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## Depression and anxiety as predictors of major adverse cardiovascular events in Chinese patients 12 months after percutaneous coronary intervention

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**Background:** Depression and anxiety often co-occur in coronary artery disease (CAD) patients undergoing percutaneous coronary intervention (PCI). However, previous studies have reported the separate impact of depression or anxiety on PCI patients.

**Methods:** A multicenter, prospective, longitudinal study was undertaken with a consecutive sample of 309 primary CAD patients undergoing PCI between June 2015 and May 2016 at 4 hospitals in China. The Hospital Anxiety and Depression Scale (HADS) were completed at baseline to assess anxiety and depression symptoms. Major adverse cardiovascular events (MACEs) were recorded for 12 months through outpatient clinic and monthly telephone follow-up, and medical records and death certificate review.

**Results:** Among the 309 patients (mean age  $62.6 \pm 11.2$  years, range 31-96), 80 (25.9%) had depression, and 100 (32.4%) had anxiety. The mean follow-up duration was 346 days (range 24 to 365). MACEs occurred in 26 (8.4%) patients, including 1 case of death, 10 cases of nonfatal new MIs, 4 cases of repeated coronary revascularization, 6 cases of in-stent restenosis, 2 cases of heart failure, and 3 cases of severe arrhythmia. The incidence rates of MACEs were significantly higher in patients with depression or anxiety than in those without. The Log Rank test showed that depression and anxiety ( $\chi^2=9.53$ ,  $P=0.002$  and  $\chi^2=6.10$ ,  $P=0.014$ ,) were associated with a higher rate of MACEs. Depression and anxiety were the predictors of higher MACE incidence (HR=3.15, 95% CI: 1.46-6.79,  $P=0.003$ ; HR=2.55, 95% CI: 1.18-5.52,  $P=0.017$ , respectively). After adjustments for baseline characteristics, depression and anxiety remained the independent predictors of MACEs (HR=2.70, 95% CI: 1.22-5.95,  $P=0.014$ ; HR=2.56, 95% CI: 1.18-5.54,  $P=0.017$ , respectively). A separate multivariate Cox regression test for possible interactions did not show an interaction between depression and anxiety. Cumulative event-free survival rates did not differ among depressed and anxious patients and depressed but non-anxious patients (Log Rank  $P=0.623$ ) or among anxious but non-depressed patients and non-anxious, non-depressed patients (Log Rank  $P=0.082$ ). The groups including patients with symptoms of depression showed an increased risk for MACEs, whereas there were no significant differences in the risk for MACEs between patients with only symptoms of anxiety and patients without these psychological symptoms.

**Conclusions:** Depression is associated with an increased risk of 170% for MACEs 12 months post-PCI, independent of anxiety. Although anxiety is associated with MACEs, it has no additional predictive value when co-occurring with depression.

### Biography

Xiao Hua Wang Wang has completed her PhD majored in Immunology from Soochow University. She has been the Director of Medical Nursing over 10 years. She has published more than 30 papers in impact journals and has been serving as a reviewer of some journals.

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