Vetregesic® - the opiate for routine premedication in cats

Introduction
Vetregesic is a high affinity/high avidity opioid agonist that is used extensively as part of premedication. It is both potent and long acting. All these benefits are now available to the cat patients of veterinary surgeons in Canada.

Premedication, anaesthesia and recovery

- Vetregesic can reduce the dose of other premedicants
  One of the effects of Vetregesic is to potentiate the action of centrally acting drugs and consequently it may be possible to reduce the amount of premedicant used.

- Vetregesic gives good perioperative analgesia and may reduce the requirement for anaesthetic agents.
  The addition of Vetregesic to the combination of medetomidine and NSAID, resulted in a significant reduction in the average isoflurane percentage used over the anaesthetic period. See Table 1.

![CATS OVARIOHysterectomy Study Table 1: Average volatile agent percentage over the anaesthetic period](image)

- Vetregesic has proven compatibility
  Vetregesic has been successfully used with a wide range of premedicants and anaesthetic drugs such as acepromazine, alfaxalone, dexmedetomidine, medetomidine, xylazine, ketamine, propofol, thiopentone, atropine, isoflurane and sevoflurane.

- Vetregesic has a low impact on gastrointestinal tract function
  Cases of vomiting or delayed gastrointestinal transit time in cats are rarely observed.

![Table 2: Mean quality of recovery from anaesthesia](image)

- Addition of Vetregesic provides superior recovery to sedative/NSAID combinations
  A recent study in cats undergoing ovariohysterectomy showed that the quality of recovery from anaesthesia was significantly improved by the addition of Vetregesic (20 μg/kg) to combinations of medetomidine and injectable NSAID. See Table 2.

- Provides profound and prolonged analgesia
- Can be administered via intravenous or intramuscular routes
- Superior effects to morphine, butorphanol or meperidine
- Flexible and can be used with a wide range of premedicant and anaesthetic agents, often permitting the use of lower doses of those drugs in routine anaesthetic protocols
- Minimal clinically significant side effects
- Can be used preoperatively to reduce central sensitisation “wind-up” and provide postoperative pain relief
- Provides better recovery when added to sedative/NSAID combinations than those drugs used alone

Prevention of “Wind up”

The administration of opiates preoperatively can have positive long-term benefits through the blocking of, or preventing the development of central sensitisation “wind up” resulting from surgical stimulation.

In a large field study in cats presenting for routine surgery. The Vetregesic treated group had significantly better levels of analgesia than a butorphanol group after 24 hours. Over 80% of cats receiving Vetregesic were pain free 24 hours after surgery. As the analgesic effects of Vetregesic are approximately 6-8 hours the lower pain level effect at 24 hours probably reflects a greater action in preventing central sensitisation.

Dose timings

The analgesic requirements of each patient will vary. Factors such as the level of pain, the health status of the animal and its genetic predisposition to painful stimuli, profoundly affect the success of pain management.

The pharmacological effects of Vetregesic may occur within minutes of administration. Analgesic effects occur around 30 minutes with peak analgesic effects normally occurring at about 1-1.5 hours. For this reason it is advisable to administer Vetregesic about 30 minutes prior to surgery.

Multi-modal analgesia

The recommended dose of Vetregesic (20 μg/kg) will provide profound and prolonged analgesia. If the analgesia is not sufficient a further dose of Vetregesic may be administered 2 hours after the initial dose. Alternatively the use of other agents, which act on different parts of the pain pathway can be considered. The simultaneous administration of two or more analgesics from different drug classes can provide additional effects. Similarly, the targeting of different points on the pain pathways may allow lower doses of each drug to be administered. Drugs to consider using with Vetregesic include: NSAIDs, ketamine and local anaesthetics.
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  - One of the effects of Vetregesic is to potentiate the action of centrally acting drugs and consequently it may be possible to reduce the amount of premedicant used.
  - **Vetregesic** gives good perioperative analgesia and may reduce the requirement for anaesthetic agents.
  - The addition of Vetregesic to the combination of medetomidine and NSAID resulted in a significant reduction in the average isoflurane percentage used over the anaesthetic period. See Table 1.

**Table 1** Average volatile agent percentage over the anaesthetic period

![Graph showing average volatile agent percentage over the anaesthetic period with Vetregesic](image)

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  - **Vetregesic** has a low impact on gastrointestinal tract function
    - Cases of vomiting or delayed gastrointestinal transit time in cats are rarely observed.

**Figure 1** Bar chart showing mean quality of recovery from anaesthesia with Vetregesic

- **Addition of Vetregesic provides superior recovery to sedative/NSAID combinations**
  - A recent study in cats undergoing ovariohysterectomy showed that the quality of recovery from anaesthesia was significantly improved by the addition of Vetregesic (20 μg/kg) to combinations of medetomidine and injectable NSAID. See Table 2.

**Table 2** Mean quality of recovery from anaesthesia

<table>
<thead>
<tr>
<th>Dose</th>
<th>Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 μg/kg medetomidine plus NSAID</td>
<td>1.50</td>
</tr>
<tr>
<td>40 μg/kg medetomidine plus NSAID</td>
<td>1.25</td>
</tr>
<tr>
<td>60 μg/kg medetomidine plus NSAID</td>
<td>1.10</td>
</tr>
<tr>
<td>80 μg/kg medetomidine plus NSAID</td>
<td>0.90</td>
</tr>
</tbody>
</table>

- **Provides profound and prolonged analgesia**
- **Can be administered via intravenous or intramuscular routes**
- **Superior effects to morphine, butorphanol or meperidine**
- **Flexible and can be used with a wide range of premedicant and anaesthetic agents, often permitting the use of lower doses of those drugs in routine anaesthetic protocols**
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