



Use of detomidine in pigs

Uso de detomidina em suínos

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ABSTRACT

Stress is triggered when the patient is exposed to situations such as cold, heat, surgical procedures, exercises, various drugs (SELYE, 1932), studies show that the stress syndrome in pigs (PSS) is integrated to a hereditary myopathy in a mutation in the HAL gene, this stressful picture can influence the quality of the animal's meat (OLIVEIRA et al., 2022).

Keywords: Detomidine, Pigs, Use.

RESUMO

O estresse é desencadeado quando o paciente é exposto situações como frio, calor, procedimentos cirúrgicos, exercícios, diversos fármacos (SELYE, 1932), estudos mostram que a síndrome do estresse em suínos (PSS) é integrada a uma miopatia hereditária em uma mutação no gene HAL, esse quadro estressante pode influenciar na qualidade da carne do animal (OLIVEIRA et al., 2022).



Palavras-chave: Detomidina, Suínos, Uso.

1 INTRODUCTION

Stress is triggered when the patient is exposed to situations such as cold, heat, surgical procedures, exercises, various drugs (SELYE, 1932), studies show that the stress syndrome in pigs (PSS) is integrated to a hereditary myopathy in a mutation in the HAL gene, this stressful picture can influence the quality of the animal's meat (OLIVEIRA et al., 2022).

In Brazilian pig farming, elective orchiectomy is performed at seven days of the animal's life and is practiced without anesthesia or analgesia (VON BOREL et al., 2009), due to economic reasons, since the Brazilian pig activity is a family activity, however, it is worth mentioning that the first Brazilian legislation on swine welfare establishes good management practices and animal welfare, such instruction came into force in February 2021 the normative number 113 of the Ministry of Agriculture Livestock and Supply (MAPA), resulting in a series of changes in the structure and management in the pig maternity sector; for example, the use of anesthesia and analgesia in surgical castration regardless of the age of the pig (FAIRTEK, 2021).

Sedation consists of the state of depression of the cerebral cortex, followed by drowsiness and environmental indifference, but preserving the neurovegetative functions, so sedation will assist in the containment and management of the patient, even the most aggressive, enabling a quiet behavior for the performance of procedures (CARREGARO, 2019). Detomidine, a sedative drug, relatively potent alpha two adrenergic when compared to xylazine, anesthetic and analgesic adjuvant, with the objective of facilitating the manipulation and performance of various surgical procedures (RANKIN, 2017), but not used in the routine of pigs.

2 GOAL

The objective of this study is to describe cardiorespiratory variables and sedation with the use of detomidine in pigs.

3 METHODOLOGY

Five five-month-old and healthy pigs were used with mixtures of Landrace, Large White, Duroc and MS115 Embrapa breeds, weighing an average of 15.4 kg. The animals underwent a 12-hour solid fast, followed by sedation and elective orchiectomy.



As pre-anesthetic medication, detomidine (80mcg/kg) was used in two animals (1 and 2) intramuscularly and in three (3, 4 and 5) intravenously. The pigs received antibiotic prophylaxis with penicillin intramuscularly.

After sedation, the pigs were physically restrained and analgesia was performed using local infiltrative block with lidocaine without vasoconstrictor (5 mls per animal) in the spermatic, intratesticular and subcutaneous cord at the incision site. The surgical procedure was performed in the routine technique of the species. During the procedure, which lasted an average of four minutes, heart and respiratory rate, systolic and diastolic blood pressure, and temperature were measured, all of which remained within the physiological conditions of the species. The only exception was pig 5, which had a significant change in heart rate in relation to baseline values. In the immediate postoperative period, the non-steroidal anti-inflammatory drug (NSAID) Flunixinmeoglumine (2.2mg/kg) was used intramuscularly, with the indication of repeating for three days, SID and cleaning the wounds.

4 DEVELOPMENT

Detomidine, alpha-2-adrenergic agonist, sedative and visceral analgesic. It is a drug generally used in horses, this drug has a short latency time by the intravenous route, taking more than ten minutes by the intramuscular route and its action in horses lasts about an hour (RANKIN, 2017 and CARTER, 2015). There are no studies demonstrating the efficacy of this drug in pigs, it was observed that to the use by the intramuscular route the animals remained alert, even using a relatively high dose (80mcg/kg) compared to horses (0.2 to 20 mcg/kg) (FORNEY, 2007). Lin (2017) does not cite this drug as an option in pig protocols. When using intravenously, the sedative showed faster latency, facilitating the management of the animals. In horses, bradycardia and mild bradypnea are described when using detomidine (FERNANDES et al., 2016), changes not noticed in the pigs evaluated.

The orchietomy procedure generates pain in the patient (SILVA et al., 2018), and then the use of local anesthesia is indicated. The use of lidocaine becomes essential because it blocks the nerve impulse through sodium channels being safe, reversible and practical, and especially by promoting preemptive anesthesia (GARCIA, 2017). Technique used to perform the procedure in animals, and no pain was observed during the procedure.

During the procedure, the animals remained stable, with no changes in parameters or behavior at the time of containment. The pulse in pigs is not easily palpable, their heart rate is 60 to 100/min (CONSTABLE, 2020), as well as in the literature the pulse was not palpable, but the heart rates of the animals in question remained within the normal curve, corroborating that the pigs did not have pain and were calm to management.



5 FINAL CONSIDERATIONS

The use of detomidine in pigs was not as effective for sedation as in horses, having greater potential for intravenous use, in addition to the fact that the porcine species did not obtain major cardiorespiratory changes to the use of the drug.



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