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授与した学位	博士
専攻分野の名称	保健学
学位授与番号	博甲第7513号
学位授与の日付	令和8年 3月25日
学位授与の要件	保健学研究科 保健学専攻 (学位規則第4条第1項該当)
学位論文の題目	Effect of Dietary Sodium Nitrite Supplementation on Spontaneous Intracerebral Hemorrhage in Stroke-Prone Spontaneously Hypertensive Rats (亜硝酸ナトリウムの食事性補給が脳卒中易発症性自然発症高血圧ラットの自然脳内出血に及ぼす影響)
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学位論文内容の要旨

Diet-derived nitrite can benefit cardiovascular function. However, the effects of nitrite supplementation on idiopathic intracerebral hemorrhage (spontaneous ICH) are unclear. This study, therefore, investigated the impacts of chronic nitrite supplementation on the survival rate and risk for spontaneous ICH in stroke-prone spontaneously hypertensive/Izumo strain (SHRSP/Izm) rats fed with a high-salt diet. Study I- Six-week-old male rats were categorized into two groups: 1) SHRSP + salt, in which rats were administered saline drinking water, and 2) SHRSP + salt + nitrite, in which rats were administered nitrite-added saline drinking water for 14 weeks each. The survival curves during this period did not vary significantly between the groups. However, nitrite administration markedly reduced the incidence of ICH and the extent of cerebral hemorrhage. Study II- The impacts of nitrite supplementation on blood pressure in salt-loaded 8-week-old male SHRSP/Izm rats were evaluated for >4 weeks. During the first week, systolic blood pressure was remarkably lower in the nitrite group than in the control (without nitrite feeding). Similarly, at week 4, cardiac mass and brain mass were significantly lower. Nitrite treatment reduced the extent of cerebral hemorrhage caused by hypertension and administration of a high-salt diet.

論文審査結果の要旨

自然発症高血圧脳卒中モデルラットをもちいて、亜硝酸塩投与の有用性について検討を行った。その結果、亜硝酸塩投与群は脳内出血の発症率と出血の程度を減少させた。さらに収縮期血圧の低値をももたらし、これらの結果より亜硝酸塩は高血圧の治療に効果をもたらす可能性が見いだされた。