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Effects of lornoxicam and intravenous ibuprofen on erythrocyte deformability liver and renal blood flow in rats

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Change in blood supply is responsible for anesthesia related abnormal tissue and organ perfusion. Decreased erythrocyte deformability and increased aggregation may be detected after surgery performed under general anesthesia. It was shown that non-steroidal anti-inflammatory drugs decrease erythrocyte deformability. Lornoxicam and/or ibuprofen intravenous administration for postoperative pain management is becoming more common. In this study, we aimed to investigate effects of lornoxicam (2 mg/kg) and ibuprofen (30 mg/kg) on erythrocyte deformability, liver and renal blood flow in male rats. 18 male Wistar albino rats were randomly divided into three groups as lornoxicam group (group L), ibuprofen group (group I) and control group (group C). Intravenous administrations were done in all groups except group C. Liver and renal blood flows were conducted by laser Doppler and the euthanasia via intra-abdominal blood uptake was performed. Erythrocyte deformability was measured using a constant flow filtrometry system. Lornoxicam and ibuprofen increased the relative resistance which shows the erythrocyte deformability of rats ($p=0.016$). Comparison of group L and group I revealed no statistically different results ($p=0.694$) where group L and group I revealed statistically higher results than group C ($p=0.018$, $p=0.008$). Liver and renal blood flows were significantly lower than that measured in group C. We believe that lornoxicam and ibuprofen may lead to functional disorders related to tissue perfusion as a result of both decreased blood flow and erythrocyte deformability. Further studies regarding these issues are thought to be essential.

Biography

Ayşegül Küçük has completed her PhD from Erciyes University and Post-doctoral studies from Erciyes University School of Medicine. She is a member in Department of Physiology at the Medical Faculty of Dumlupınar University. She has published more than 25 papers in reputed journals.

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