Comorbidity of depression and anxiety disorders in patients with hypertension

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It is well recognized that psychiatric comorbidity has a negative long-term impact on health outcomes for individuals with cardiovascular disease [1–5]. To date, most of the work in this area has focused on the association between major depressive disorder (MDD) and coronary heart disease, with relatively few studies exploring the possibility of a specific association between MDD and hypertension. Even fewer studies have looked at how commonly other more severe psychiatric disorders, such as schizophrenia and bipolar disorder, occur in hypertensive individuals. This is an important but complex area of research, made difficult by the challenge of obtaining high-quality diagnostic information on comorbid psychiatric conditions within large cohorts of patients with hypertension.

In the field of mood disorders, there is exciting recent evidence of a possible biological link between bipolar disorder and hypertension, stimulated by the discovery from genome-wide association studies that calcium channels play a role in both the conditions. Specifically, a locus containing the gene CACNA1C, coding for a subunit of the L-type calcium channel, has been identified and replicated as a risk factor for bipolar disorder [6,7]. Pathway analyses of genome-wide association studies for bipolar disorder have also implicated other calcium channel subunits [8] and CACNA1B2, also a voltage-gated calcium channel, may confer risk for both mood disorders [8] and hypertension [9]. Although more work is required in this area, calcium channel dysfunction has emerged as one potential mechanism of comorbidity between mood disorders and hypertension. For researchers interested in advancing the psychopharmacology of mood disorders, this raises the possibility that existing treatments for hypertension, such as calcium-channel blockers, might be usefully repurposed as treatments for MDD and bipolar disorder. Indeed, a recent small-scale pilot investigation of the L-type calcium-channel blocker ‘isradipine’ suggested that it may have efficacy in the treatment of bipolar depression [10].

In this issue, Sandström and colleagues [11] make an important contribution to the field by making use of routine clinical data collected on over 2 million individuals in Stockholm County, Sweden. This is likely to be the biggest sample ever assessed for comorbidity between hypertension and psychiatric disease. They make use of all the available data from primary care consultations, outpatient consultations, and inpatient care records (between 2009 and 2015), identifying 298,443 individuals with a hypertension diagnosis and comparing how commonly these individuals have a record of depression, anxiety disorders, bipolar disorder, and schizophrenia, relative to individuals without hypertension. The main finding was that both men and women with hypertension were more likely to have a recorded diagnosis of depression and anxiety disorder, with slightly greater risk for men than for women. Perhaps counterintuitively, risks for schizophrenia and bipolar disorder were not found to be increased within the hypertension group. This may be surprising when we consider that life expectancy in individuals with these severe psychiatric conditions is at least 10–15 years lower than the general population, mostly as a consequence of cardiovascular disease, and that many of the treatments for schizophrenia and bipolar disorder can cause weight gain, diabetes, and hypertension [12–15]. However, one possible explanation is that this vulnerable group of patients (in contrast to patients with MDD and anxiety disorders) are less likely to have cardiometabolic parameters such as blood pressure measured, recorded, and treated within both primary and secondary care settings [16,17]. It is also possible that individuals with schizophrenia or bipolar disorder are relatively underrepresented within the older age ranges of this Swedish sample because of reduced longevity.

In summary, the work by Sandström and colleagues [11] is important because it highlights that we need to be mindful of the importance of effective screening, monitoring, and treatment of comorbid psychiatric disorders in individuals presenting with hypertension. In many countries, this will require a much more coordinated and integrated approach than is currently in place but has the potential to significantly improve long-term outcomes for large numbers of affected individuals.
ACKNOWLEDGEMENTS

Conflicts of interest
There are no conflicts of interest.

REFERENCES