unlike morphine there are no active metabolites; biotransformation to an active drug is not required. The major route of metabolism is hepatic with significant fecal excretion; renal excretion can be enhanced by urine acidification (pH <6.0). Unlike morphine, no dose adjustment is needed in patients with renal failure since there are no active metabolites. Methadone is available in tablet, liquid and injectable forms; oral preparations can be used rectally. Parenteral routes include IV bolus dosing or continuous infusion.

Unlike morphine, hydromorphone or oxycodone, methadone has an extended terminal half-life, up to 190 hours. This half-life does not match the observed duration of analgesia (6-12 hours) after steady state is reached. Rapid titration guidelines for other opioids do not apply to methadone. An important property of methadone is that its apparent potency, compared to other opioids, varies with the patient's current exposure to other opioids.

HospiceCare of Boulder and Broomfield Counties is highly experienced in the use of Methadone for pain management. HospiceCare is available as a resource for attending physicians and can provide Palliative care consults to advise on symptom management and complex palliative care issues or treatment (303-449-7740).

References

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