Prospective evaluation of psychological distress and psychiatric morbidity in recurrent vasovagal and unexplained syncope

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Abstract

Syncope is experienced by a third of the population, and in the absence of cardiac pathology is most commonly of vasovagal (VVS) or unexplained origin (US). Psychiatric morbidity has been observed in up to 81% of patients with US but findings with VVS are contradictory. Little is known regarding the chronicity of their psychiatric morbidity. **Objective:** To determine the psychological profile of patients with recurrent syncope prior to and following diagnostic head-up tilt testing (HUT), and whether it predicts syncope recurrence. **Method:** Seventy-three women and 43 men (mean age=48±16.6) were recruited from all consenting patients referred for HUT. Psychological status (Psychiatric Symptom Index, Anxiety Sensitivity Index (ASI), Fear of Blood Injury Subscale) and presence of mood/anxiety disorders (Primary Care Evaluation of Mental Disorders) were evaluated 1 month prior to and 6 months following HUT. Follow-up data were collected for 83 patients (mean age=48±17.34). **Results:** At baseline, clinically significant levels of distress were observed in 60% of patients. Those with US (negative HUT) had a fivefold greater risk of suffering from a depressive or anxiety disorder compared to VVS (positive HUT) after controlling for significant covariates. There was no significant change in distress level over follow-up, although psychiatric morbidity dropped from 33% to 22% (*P*=.049). Syncope recurrence was predicted by elevations in baseline psychological distress (OR=1.544, *P*=.013) independently of lifetime number of syncopes. **Conclusions:** Patients exhibited high levels of psychological distress and psychiatric morbidity despite reassurance and education received after HUT. Improved screening for and treatment of psychological distress in these patients is critical.

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Introduction

Syncope is defined as a gradual or abrupt loss of contact with the environment and inability to maintain posture for several seconds or minutes resulting from a reduction of blood flow to the brain. In patients without cardiac pathology, syncope is most commonly vasovagal (VVS) [1,2] and is due to an inappropriate reflex vasodilation and/or bradycardia that can often be elicited with head-up tilt testing (HUT). However, in up to 40% of patients [3–5], the origin of syncope remains unexplained (US) despite HUT. With the use of long-term implantable loop recorders [6,7], fewer patients (5–15%) remain undiagnosed, but this approach to diagnosis is not yet widely used.

The lifetime incidence of syncope ranges from 3% to 39% [5,8–10]; it affects people of all ages and may recur over many years [5,11,12]. Traditional therapy is often ineffective, particularly for VVS and US [12–15]. The financial costs of repeated hospitalization and emergency department

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visits for syncope are considerable [16–19]. Understanding the contributing factors is therefore important in reducing costs and improving treatment outcome.

The prevalence of psychiatric morbidity (particularly anxiety or depression) in patients with US ranges from 1% to 81% [20–25]. In the well-designed study of Kapoor et al. [21], 25% of patients with US suffered from a psychiatric disorder. While a lower prevalence of psychiatric disorders or psychological distress has been reported in patients with VVS compared to US [21,26], contradictory evidence exists [27–31]. Higher anxiety [27] and depression [29] scores have been reported in patients with positive HUT (indicating VVS) compared to patients with US (negative HUT). In addition, blood/injury phobia may be common in patients with VVS [32–35].

While the evolution of psychological morbidity over time and in response to syncope diagnosis remains to be examined, it is known that up to 35% of patients will experience a syncope recurrence [5]. Women, patients with US, and those with psychiatric morbidity may be at greater risk of syncope recurrence over periods of 12–57 months [21,26,28,36].

This prospective investigation examines the presence of distress and psychiatric morbidity (depression and anxiety) in patients with recurrent VVS or US prior to and 6 months following HUT. The extent to which psychological status at baseline predicts syncope recurrence over this follow-up period is also examined.

Method

Participants

Consecutive patients scheduled to undergo HUT were recruited between January 2003 and March 2006 at one of three medical centers (Montreal Heart Institute, Sacré-Coeur Hospital of Montreal, and the Centre Hospitalier Ambulatoire de la Région de Laval) within the greater Montreal region. The study was approved by the research and ethics committees of all centers.

Inclusion criteria were (1) suspected VVS; (2) at least two syncopes within the past 2 years, or multiple presyncope with one syncope that led to serious consequences (e.g., major injury or no longer able to work); (3) 18 years or older; and (4) able to speak and read French or English. Exclusion criteria were (1) other causes of syncope, such as cardiac abnormalities (e.g., structural heart or rhythm disorders), carotid sinus hypersensitivity, orthostatic hypotension, and epilepsy; (2) inability to complete or understand various questionnaires; (3) and significant health problem threatening life (e.g., cancer). Individuals with non-life-threatening conditions (e.g., diabetes, hypertension, arthritis) were not excluded.

Of the 166 patients scheduled for a HUT, we obtained consent and complete test results for 104 patients (see Fig. 1 for flow of patients). Eight-three individuals participated in follow-up evaluations, representing a loss to follow-up of 20% of the sample.

Procedure

Eligible patients were contacted prior to HUT to present the study objectives and protocol and to schedule an appointment 1 month (mean=31 days) before and 6 months after HUT for those consenting to participate. During the interview, participants completed questionnaires on socio-demographic and medical factors, as well as on psychological status.

Demographic variables

Age, civil status, education level, work type and status, personal and familial income, and number of days absent from work in the past 6 months were obtained from patients.

Medical variables and syncope experience

Patients also reported on the number of lifetime syncope episodes as well as on personal and family medical history. At follow-up, patients were questioned as to the number and timing of syncope episodes experienced following HUT, as well as to any new diagnosis or treatment received.

The Primary Care Evaluation of Mental Disorders [37]

The Primary Care Evaluation of Mental Disorders (PRIME-MD) is a screening tool consisting of a 27-item questionnaire and structured interview for physicians to rapidly recognize the most common *DSM-IV* Axis I disorders (e.g., mood, anxiety, substance abuse). Agreement between PRIME-MD diagnoses and those of mental health professionals is good (k=0.71; overall accuracy rate=88%).

Psychiatric Symptom Index [38,39]

Psychiatric Symptom Index (PSI) is a 29-item measure of psychological status in which patients rate the frequency of symptoms relating to depression, anxiety, anger, and cognitive disturbance. The scale has excellent internal consistency (α coefficient=0.91), and strong validity. A standardized score of >20 indicates clinically significant distress levels.

Anxiety Sensitivity Index [40–42]

The ASI is a 16-item questionnaire that assesses fear of anxiety-related sensations based on beliefs that they can be harmful. It demonstrates good criterion validity, internal consistency (α=0.82–0.91), as well as good test–retest reliability (r=0.75). A mean of 33 (±10.6), reported for