

Depression increases death risk in coronary stent patients

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Copenhagen, 16 March 2012: Depression increases the risk of death in patients who have a coronary stent implanted. After seven years of follow up, depressed patients were 1.5 times more likely to have died than non-depressed patients. The findings were independent of age, gender, clinical characteristics, anxiety and the distressed (Type D) personality.

The research was presented at the [12th Annual Spring Meeting on Cardiovascular Nursing](#), 16-17 March, in Copenhagen, Denmark.

Depression has been associated with poor outcomes in [coronary artery disease](#) but previous studies have mainly looked at short term effects, primarily in patients who have had a myocardial infarction or a coronary [bypass operation](#). The current study (FPN 17) investigated the impact of depression on mortality during a 7-year follow up period in patients treated with percutaneous [coronary intervention](#) (PCI).

For the study, 1,234 PCI patients aged 26-90 years (average age 62) from the Rapamycin- Eluting Stent Evaluated At Rotterdam Cardiology Hospital (RESEARCH) registry completed the Hospital [Anxiety and Depression](#) Scale (HADS) to assess depression 6 months after having a stent implanted. The endpoint was all-cause mortality.

The prevalence of depression was 26.3% (324 out of 1234 patients). After 7 years there were 187 deaths in total (15.2%). The incidence of all-cause mortality in [depressed patients](#) was 23.5% (76 out of 324

patients) versus 12.2% (111 out of 910 patients) in non-depressed patients.

Depression was independently associated with all-cause mortality (hazard ratio=1.56; 95% confidence interval [1.03-2.35], $p = .035$) after adjusting for sociodemographics (age, gender), clinical characteristics, anxiety and the Type D personality. Clinical characteristics included type of stent (drug eluting/bare metal), number of vessels obstructed, body mass index, past cardiac surgery or [myocardial infarction](#), indication for the PCI procedure, coronary risk factors (hypertension, hypercholesterolemia, diabetes, family history of cardiovascular disease, smoking) and cardiac medications (aspirin, ACE inhibitors, beta blockers, calcium antagonists, diuretics, nitrates and statins).

Male gender, older age, and diabetes mellitus were also significantly associated with an increased risk of death after 7 years of follow up, whereas statins were associated with a reduced risk. Anxiety and Type D personality had no significant effect on all-cause mortality.

"The main finding is that patients who are depressed after coronary stenting have a worse prognosis," says lead author Nikki Damen, a PhD student at Tilburg University in the Netherlands. "They die earlier than non-depressed patients."

The reasons for the finding are under investigation. One possible explanation is that depressed patients may have less healthy lifestyles with regard to smoking, drinking alcohol, physical activity, and diet, and may be less likely to take their medications. Another possible explanation is that depression could alter the activity of the sympathetic nervous system, leading to increases in heart rate and blood pressure.

"Doctors and nurses have traditionally focussed on medical factors like diabetes or family history of cardiovascular disease when assessing PCI

patients' risk of death, but that's not the whole picture," says Ms Damen. "Psychological factors do matter as well, in combination with the medical factors."

She adds: "More research is needed to determine how to screen for depression in cardiovascular patients, and then how to provide treatment."

Provided by European Society of Cardiology

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