

### Comparison of the effects of different anesthetics on serum haemolysis and glycogenolysis in rats #8

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The anesthetics can differently affect the structure and biological function of tissues and systems. The objective of this study was to compare the effects of three injectable anesthetics generally used in experiments with animals on the degree of haemolysis and glycogenolysis after deep anesthesia. 20 Wistar male rats (330-440g) were used. The animals were divided into three groups: Cloral Hydrate (CH), Ketamine + Xylazine (KX), Zoletil 50® (zolazepam and tiletamina) + Xylazine (ZTX). After deep anesthesia the total blood was collected. Immediately the liver, the white and red gastrocnemius muscles were also withdrawn. The degree of serum haemolysis was quantified by the hemoglobin concentration (g/dL) and the hepatic and muscular glycogen concentration through spectrophotometer analyses. The CH and KX groups presented serum haemolysis ( $0.49 \pm 0.06$  g/dL and  $0.18 \pm 0.06$  g/dL, respectively). ZTX group presented no detectable values. The average value of the hepatic and muscular glycogen concentrations exhibited no significant difference between CH and ZTX groups. The data were similar to other studies in the literature. However, the KX induced accentuated glycogenolysis in all tissues. Our data suggest that the anesthetic ZTX seems to be the most appropriate for studies that need simultaneously to quantify the concentration of glycogen and blood markers without interferences. It neither causes glycogenolysis nor haemolysis. ZTX possesses accessible cost, is easily found at veterinary markets, quickly induces deep anesthesia and presents low mortality rate.

**Key words:** anesthetics; rats; glycogen; haemolysis; zoletil; ketamine.