Changes in blood constituents of rabbits subjected to transportation under hot, humid tropical conditions

ABSTRACT

Unlike Europe (particularly, Italy and Spain), where a number of studies have been conducted on the stressful effects of transport on rabbit welfare, few studies have been conducted on transportation of rabbits under hot, humid tropical conditions experienced in countries like Malaysia. We studied the effects of transportation in hot humid tropical conditions of Malaysia on physiometabolic changes in New Zealand white rabbits. Eighty experimental animals were divided into two groups of 40 bucks each and transported for either 3 or 1 h. Transportation caused a significant upsurge of aspartate aminotransferase, alanine aminotransferase and creatine kinase activities ($p<0.001$) though did not significantly affect lactate dehydrogenase (LDH) activity ($p = 0.0706$). Both transportation periods caused elevation in plasma glucose levels, lactic acidosis and dehydration as evidenced through elevated packed cell volume and plasma protein concentration. It was concluded that regardless of the duration, transport of rabbits under hot humid tropical conditions, resulted in heat distress since the rabbits showed hyperglycemia, hypercalcemia, lactacidemia, lymphocytopenia, dehydration and increase in blood enzyme activities.

Keyword: Rabbits; Stress; Transport; Welfare