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学位論文の題名	<p>Oral administration of monosodium glutamate during the period of development alters social behavior in a rat model of attention-deficit hyperactivity disorder (生後発達期におけるグルタミン酸ナトリウムの経口摂取は、注意欠陥多動性障害モデルラットの社会性を変化させる)</p> <p>Nagoya Medical Journal, in press</p>
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Abstract

Environmental stimuli during the period of development modify emotional behavior such as anxiety and social behavior. Monosodium L- glutamate (MSG), was used as a simple stimulus to examine how environmental stimuli contributes to the formation of emotion during the period of development. Using spontaneously hypertensive rat that is an animal model of attention deficit hyperactivity disorder, MSG (60 mM) was given to SHR in an isolated environment from P25 (just after weaning) for 5 weeks, followed by behavioral tests of open-field test (OFT) and social test (ST) in adulthood and measurement of oxytocin (Oxy) that may effect on social behavior. No significant change in anxiety-like behavior was shown between MSG group and control group. However, MSG group reduced sniffing time and riding number in SIT, indicating that MSG intake during the development reduced aggression rather than anxiety. Serum Oxy assay indicated that less aggressive behavior by MSG was paradoxically related to lower Oxy level. Two rats housing of SHR for 5weeks failed to show MSG effect on aggression. Data suggest that MSG intake during growing period contribute to emotional formation in SHR, reducing aggressive behavior probably due to the mechanism that are masked by group housing.