

睡眠の質の低下は心血管疾患につながる可能性がある(Poster Session, Abstract P6215)

睡眠不足および睡眠の質の低下は虚血性心疾患および脳卒中と関連がある

Poor and deteriorating sleep patterns associated with ischemic heart disease and stroke

睡眠不足は虚血性心疾患および脳卒中と関連がある、と2017 ESC Congress で発表された。この観察研究は、年1回の健康診断に登録した日本の広島県の住民12,876人(平均年齢68歳)を対象とした。交絡因子で補正した結果、"睡眠不足"は虚血性心疾患および脳卒中と有意に関連があった(それぞれ $p<0.0001$ および $p<0.0001$)。成因解析の結果、主観的睡眠の質不良、長い入眠時間、低い睡眠効率、および睡眠薬使用は、虚血性心疾患および脳卒中と有意に関連があった。睡眠の維持困難、短時間睡眠、および日中の眠気などによる日常生活への支障は、虚血性心疾患のみと関連があった。

Full Text

Poor sleep is associated with ischemic heart disease and stroke, according to research presented at the 2017 ESC Congress. The observational study in nearly 13,000 people revealed different patterns of sleep disturbance between the two conditions, with ischemic heart disease being linked to shorter sleep and brief moments of waking up.

"Poor sleep is associated with cardiovascular diseases such as ischemic heart disease and stroke but the kind of sleep disturbances that are most risky is not well documented," said lead researcher Dr. Nobuo Sasaki, of the Hiroshima Atomic Bomb Casualty Council, Japan. "'Poor sleep' includes too short or too long sleep, difficulty falling asleep, and difficulty maintaining sleep."

This study investigated the association between sleep disturbances and cardiovascular disease. It also aimed to clarify possible differences in sleep disturbances between ischemic heart disease and stroke.

The study included 12,876 residents of Hiroshima, Japan (6 762 men and 6 114 women, average age 68 years) who were registered for an annual health check. Of those, 773 patients had a history of ischemic heart disease (myocardial infarction and/or angina), 560 patients had a history of stroke (intracranial hemorrhagic and/or cerebral infarction), and 11,543 had no cardiovascular disease. Patients with both ischemic heart disease and stroke, or another type of cardiovascular disease, were excluded from the study.

Sleep habits were assessed with the Pittsburgh Sleep Quality Index (PSQI), a 19-item self-reporting questionnaire which yields seven component scores. C1 assesses subjective poor sleep quality, C2 long sleep latency, C3 short sleep duration, C4 low sleep efficiency, C5 difficulty in maintaining sleep, C6 use of sleeping pills, and C7 daytime dysfunction. Each component is ranked 0, 1, 2, or 3, with a score ≥ 2 defining sleep disturbance (except C6 score ≥ 1).

A sum of the seven scores was used to calculate the global PSQI score which ranged from 0 to 21. Higher scores indicated poorer sleep quality, and 'poor sleep' was defined as a global PSQI score ≥ 6 .

Poor sleep occurred in 52%, 48%, and 37% of patients with ischemic heart disease, stroke, and no cardiovascular disease, respectively.

After adjusting for confounding factors 'poor sleep' was significantly associated with ischemic heart disease (odds ratio [OR], 1.71; $p<0.0001$) and stroke (OR, 1.45; $p<0.0001$). Component analysis revealed that subjective poor sleep quality, long sleep latency, low sleep efficiency, and use of sleeping pills were significantly associated with both ischemic heart disease and stroke. Difficulty maintaining sleep, short sleep duration, and daytime dysfunction were associated only with ischemic heart disease.

Dr. Sasaki said: "The proportion of people suffering from sleep disturbances is around 1.5-fold higher among patients with previous ischemic heart disease or stroke compared to those with no history of cardiovascular disease."

"Interestingly only patients with ischemic heart disease reported difficulty maintaining sleep and short sleep duration," he continued. "Difficulty maintaining sleep reflects an increase in sleep fragmentation, which refers to brief moments of waking up and causes overactivity of the sympathetic nervous system and adrenocortical axis."

Dr. Sasaki concluded: "Our results support the hypothesis that sleep deterioration may lead to cardiovascular disease. Poor sleep in patients with ischemic heart disease may be characterized by shorter sleep and brief moments of waking up."

This study has not received any financial support.

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