

Sublingual Fentanyl Citrate

For the Management of Incident Pain:

Clinical Practice Guideline

Preamble

Pain is a common symptom. In Alberta, 60,000 individuals (2.3%) suffer with chronic pain while in Calgary severe, disabling chronic pain is experienced by 17,000 persons (3%) aged 18-64 years. (AHW, 2003) The Alberta Improvement on MSK Dysfunction study indicates that 65% of those 65 or older experience OA and that 33% of those have pain. (Institute of Health Economics).

Pain that occurs suddenly on a background of controlled pain is called breakthrough pain.

There are three types of breakthrough pain: **end of dose failure**, **idiopathic pain**, and **incident pain**. Pain due to end of dose failure occurs toward the end of the scheduled dosed medication. Regularly occurring end of dose failure is usually managed by increasing the dose of the regularly scheduled medication or decreasing the interval between the doses.

Idiopathic pain is pain that is unpredictable. It is usually treated by giving a short acting opioid preparation at a dose of 5-20 % of the regularly scheduled opioid.

Incident pain is defined as an exacerbation of pain as a result of a predictable action or activity. A thorough pain assessment should be done to determine whether there is a new

mechanism of pain responsible for the incident pain, and whether it is amenable to disease modifying therapy (treat infection, orthopedic fixation for fractures, etc.) After a thorough pain assessment is complete, if the total baseline amount of opioids is not effective in controlling pain, then either an increase in total opioid dosage by 25-50% depending on the severity of the pain with or without the addition of an appropriate adjunct analgesic therapy should be considered.

The goal of treating incident pain is to manage the pain associated with activity without giving the patient additional side effects. One approach to managing this is to give the patient's regular breakthrough medication, again in the usual range of 5-20% of the total daily opioid dose, prior to anticipated incident pain. The disadvantages of this approach are: (1) there may be a time delay of 30-60 minutes to peak analgesic effect, and (2) typical immediate release opioids will have a duration of action of several hours, likely longer than the duration of the incident pain, and increasing the possibility of opioid-related adverse effects or toxicity once pain has returned to baseline. Similar concerns apply, particularly regarding adverse effects or increased likelihood of opioid-related toxicity, if the problem is approached by increasing the patient's regularly scheduled opioid when the baseline pain is already controlled. A better approach is to treat incident pain with an opioid that matches the temporal pattern of that pain – this will generally mean using an opioid with fast onset of action and relatively short duration of activity. Sublingual fentanyl citrate has a quick onset (a few minutes) and short duration (usually in the range of 15-45 minutes) of activity.

Introduction

The purpose of this protocol is to effectively manage severe incident pain refractory to increasing doses of usual analgesics with short acting opioids, or where increasing doses of usual analgesics results in unacceptable adverse effects. The overall goal of using sublingual fentanyl, once the patient's regular opioids have been optimized and appropriate analgesic adjuncts used, is to have the patient tolerate painful anticipated activities and not to have incident pain prevent necessary activities. Sublingual fentanyl use could be considered in anticipation of the following:

- Transfers
- Painful anticipated movements/ ambulation
- Bathing
- Garment changes
- Dressing changes
- Bowel Disimpaction
- Therapy

Note: Background persistent pain should be treated with long acting opioids.

This protocol is intended for use on adults and excludes the pediatric population. This protocol does reflect the off-label use of sublingual fentanyl for incident pain.

Fentanyl Citrate **should not** be used sublingually in patients in the following situations:

- 1) Unable to hold the medication sublingually for 5 minutes or less. In such a circumstance, fentanyl citrate may be given subcutaneously instead of sublingually. If subcutaneous fentanyl is chosen however, a dose may be given even earlier than 5 minutes prior to the anticipated painful activity as the time of onset of analgesia of subcutaneous fentanyl is unknown.
- 2) Decreased level of consciousness because of risk of aspiration
- 3) If they do not have incident pain
- 4) If there is an allergy to fentanyl citrate.

Note: Decrease saliva production can delay absorption of sublingual fentanyl

Side effects include drowsiness, sedation, nausea, and vomiting. These side effects are more prominent in patients not experiencing severe pain. Respiratory depression is a dose dependent side effect. It could potentially occur with an initial fentanyl dose greater than 200 mcg intravenous. The side effects of fentanyl are minimal when the protocol is followed, allowing patients to “find their own” effective and safe dose.

Onset and Duration of Action

The parenteral form of Fentanyl can be used subcutaneously or sublingually depending on the person's ability to manage sublingual administration. For the purposes of this clinical practice guideline only the sublingual form of Fentanyl is considered. The benefits of fast acting and ultra-short lasting opioids for "incident" pain are that the medication may be given minutes before a planned activity to avoid pain, and it minimizes the lingering adverse effects of a long acting opioid for breakthrough pain when the patient is at rest. The onset of action is approximately 5-15 minutes. The peak effect occurs within 20 minutes. The duration of action has a maximum effect up to 45 minutes.

Steps of the Incident Pain Protocol

Before applying the Incident Pain Protocol, the dose of the around-the-clock opioid should be maximized and other appropriate adjunct analgesics included as necessary. This protocol uses a stepwise approach to reduce incident pain. In a frail elderly patient who is opioid naïve, start at Step 1 with careful monitoring. These patients are typically not opioid tolerant; respiratory depression, although minimal with step 1 of this protocol, should be assessed. If the patient is opioid tolerant, then start at Step 2. If pain is not controlled on the current step, then titrate up to the dosage required for optimal effect.

Step 1: Fentanyl 12.5mcg (0.25 mL of 50ug/mL parenteral solution)

Step 2: Fentanyl 25 mcg (0.50 mL of 50ug/mL parenteral solution)

Step 3: Fentanyl 50 mcg

Step 4: Fentanyl 100mcg (2 ml volume may necessitate giving the medication in 2 doses of 50mcg/1ml at an interval 5-10minutes apart)

Application of the Incident Pain Protocol

- 1) The fentanyl citrate is administered sublingually 5-10 minutes prior to an anticipated activity (See Steps of Incident Pain Protocol for doses). For sublingual administration, the patient is asked to hold the medication liquid under the tongue for about 5-10 minutes without swallowing it. If the medication is swallowed, it will not be effective (less medication will reach the systemic circulation, onset of action will be delayed, and half-life will be prolonged).
- 2) If a given dose is sufficient, the patient will be comfortable. After 5-10 minutes, if the initial dose appears to be insufficient, then that same dose may be repeated up to two further doses, at 5-10 minute intervals.
- 3) Consider moving to the next step of the protocol if the maximum number of doses (three) is required to achieve comfort, or is insufficient to achieve comfort. One may move to the next step of the protocol after one hour of the last dose of fentanyl. The physician should be contacted before proceeding to the next step of the protocol.
- 4) If the Incident Pain Protocol is ineffective in controlling pain, then an alternative route of analgesia should be considered.
- 5) The Incident Pain Protocol may be used up to q1h prn. The effectiveness of the intervention should be monitored utilizing a pain flow sheet.
- 6) The Incident Pain Protocol should be reserved for the most painful anticipated activity for patients. Once an effective dose is found with acceptable side-effects, sublingual fentanyl should be limited to four or fewer doses per day.

Reference:

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