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# 論　文　内　容　の　要　旨
# Synopsis of Thesis

| 氏　名<br>Name | 谷村　忠幸 |
|---|---|
| 論文題名<br>Title | Association of Physical Activity with Aortic Disease in Japanese Men and Women: The Japan Collaborative Cohort Study<br>（日本人における運動と大動脈疾患の関連性：日本共同コホート研究） |

論文内容の要旨

〔目　的(Purpose)〕

Evidence of the effects of physical activity on mortality from aortic diseases, especially in Asian populations, remains limited. This study aimed to examine these effects using data from a large long-term cohort study of Japanese men and women.

〔方法(Methods)〕

Between 1988 and 1990, 32,083 men and 43,454 women in Japan, aged 40-79 years with no history of coronary heart disease, stroke, aortic diseases, or cancer, filled in questionnaires on time spent walking and participating in sports and were followed up until 2009. Multivariable hazard ratios (HRs) with 95% confidence intervals (CIs) of aortic disease mortality and its types (aortic aneurysm and dissection) according to the time spent walking and participating in sports were calculated after adjusting for potential confounding factors using the Cox proportional hazards model.

〔成績(Results)〕

During a median follow-up of 19.1 years, a total of 173 deaths from aortic disease (91 cases of aortic dissection and 82 of aortic aneurysm) were documented. In age- and sex-adjusted analyses, compared with 1-2 h/week of time spent participating in sports, participation of 3 h/week or more was inversely associated with mortality risk from aortic aneurysm and total aortic diseases but not from aortic dissection. After additional adjustment for potential confounding factors, the association of time spent participating in sports with aortic aneurysm remained statistically significant; the multivariable HRs (95% CIs) were 0.68 (0.40-1.16) for <1 h/ week, 0.50 (0.19-1.35) for 3-4 h/week, and 0.31 (0.11-0.93) for ≥ 5 h/week (p for trend=0.24) compared with 1-2 h/week. In contrast, after adjustment, the association of time spent participating in sports with aortic disease was of borderline statistical significance: the multivariable HRs (95% CIs) were 0.74 (0.51-1.09) for <1 h/week, 0.52 (0.25-1.09) for 3-4 h/week, and 0.50 (0.25-1.02) for ≥ 5 h/week (p for trend=0.30), compared with 1-2 h/ week. In addition, weaker and insignificant inverse associations were observed between time spent playing sports and aortic dissection, as well as between time spent walking and aortic aneurysm, dissection, and total aortic diseases.

〔総　括(Conclusion)〕

Greater time spent in sports participation was associated with a reduced risk of mortality from aortic aneurism in the Japanese population. Further studies are needed to investigate the relationship between physical activity and aortic dissection.

# 論文審査の結果の要旨及び担当者

谷村　忠幸

| 論文審査担当者 | | (職) | 氏　名 | |
|---|---|---|---|---|
| | 主　査 | 大阪大学教授 | 祖父江友孝 | 署　名 |
| | 副　査 | 大阪大学教授 | 服部聡 | 署　名 |
| | 副　査 | 大阪大学教授 | 坂田泰史 | 署　名 |

## 論文審査の結果の要旨

これまで大動脈疾患のリスクファクターとして、喫煙、高血圧は確立しており、適度な飲酒、魚の多量摂取と低い大動脈疾患死亡との関連も報告されているが、身体活動と大動脈疾患死亡との関連は一貫していない。そこで、本論文は、日本人の大規模長期コホート研究データを活用して、身体活動と大動脈疾患死亡との関連を検討したものである。身体活動を回答したがん・循環器疾患既往のない75,537人を対象として、身体活動と大動脈疾患死亡についてのコックス比例ハザードモデルを用いた多変量解析を行った。

結果、週１－２時間のスポーツと比較して、週５時間以上のスポーツでは、大動脈疾患及び大動脈瘤による死亡リスクが低かった。これは身体活動が大動脈疾患死亡リスクを低下させる可能性が示しており、意義深い結果である。本研究では運動強度が調査されておらず、今後、運動強度も加味した研究が必要であるが、より健康に繋がる身体活動を推奨・普及するエビデンスに基いた健康増進施策に貢献するものであり、学位の授与に値する。