

Insomnia linked to increased risk of heart failure

People who suffer from insomnia appear to have an increased risk of developing heart failure, according to the largest study to investigate the link (Laugsand et al, 2013).

Dr Lars Laugsand, a post-doctoral fellow in the Department of Public Health, Norwegian University of Science and Technology, Trondheim, Norway, and his colleagues collected data from men and women enrolled in the Nord-Trøndelag Health study (HUNT) between 1995 and 1997 and who were free from heart failure when they joined.

The researchers followed 54 279 people between the ages of 20–89 years for an average of more than 11 years, until 2008, by which time there had been a total of 1412 cases of heart failure.

When participants joined the study they were asked whether they had difficulty going to sleep and staying asleep, with the possible answers being ‘never’, ‘occasionally’, ‘often’ and ‘almost every night’. They were also asked how often they woke up in the morning not feeling refreshed (non-restorative sleep): ‘never, few times a year’, ‘one to two times per month’, ‘once a week’, ‘more than once a week’.

After adjusting for factors that could affect the results, such as age, sex, marital status, education, shift work, blood pressure, cholesterol, diabetes, body mass index, physical activity, smoking, alcohol, any previous heart attack, depression and anxiety, the researchers found that having difficulties going to sleep and staying asleep almost every night, and

having non-restorative sleep more than once a week were associated with an increased risk of heart failure when compared with people who never or rarely suffered from these symptoms.

There was a trend showing a link between the frequency of symptoms and the increased risk, although most of these findings did not reach statistical significance.

When they looked at the number of symptoms, the researchers found a statistically significant three-fold (353%) increased risk of heart failure for people who had all three insomnia symptoms compared to those with none, after adjusting for most confounding factors apart from depression and anxiety.

When they adjusted their findings to include depression

and anxiety, the risk was still significant, with a slightly more than four-fold risk (425%) of heart failure.

Dr Laugsand said: ‘We related heart failure risk to three major insomnia symptoms including trouble falling asleep, problems staying asleep, and not waking up feeling refreshed in the morning. In our study, we found that persons suffering from insomnia have increased risk of having heart failure.’

He continued: ‘Those reporting suffering from all three insomnia symptoms simultaneously were at considerably higher risk than those who had no symptoms or only one or two symptoms.’

Laugsand LE, Strand LB, Platou C, Vatten LJ, Janszky I (2013) Insomnia and the risk of incident heart failure: a population study. *Eur Heart J* Mar 5 (Epub ahead of print)

Biomarker improves diagnosis of acute kidney injury

A new study demonstrates that measurement of plasma neutrophil gelatinase-associated lipocalin (pNGAL), a biomarker that aids in the early detection of acute kidney injury, improved the diagnosis of acute kidney injury when added to clinical judgment (Di Somma et al, 2013).

Patients presenting to the emergency department may suffer from acute kidney injury that is not yet clinically apparent. A significant number of these patients go on to develop severe acute kidney injury that leaves them dependent upon dialysis or renal replacement therapy, compromising the qual-

ity of their long-term health and increasing the risk of death.

Previous studies have shown pNGAL's utility in the early detection of acute kidney injury. However, little research exists on the additive value of pNGAL in the emergency department to help reduce clinical uncertainty faced by physicians when assessing the risk of patients suffering from acute kidney injury.

Di Somma S, Magrini L, De Berardinis B et al (2013) Additive value of blood neutrophil gelatinase-associated lipocalin to clinical judgement in acute kidney injury diagnosis and mortality prediction in patients hospitalized from the emergency department. *Crit Care* 17: R29

Combining drugs for MS does not reduce risk of relapse

A clinical trial has found that interferon- β -1a and glatiramer acetate provide no additional clinical benefit for patients with multiple sclerosis (MS) when taken together (Lublin et al, 2013).

The research team enrolled 1008 participants from 68 sites in a double-blind, randomized, controlled phase III trial. Participants received interferon- β -1a plus glatiramer acetate, interferon- β -1a alone, or glatiramer acetate alone, with interferon- β -1a 30 μ g administered intramuscularly weekly and/or glatiramer acetate 20 mg injected daily. The groups were followed for 3 years to assess if the combination therapy

reduced multiple sclerosis relapse rates.

The interferon- β -1a plus glatiramer acetate combination did not lessen disease progression or show change in the Multiple Sclerosis Functional Composite (assesses leg, arm, and cognitive function in multiple sclerosis patients) better than individual agents over a 3-year period. However, the combination therapy appeared to reduce new lesion activity and total lesion volume.

Lublin FD, Cofield SS, Cutter GR et al for the CombiRx Investigators (2013) Randomized study combining interferon and glatiramer acetate in multiple sclerosis. *Ann Neurol* Feb 19 (Epub ahead of print)