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**ANALGESIC EFFECTS OF MEDETOMIDINE/KETAMINE IN  
PREMEDICATION FOR INVASIVE SURGERY IN DOGS**Filip Trojancanec\*, Todor Novakov, Ksenija Ilievska, Elena Atanaskova Petrov,  
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Alpha<sub>2</sub>-adrenoreceptor agonists (α<sub>2</sub>-agonists) are commonly used in small animal anaesthesia for their potent sedative and analgesic properties, although concerns about their cardiovascular effects have prevented their full adoption into veterinary practice. Medetomidine is a relatively new sedative analgesic in dogs and cats but some precautions are required when using it. On the other hand Ketamine is a medication that is used since 1960 and all the advantages and disadvantages have been known. Twenty-four dogs were admitted at the University veterinary hospital in Skopje for invasive surgery. All dogs were premedicated with 0,015 mg/kg medetomidine and 1mg/kg ketamine intramuscularly. Anaesthesia was provided with Propofol and maintained with Isoflurane. Additional intraoperative analgesia was provided with 1,5mg/kg boluses tramadol intravenously. Respiratory rates, heart rates, body temperature, EtCO<sub>2</sub> were recorded intra-operatively. During the intraoperative period, an increase of baseline values for HR, RR was considered a sign of intraoperative pain. Effects of preemptive administration of medetomidine and ketamine were evaluated during surgery by recording the delivered fraction of isoflurane as indicated by the vaporizer. Heart rates and respiratory rates during intraoperative period were slightly decreased until 40 to 50 minutes of administration of medetomidine and ketamine. This is because of reflex bradycardia as effects of medetomidine. The delivered fraction of isoflurane was decreased to 2.0-1.5% in dogs following premedication of these drugs. The use of combination of medetomidine/ketamine had very good analgesic effects in the first 40 minutes, in the first signs of pain you should give adequate analgetic.