Emergence delirium in dogs:
An update on its identification and prevention

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Objectives

- Review the existing literature of emergence delirium (ED).
- Identify ED and differentiate it from pain.
- Treat and prevent ED and its consequences.

Introduction

Anaesthetic recovery is a critical part of the anaesthetic process because during this period, the effects of anaesthetic agents may still be present, and the patient may have not regained full consciousness and can react abruptly and unexpectedly.

What is emergence delirium?

State of mental confusion
Psychomotor agitation
Hyperexcitability
Restlessness
Escape behaviours
Unawareness of surroundings
Non purposeful actions
No eye contact

Differential diagnosis

Postoperative pain
Opioid-dysphoria
Postoperative delirium

Risk factors

- Anaesthesia-related: Volatile anaesthetics, rapid emergence, painful stimuli, benzodiazepines, etomidate
- Patient-related: Preoperative **anxiety**: owner's anxiety, young age, previous medical experiences, excitable temperament (Border Collie, Husky)
- Surgical-related: Otorhinolaryngology and ophthalmologic interventions, Duration of the surgery

Treatment

- **Propofol** slow i.v. until clinical signs subside.
- **Medetomidine** or **dexmedetomidine** i.v., to smooth subsequent recovery, alone or in combination with an opioid such as **fentanyl**.
- Gentle restraint, appeasing voices, dimmed lights to **calm** the animal through this period of excitement.

Prevention

Pharmacological

- **Dexmedetomidine**
  Physostigmine
  Profopol, ketamine
  Fentanyl, preoperative analgesia
  Benzodiazepines
  Acepromazine
  Regional anaesthetic techniques
  The Chill Protocol
  - **The Chill Protocol**
    at home
    Gabapentin PO
    Melatonin PO
    Acepromazine OTDD

Non-pharmacological

- **Anticipate and reduce preoperative anxiety**
  Body wraps (excitable or fearful animals)
  Aromatheraphy (essential oils)

Conclusions

- Be aware of the potential complications during the anaesthetic process and be prepared to resolve them.
- It would be interesting to conduct an observational study in dogs to determine if 'no eye contact', 'no purposeful actions', and 'no awareness of surroundings' is clearly specific to ED to differentiate it from pain as it is in paediatric medicine.
- Early treatment of ED is necessary to prevent harm to both patients and clinicians.
- Focus on implementing preventive strategies to reduce development of ED.
- Acquire additional information on risk factors of ED, particularly breed and age predisposition.
- Excitable temperament and preoperative anxiety are risk factors of ED. Consider incorporation of protocols such as The Chill Protocol to mitigate these risk factors.
- More research of ED in veterinary medicine is required.

BIBLIOGRAPHY