

Sleeping pills increase CV events in heart failure patients

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Sleeping pills increase the risk of cardiovascular events in heart failure patients by 8-fold, according to research from Japan. The study was presented today at the Heart Failure Congress 2014, held 17-20 May in Athens, Greece. The Congress is the main annual meeting of the Heart Failure Association of the European Society of Cardiology.

Dr Masahiko Setoguchi said: "Sleeping problems are a frequent side effect of heart failure and it is common for patients to be prescribed sleeping [pills](#) when they are discharged from hospital. They also have other comorbidities and may be prescribed diuretics, antiplatelets, antihypertensives, anticoagulants and anti-arrhythmics."

He added: "Cardiac function of [heart failure patients](#) worsens with repeated hospitalisations. We therefore decided it was important to investigate the relationships between drugs prescribed at discharge, rehospitalisation and [cardiovascular events](#) in heart failure patients."

The researchers retrospectively examined the medical records of 111 heart failure patients admitted to Tokyo Yamate Medical Center from 2011 to 2013. Information was collected on the presence of coexisting cardiovascular and other medical conditions, medications administered during hospitalisation and those prescribed at discharge, laboratory test results, electrocardiogram, echocardiogram and chest radiographic data and vital signs at admission and discharge.

Study participants were followed up for 180 days after they were

discharged from hospital. The study endpoint was readmission for heart failure, or cardiovascular related death.

For the analysis, patients were divided into those who had heart failure with preserved ejection fraction (HFpEF) and those who had heart failure with reduced ejection fraction (HFrEF). Dr Setoguchi said: "Management and prognosis can vary between patients with HFpEF and HFrEF so we analysed the two groups separately."

Of the 47 HFpEF patients, 15 reached the study endpoint during the 180 day follow up period. The only differences between patients who had events and those who did not were prescription of sleeping pills (benzodiazepine hypnotics), blood sodium levels at admission and blood haemoglobin levels at discharge.

Multivariate analysis showed that HFpEF patients who were prescribed sleeping pills were at eight times greater risk of rehospitalisation for heart failure or cardiovascular related death than HFpEF patients who were not prescribed sleeping pills (hazard ratio [HR]=8.063, $p=0.010$).

Dr Setoguchi said: "Our study clearly shows that sleeping pills dramatically increase the risk of cardiovascular events in patients with HFpEF. The finding was consistent across univariate and multivariate analyses. Given that many heart failure patients have difficulty sleeping, this is an issue that needs further investigation in larger studies."

Of the 64 HFrEF patients, 24 reached the study endpoint during follow up. Multivariate analysis showed that HFrEF patients who were prescribed high blood pressure medications (ACE inhibitors or angiotensin receptor blockers) had less than one-quarter the risk of cardiovascular events compared to HFrEF patients not prescribed these drugs (HR=0.234, $p=0.012$).

Dr Setoguchi said: "The main finding of our study is that HFpEF patients prescribed sleeping pills have an increased risk of cardiovascular events. The number of HFpEF patients is increasing and becoming a larger proportion of heart failure patients overall. Our results therefore are of growing relevance to heart failure patients and the professionals who treat them."

He added: "Benzodiazepine hypnotics may have cardiodepressant actions. They may also exert respiratory depressant actions which could exacerbate sleep disordered breathing and lead to a worse prognosis."

Dr Setoguchi concluded: "Our results need confirmation in larger, prospective studies before [heart failure](#) patients can be advised to stop taking sleeping pills. But HFpEF [patients](#) who use [sleeping pills](#), particularly those who have sleep disordered breathing, should be carefully monitored."

More information: Please see the details of the session here: spo.escardio.org/SessionDetail...Id=3259#.U2tGl_1XKC4

Provided by European Society of Cardiology

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