CPER digest February 2017

You and your partner are called to a residence for a 34 year old female, unconscious. Upon your arrival, after donning your appropriate PPE, you find a female patient, lying supine in bed, GCS 3. The patient's sister tells you that she had gone for a nap about 3 hours ago. She came in to check on her and found her with vomit all over her pillow and blanket. She states that the patient was involved in a serious car accident six months ago which resulted in chronic back and hip pain. The patient has no other medical history and takes oxycodone and hydromorphone, both of which have recently had their doses increased. You assess the patient and find her to be unconscious, GCS 3, HR – 114bpm, weak, regular, RR – 6/min, shallow, BP - 108/65, SP02 – 85% on room air, pupils – 2mm, pale, cool skin with capillary refill of approximately 4 seconds. Your patient shows sinus tachycardia on the monitor. You find her medication bottles as above and no other medications or toxins. You also realize that the patient's presentation could represent a diabetic emergency and perform a blood glucose level check (5.8mmol/L).

What would be your first treatment priorities for this patient? If you said, manage the airway via suctioning and begin ventilating via BVM, you would be correct! You are able to adequately clear the patient's airway with suctioning, and can now provide ventilatory assistance with BVM and high-flow 02.

As you prepare your patient for extrication, your partner states that they are having difficulty maintaining an adequate mask-face seal while ventilating. Your patient's SP02 remains at 85%. What would be your next course of action? First, use gentle stimulation including asking the patient to breathe. Many patients with opioid toxicity will respond to gentle stimulation. Next, consider oral or nasal airways and 2-person ventilation. If you are still unable to adequately support the patient's ventilations during extrication, what is your next step? If you said, administer naloxone or consider intubation, you would be correct! If the patient cannot be adequately ventilated, this patient meets the criteria for the Opioid Toxicity Medical Directive. Naloxone may be administered 0.8mg SC/IM/IN or up to 0.4mg IV.

When managing a patient with potential opioid toxicity, the primary focus is on airway and ventilation. Most patients can be managed adequately with supportive care and/or ventilation and will not require naloxone. In this case, intubation of the patient could have been considered if this was an unknown or poly-drug toxicity, however, naloxone may be ideal for suspected isolated opioid toxicity from long acting agents.

Naloxone is indicated if all four of the following conditions exist: altered LOC; AND respiratory depression; AND inability to adequately ventilate; AND suspected opioid overdose. The goal of naloxone administration is to titrate to adequate spontaneous ventilation, but to avoid complete reversal of the other central nervous system depression. Larger doses may precipitate withdrawal, which is unpleasant and may lead to agitation. If adequate ventilation and oxygenation can be accomplished with a BVM and basic airway management, this is preferred over naloxone administration. Also, recall that naloxone has a short half life so there is a high risk of having a recurrence of apnea. Combative behaviour should be anticipated following naloxone administration and paramedics should protect themselves accordingly, thus the importance of gradually titrating (if given IV) to desired clinical effect. Every effort should be made to transport the patient to the closest appropriate receiving facility for ongoing monitoring.

For your review, in order to titrate IV administration of naloxone: draw up 0.4mg naloxone in a 10cc syringe, then draw up normal saline for a total of volume of 10cc. You will then have 0.4mg:10mL, which will allow you to easily titrate your administration by 1 ml at a time up to the full 10 ml if needed (0.04mg:1mL IV).

Recent changes to the Opioid Toxicity Medical Directive:

1. Removal of the mandatory patch point: the directive no longer requires a patch prior to administering naloxone
2. Change in the number of doses: the directive now allows up to 3 doses of naloxone administration
3. Addition of dosing interval: the directive allows repeat administration of SC/IM/IN every 10 minutes to a maximum of 3 does. IV titration should occur slowly (ie. 0.04mg) and titrate up to the 0.4 mg dose. Titration of subsequent IV doses may occur "immediately" up to the equivalent of 3 x 0.4mg doses.

If you have any concerns during a call, you may patch to the BHP for consultation and further direction.

Please look for the upcoming Education Bulletin on opioid overdoses with specific discussion points, treatment options and safety considerations with suspected carfentanil overdoses.

Hamilton Health Sciences
CENTRE FOR PARAMEDIC EDUCATION AND RESEARCH