Practice sting 2024-11

Practice sting Forgetting to remove the Fentanyl patch

This practice sting is particularly interesting for pharmacists, nurses and caregivers.

VMI regularly receives notifications about fentanyl patches that healthcare providers forget to remove. The package leaflet states that an old patch must first be removed before a new one is applied. The notifications below show that a forgotten patch can lead to serious side effects or even opioid intoxication.

Notifications

1. A patient uses two fentanyl patches with a total dose of 75 micrograms, one of 50 micrograms and one of 25 micrograms. The nurse places the plasters next to each other on the right shoulder blade. The physician increases the dose to 100 micrograms in the evening due to persistent pain. Both patches should be replaced with one 100 microgram patch. The next morning the patient is very nauseous and has had bad dreams. There is a 100 microgram patch on the left chest, and a 50 microgram patch remains on the right shoulder blade.
2. The physician increases the dose of fentanyl patches for a patient from 12.5 micrograms to 25 micrograms due to pain. The patient is also taking oxycodone tablets in addition to the fentanyl patch. After the increase, the patient becomes increasingly drowsy during the day and in the evening he is no longer responsive and does not respond to pain stimuli. The emergency room physician diagnoses opioid intoxication, after which the patient is administered naloxone. A day later, it turns out that the patient still has a five-day old 12.5 microgram fentanyl patch under his collarbone. When the fentanyl dose was increased, a new 25 microgram patch was placed, but the old 12.5 microgram patch was not removed. The total dose therefore exceeded the target dose of 25 micrograms.

Analysis

In both reports, the healthcare provider forgets to remove an 'old' fentanyl patch. Matrix and depot patches are known to continue to release drug to some extent after the recommended period of use. For fentanyl patches, the recommended duration of use is three days. Preparations of other transdermal opioids, such as buprenorphine, are available with a recommended duration of three, four or seven days. The SmPCs of these products state the amount of medicine that the patches contain, and the release rate. It is not known how long the release of fentanyl and buprenorphine continues after exceeding the recommended duration of use and at what release rate. It is known that not all the medicine will come out of the patch.
A few examples:

- Fentanyl patch 12 µg/hour from Sandoz
  Each patch contains a total of 2.1 mg fentanyl. This patch releases 12*72 = 864 micrograms during the recommended period of use of 72 hours (=3 days). An 'old' patch still contains 1,236 mg fentanyl, which is 59% of the total.
- Buprenorphine patch 5 µg/hour from Mylan
  Each patch contains a total of 5 mg buprenorphine. This patch releases 5*168 = 840 micrograms during the recommended period of use of 168 hours (=7 days). An 'old' patch still contains 4.16 mg buprenorphine, which is 83% of the total.

Question for pharmacists, nurses and caregivers

In order to learn from each other, VMI would like to receive your answers to the questions below.

1. How do you ensure that 'old' medicine patches are removed?
2. Do you have any useful tools for this?
3. If not, do you have any ideas about what such a tool should look like?

Please, send your answers to vmi@ivm.nl