EFFECT OF TRANSPORT ON RABBITS WELFARE: SERUM CORTICOSTERONE DETERMINATION

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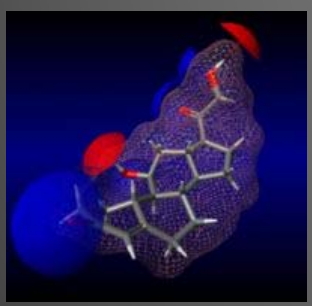
INTRODUCTION and AIM

Mammals may react to adverse situations with the activation of hypothalamus-hypophysis-adrenal axis, which promotes the synthesis of corticosteroids. The aim of this study was to investigate the influence of transport (1*vs*3 hours) and lairage time (0*vs*5 hours) on serum corticosterone concentration in rabbits.

MATERIALS and METHODS

70 blood samples were collected before (basal level) and after transport and lairage. The serum was analysed using a commercial kit for mouse and rat based on RIA competition method validated for rabbit according to NCCLS (National Committee for Clinical Laboratory Standards Guidelines). In detail, the kit was marked using I-125 (MP Biomedicals, Diagnostic Division). The method has been modified for rabbits, with a serum pre-dilution of 1:30. The stationary phase (bound) was separated from the mobile phase by centrifugation and aspiration. The analyses were made in double. The samples were red (1 min.) using a cell gamma counter with NaI(Ti) detector.



Identifiers	
CAS number	[50-22-6]
PubChem	5753
MeSH	Corticosterone
Properties	
Molecular formula	C21H30O4
Molar mass	346.461

Except where noted otherwise, data are given for standard state (at 25 °C, 100 kPa)

RESULTS and DISCUSSION

The results showed a high individual variability due more to animal handling and environment than transport and lairage. Corticosterone average values after transport and lairage (*vs* basal level) were: 35.0 *vs* 39.1 ng/ml in short transport without lairage (STWL); 40.5 *vs* 47.8 ng/ml in short transport with lairage (STwithL) and 44.3 *vs* 27.0 ng/ml in long transport without lairage (LTWL) and 38.4 *vs* 46.0 ng/ml in long transport with lairage (LTwithL).
These results confirmed the effect of environmental conditions as stressors and the opportunity to find a non-invasive method to measure stress in animals.