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Methadone Use in Palliative Care Patients

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Methadone is increasingly being used for palliative care patients for pain management. Physicians are "rotating" opioids to help reduce opioid side effects, and help increase pain response due to tolerance of another opioid. Methadone has been compared to other opioids in studies in which it has been rotated with another opioid. The studies compared the adverse effects, cost, and the rate of success to achieve adequate pain management.

**Methadone Use in Palliative Care Patients**

Kim Ruprecht, RN, OCN; Medical and Oncology Unit

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### Methadone Use in Palliative Care Patients

- Shown to be first line analgesic for cancer pain.
- Best choice for opioid naive.
- Hepatic metabolism and renal elimination.
- Price ranges according to international price of poppy (can make it unaffordable in developing countries).
- Naturally derived from the poppy.
- Wide availability.
- Varied formulations of dosing.
- High incidence of adverse effects such as constipation, nausea, myoclonus and sedation which results in polypharmacy.

### Methadone IV Administration:

- Sedative effects will increase with IV Methadone infusion over the first 12 hours after initiation and increasing the infusion.
- The infusion should not be increased during the initial 12 hours.
- Give PRN doses for breakthrough pain.

### Methadone Cardiac Toxicity:

- In studies, it was not confirmed that oral Methadone can cause cardiac toxicity.
- There is a direct correlation between IV Methadone and QT wave prolongation.
- It is suggested to routinely perform electrocardiograms prior to initiating the infusion, 24 to 72 hours later, and again 24 to 72 hours after each increase in the dose.
- Monitor electrolytes, especially potassium.

### Methadone Nursing Considerations:

- The general rule for Methadone is, “Start Low, Go Slow.”
- Dosing increases should not be made more frequently than every 5-7 days.
- Monitor for excessive drowsiness, unsteadiness, or confusion during the first 3 to 5 days, and notify the physician if effects persist or worsen beyond this time.
- Monitor patients with head injuries or other conditions that may increase intracranial pressure (brain tumors) because methadone may further increase intracranial pressure.
- Monitor patients for cardiac arrhythmias, hypotension, and vasovagal syncope because methadone may cause cholinergic effects in patients with cardiac disease, resulting in bradycardia and peripheral vasodilation.

### Conclusion:

Methadone can be a superior analgesic for some palliative care patients, but Morphine continues to be the first line opioid recommended due to its effectiveness. Methadone and Fentanyl have shown to be quite comparable in effectiveness, and physicians are increasing the use of these two opioids. However, it is suggested that Methadone be studied further as a first line opioid for cancer pain.

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**Opioid rotation of Morphine and Methadone: Adverse effects**

<table>
<thead>
<tr>
<th>Morphine</th>
<th>Methadone</th>
<th>Fentanyl</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constipation</td>
<td>Decreased Nausea / Vomiting</td>
<td>In Alertness</td>
</tr>
<tr>
<td>Nausea / Vomiting</td>
<td>Fewer instances of constipation</td>
<td></td>
</tr>
<tr>
<td>Sedation / Drowsiness</td>
<td>Decreased Nausea / Vomiting</td>
<td></td>
</tr>
</tbody>
</table>

* In one study, switching from oral to subcutaneous morphine produced less drowsiness and nausea / vomiting.

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**Methadone Use in Palliative Care Patients**

- Use is increasing among physicians, but not all respond well to this drug.
- Decreased adverse effects compared to morphine—reduces polypharmacy.
- Good choice as second line opioid when loss of responsiveness to another opioid.

Fentanyl and Methadone are comparable in the effectiveness of pain management and the amount of adverse effects.

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**REFERENCES:**


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