

Effects of running and immobilization on blood constituents in the reindeer.

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Abstract: Reindeer have regularly to run long distances in round-ups which may also involve immobilization or transportation in lorries. To evaluate the round-up stress accumulation of some metabolites in the blood 64 free-living animals were studied, divided into 8 groups in connection with slaughtering. Animals in two groups were forced to run at 15 km/h⁻¹ for 4 h, and in two groups for 8 h. Two groups ran for 8 h and were then allowed to rest 16h. One group was immobilized and transported in a lorry for 4 h. The haemoglobin concentration or red cell count did not vary in any group. The catecholamines showed minor changes. Sodium, magnesium, potassium, calcium or inorganic phosphorus did not change. Blood glucose was lower in exercise groups than in the control or immobilization group. ASAT and ALAT increased in the exercise groups showing a tendency to recover after exercise and increased in the immobilization group. Alkaline phosphatase increased in all test groups as did HBD and urea. Amylase increased in the exercise groups. Creatine phosphokinase increased during the exercise and immobilization period but normalized during the recovery period. Creatinine increased in all groups. Ammonia concentration was lowest in the immobilization group. Body temperature increased after prolonged (8 h) exercise only. In conclusion, the liver enzymes increased during exercise and immobilization. Changes in creatine kinase were most prominent and returned to normal during the recovery period.

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