

Panic Attacks Linked to Increased Coronary Heart Disease in Younger People

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December 18, 2008 — New panic attacks or disorders are linked to an increased risk for subsequent coronary heart disease (CHD) and myocardial infarction (MI) in younger people, according to the results of a cohort study reported in the December 2 issue of the *European Heart Journal*.

"The complex relationship between the 'heart' and the 'mind' has been a subject of much recent debate," write Kate Walters, from the Department of Primary Care & Population Sciences, Hampstead Campus, University College London, United Kingdom, and colleagues. "Most of this has focused on the relationship between depression and...CHD and relatively little large-scale research has considered anxiety disorders. Less is known about the relationship of panic disorder with cardiac disease."

The goal of this cohort study was to determine the risk for CHD, acute MI, and CHD-related mortality in patients with panic attacks or disorder, using 650 practices in the 'General Practice Research Database.'

Incidences of CHD, MI, and CHD-related mortality rate in 57,615 adults diagnosed with panic attacks or disorder were compared vs those from a random sample of 347,039 control subjects who were frequency matched for sex and age. In people younger than 50 years, but not in older-age groups, there was a significantly higher incidence of MI after a new-onset panic attack or disorder. For all ages, there was a higher incidence of CHD in those with panic attacks or disorder, and these were more marked in those younger than 50 years. However, there were no significant differences in CHD mortality rates.

Panic attacks or disorders were associated with a significantly increased hazard of MI in those younger than 50 years (hazard ratio [HR], 1.38; 95% CI, 1.06 - 1.79) and of CHD at all ages (< 50 years: HR, 1.44; 95% CI, 1.25 - 1.65; ≥ 50 years: HR, 1.11; 95% CI, 1.03 - 1.20), based on fully adjusted models. However, there was no increased hazard of MI in patients older than 50 years (HR, 0.92; 95% CI, 0.82 - 1.03), and CHD-related mortality rate was slightly decreased at all ages (HR, 0.76; 95% CI, 0.66 - 0.88).

"New onset panic attacks/disorder were associated with increased hazard of subsequent CHD/MI diagnosis in younger people, but with less effect in people over 50, and a slightly reduced hazard of CHD-related mortality," the study authors write. "This may be due to initial misdiagnosis of CHD as panic attacks or an underlying increased risk of CHD with panic attacks/disorder in younger people."

Limitations of this study include the potential for unmeasured confounding, possible diagnostic bias, lack of multilevel modeling to account fully for practice effects, and potential misclassification of panic disorder.

"The increased hazard of CHD and acute MI is higher in younger people presenting with panic," the study authors conclude. "Clinicians may be more cautious about excluding CHD when making initial panic diagnoses in older people, and therefore have a lower rate of initial misdiagnosis of CHD as panic. Alternatively it may be that small increases in atherogenesis caused by sympathetic nervous system activation in panic disorder are

overtaken by a more dominant underlying age-related atherogenesis in older people, thus masking the relative risk attributed to panic in older age groups."

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Learning Objectives for This Educational Activity

Upon completion of this activity, participants will be able to:

1. Describe the association between panic attacks or disorder with myocardial infarction.
2. Describe the association between panic attacks or disorder and coronary heart disease and death from coronary heart disease.

Clinical Context

Panic attacks not reaching full criteria for panic disorder have a prevalence of 1.9% in the general population, 5.6% to 9.2% in primary care practices, and 10% to 53% in cardiology departments. They are associated with substantial morbidity, and a 2-fold increase in the risk for CHD has been reported in those with panic disorder.

This is a longitudinal cohort study of 650 practices in the General Practice Research Database to examine the association between panic attacks or disorder and the incidence of MI, CHD, and CHD-related mortality.

Study Highlights

- The General Practice Research Database consists of electronic records of all patients registered with the 650 practices broadly representative of all practices in the United Kingdom.
- General practitioners enter diagnoses using the Oxford Medical Information System codes.
- Included were adults aged 16 years or older with a new diagnosis of panic attack or disorder from 1990 to 2002.
- Excluded were those with previous CHD or panic disorder before the study dates and less than 6 months of medical records.
- A random sample of 6 unexposed patients for every exposed patient for panic attack or disorder was generated for comparison during the study period.
- The outcomes were recording of CHD, including MI and CHD-related mortality.
- Covariates included smoking, alcohol consumption, obesity, depression, diabetes, hypertension, cerebrovascular accident, hyperlipidemia, and use of medications.
- Overall, 57,615 individuals aged 16 years or older were identified with panic attacks or disorder.
- Mean age was 43 years and 73% were women.
- 10.6% to 13.1% had hypertension, 2% had diabetes, and 2.8% to 4.4% were obese.
- Median follow-up was 2 years, and 89% of deaths had an identifiable cause.
- The prevalence of panic attacks or disorder was 1.1%.
- Median time from diagnosis of the disorder to CHD event was 2.9 years in those younger than 50 years and 3.0 years in those 50 years or older.
- Those with panic attacks or disorder were more likely to be smokers; have a history of depression, anxiety, or high alcohol intake; use more prescriptions; and to have a history of cerebrovascular accident, hypertension, high cholesterol levels, and obesity.
- There was a significant increase in the incidence of CHD, but not MI, in those with a panic diagnosis.

- In those younger than 50 years, there was a higher incidence of MI vs unexposed patients, especially in young women aged 16 to 40 years.
- In patients 50 years or older, panic disorder or attack was not associated with an increased risk for MI.
- There was a higher incidence of CHD in those with panic attack or disorder for both sexes and in those younger and older than 50 years, but this was most marked in those who were younger.
- In young women aged 16 to 40 years with panic attack or disorder, there was a 3-fold higher incidence of CHD vs unexposed subjects.
- There was an overall reduction in CHD-related mortality for those with panic attack or disorder but no differences by age group or sex.
- In multivariate analysis, the HR for MI in patients younger than 50 years with panic attack or disorder was 1.38.
- There was no increase in HR in those aged 50 years or older.
- The HR for CHD for all ages was 1.44.
- This increased HR was maintained during follow-up time.
- The HR for CHD-related mortality for all ages was slightly reduced at 0.76 for those with panic attack or disorder.
- The authors concluded that there was a significant association between panic attack or disorder and CHD at all ages and increased MI only in those younger than 50 years.
- They suggested that the data were consistent with a causal effect for panic attack or disorder and MI vs a misdiagnosis by general practitioners.

Pearls for Practice

- Panic attack or disorder is associated with a higher incidence of MI in patients younger than 50 years, especially in women.
- Panic attack or disorder is associated with an increased rate of CHD but not an increased rate of CHD-related mortality.