

HYPOXIC VENTILATORY RESPONSE IN RATS TREATED WITH A NOVEL TRAMADOL-BASED ANALGESIC

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Tramadol is an opioid analgesic used in the treatment of various types of pain. It was demonstrated that magnesium salts increase analgesic activities of opioids which allows to reduce doses and thereby to decrease the side effects. The aim of the study was to evaluate whether tramadol alone (T) and in combination with magnesium lactate (TM) influences respiratory response to hypoxia (HVR) after single and repeated 7- and 14-day administration. T alone insignificantly decreased HVR to 8% O₂ by 9%, 29%, and 20% vs. control for single, 7-day and 14-day administration, respectively. Application of magnesium lactate did not change HVR as compared to control. Compared to T, TM increased HVR by 18% and 16% after a 7- and 14-day administration ($p > 0.05$). We conclude that neither T nor TM changes meaningfully HVR. Nevertheless, a concomitant administration of tramadol and magnesium seems to be safer than tramadol alone in the context of respiration under hypoxia.

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