

10週令の脳卒中易発症ラットにおいて 高レベルの酸化ストレスが血清や腎臓より脳中に存在する

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High Levels of Oxidative Stress Exist in the Brain than Serum or Kidneys in Stroke-Prone Spontaneously Hypertensive Rats at Ten Weeks of Age

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ABSTRACT: In the present study, we examined levels of oxidative stress in the serum, brain and kidneys of normotensive Wistar Kyoto rats (WKY) and stroke prone spontaneously hypertensive rats (SHRSP) at 10 weeks of age. Levels of advanced oxidation protein products (AOPP), oxidized albumin and oxidized proteins, markers of oxidative stress, were significantly decreased in serum among SHRSP as compared with WKY. Levels of oxidized proteins determined by immunoblotting were significantly increased in the brain, but not kidney, of SHRSP. The mRNA level of super oxide dismutase (SOD) determined by real time polymerase chain reaction (PCR) and the protein level of catalase assessed by immunoblotting were significantly increased in the brain of SHRSP. From these results, it was suggested that levels of oxidative stress were higher in the brain than serum or kidneys of SHRSP at 10 weeks of age, but are not caused by decreases in the expression of SOD and catalase.

抄録 脳卒中易発症ラットと対照ラット中の脳、腎臓、血清を用いて、酸化ストレスの比較を行った。その結果、10週令の脳卒中易発症ラットにおいて、高レベルの酸化ストレスが血清や腎臓より脳中に存在することが示唆された。また、この酸化ストレスの増加は、スーパーオキシドディスムターゼやカタラーゼの減少により生じたわけではなかった。