

## 科学研究費助成事業 研究成果報告書

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研究課題名(和文) 都市部一般住民を対象とした心房細動の実態とリスクスコア作成に関する研究

研究課題名(英文) Risk Score for the Incident Atrial Fibrillation in the Urban Japanese Population

研究代表者

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交付決定額(研究期間全体)：(直接経費) 13,800,000円

研究成果の概要(和文)：心房細動のリスクスコアを作成し、我が国の心房細動予防に貢献できるエビデンスを提示することを目的とした。

都市部地域住民を対象に追跡可能な6906名を平均12.8年間追跡し、追跡期間中に心房細動253名が罹病した。年齢、性別、body mass indexと収縮期血圧の組み合わせ(収縮期前高血圧で過体重、収縮期高)、血圧で正常体重または過体重、弁膜症または心雑音、虚血性心疾患、喫煙(20本未満、20本以上)、過剰飲酒は心房細動罹病リスクと関係がみられた(C検定0.73、95%信頼区間0.70-0.75)。これらの組み合わせで心房細動のリスクスコアが検討した。

研究成果の概要(英文)：A total of 6,906 participants (30-84 years old) initially free of AF were prospectively followed up for incident AF in the Suita Study. Standard 12-lead ECGs were obtained from all subjects in the supine position. Participants were diagnosed with AF if AF or atrial flutter was present on ECGs obtained during a biannual routine health examination or if AF was indicated as a present illness by either annual questionnaires responses or participants' medical records during follow-up. Cox proportional hazard ratios were analyzed.

In 88,663 person-years of follow-up, 253 incident AF events occurred. Age, sex, body mass index and systolic blood pressure (systolic prehypertension with overweight or obesity, systolic hypertension with normal weight/overweight or obesity), valvular disease and/or heart murmur, ischemic heart disease, smoking, and excessive drinking were associated with incident AF (C-statistic 0.73; 95% confidence intervals, 0.70-0.75).

研究分野：予防医学

キーワード：心房細動 リスクスコア - 疫学 危険因子

### 1. 研究開始当初の背景

心房細動は脳塞栓や心不全のリスクであり、発症する以前に心房細動を早期に予測することが予防医学として極めて重要である。Framingham 研究で心房細動の罹病リスクスコアが見られるが、我が国の心房細動の罹病リスクに関する研究は数えるだけで、その罹病リスクスコアは見られない。また、これまでのコホート研究では発作性心房細動の同定がなされていないためその実態が不明である。

### 2. 研究の目的

都市部地域住民を対象に、心房細動の罹病・予防リスクを検討し、心房細動のリスクスコアを作成し、また簡易型心電計を用い、発作性・持続性心房細動の対象者背景にどのような特徴の違いが見られるのか合わせて検討を行い、我が国の心房細動予防に貢献できるエビデンスを提示することを目的とする。

### 3. 研究の方法

平成元年に性年齢階層別に無作為抽出された都市部地域住民を対象に、2年毎に実施された特定健診のデータ(30~79歳の8,360名)を用いて、心房細動の罹病リスク・予防因子を検討する。統計学的に有意になった心房細動の罹病リスク・予防因子を用いて、心房細動の罹病リスクスコアを作成する。

### 4. 研究成果

都市部地域住民を対象に追跡可能な6906名を平均12.8年間追跡し、追跡期間中に心房細動253名が罹病した。性年齢、body mass index、脂質異常症、糖尿病、喫煙、飲酒歴、慢性腎障害、脳卒中・心筋梗塞既往による調整Cox比例ハザードモデルを用いて、心房細動罹病リスクを求め、正常収縮期血圧を基準に収縮期高血圧で1.74、正常拡張期血圧を基準に拡張期高血圧で1.47、血圧カテゴリー別に正常血圧を基準に、高血圧で1.53、脈圧40mmHg未満を基準に、脈圧60mmHg以上で1.75であったが、さらに収縮期血圧、拡張期血圧を同時にモデルに投球すると、収縮期高血圧のみが独立した心房細動罹病リスクであった。また、body mass indexカテゴリー別に分け、正常体重を基準に過体重で心房細動罹病リスクは1.35で、さらに収縮期血圧、拡張期血圧で調整しても過体重は心房細動の独立した危険因子であった。また、収縮期正常血圧で正常体重を基準にした場合、心房細動罹病リスクは、正常体重でかつ収縮期高血圧で1.66、過体重で全収縮期高血圧で1.72、収縮期高血圧で2.31であった(交互作用 $P=0.04$ )。これらの関連を用い、リスクスコアを解析した。年齢、性別、body mass indexと収縮期血圧の組み合わせ(収縮期前高血圧で過体重、収縮期高)血圧で正常体重または過体重、弁膜症または心雑音、虚血性心疾患、喫煙(20本未満、20本以上)過剰飲酒

は心房細動罹病リスクと関係がみられた(C検定0.73、95%信頼区間0.70-0.75)。

### 5. 主な発表論文等

(研究代表者、研究分担者及び連携研究者には下線)

[雑誌論文](計23件)全て査読あり

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〔図書〕(計 1 件)

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〔産業財産権〕

出願状況 (計 0 件)  
取得状況 (計 0 件)

〔その他〕

なし

6. 研究組織

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