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Animal models for heat stroke studies.

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Abstract

Heat stroke is a medical emergency where quick diagnosis and management of victims are essential for positive prognosis. Several biochemical, physiological and hematological changes were observed in heat stroke. It seems that all of these changes are a consequence of induced tissue damage, or may have been a compensatory action by the body. Induction of hyperthermia and temperature measurement are important components in heat stroke studies to determine the stage of progression or regression of heat stroke. Several animal models have been established by investigators in heat related studies. Rats, dogs, monkeys, baboons, cows, rabbits, sheep and chicks have all been used in such studies that allow manipulation of exposure conditions and various designs of experiments. Amongst these species, rats, rabbits and sheep are the most suitable models because of their similarity to man in response to high temperature and in relation to their availability, cost and simplicity of handling. Such models may be used to study various pharmacological and biochemical parameters and functions concurrently. Further informations could also be obtained from isolated organ studies. The present review is to analyse and compare the available methodology for heat stroke studies