Vasovagal syncope and Tilt-training.

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ABSTRACT

Introduction: Vasovagal syncope (VVS) is a common symptom in general population, with high propensity to reoccur. Although the mortality of VVS is near 0%, this symptom may significantly influence the overall quality of life. Yet, there is no specific cure for patients susceptible to VVS.

Objectives: The present paper examines the effects of orthostatic training (so-called tilt-training) in patients with previous recurrent syncope and positive passive head-up tilt test (HUT).

Materials and Methods: A group of 28 otherwise healthy such patients, aging 17-70, mean 44 years, underwent a 4 to 6 weeks of orthostatic training programme consisting of once to twice 10 to 30 minutes daily standing sessions. A control passive HUT was performed afterwards with further 1-year follow-up.

Results: Control HUT was completely negative in 12 patients, slightly symptomatic but completed without syncope in other 12 patients and positive in the remaining 4 patients who remained symptomatic during the follow-up, too, but experienced less frequent VVS. Other 24 patients were asymptomatic to the end of the study.

Discussion: Tilt-training improved the symptoms and 1-year outcome regarding the appearance and frequency of VVS in our patients, which is in concordance with several other authors findings.

Conclusions: According to our results, tilt-training may be useful and harmless method for the prevention of vasovagal syncope or for the reduction of frequency of syncopal attacks.

INTRODUCTION

Vasovagal syncope or "common faint" is a form of neurally-mediated reflex syncopal syndromes, where triggered reflex causes vasodilatation and/or bradycardia with resulting systemic hypotension and cerebral hypoperfusion. These changes finally lead to the transient, self-limited loss of consciousness. Vasovagal syncope is typically precipitated by events such as fear, severe pain, emotional distress, instrumentation or prolonged standing. The fainting usually is not sudden; there is a premonitory period with dizziness, weakness, pallor, nausea and sweating. The recovery is spontaneous, complete and usually prompt. Vasovagal syncope is a common symptom in general population. Approximately 3% of men and 3.5% of women experience vasovagal syncope at least once during their lifetime. Syncope is responsible for 3% to 5% of emergency room visits and for 1% to 3% of hospital admissions per year. Vasovagal syncope has a high propensity to reoccur. Almost one-third of patients have recurrences of syncope at 3 years of follow-up. Despite recurrences, the mortality of vasovagal syncope is near 0%. However, this symptom may significantly influence the overall quality of life. Moreover, there is no specific cure for patients susceptible to vasovagal syncope, yet.

OBJECTIVES

The present paper examines the effects of orthostatic training (so-called tilt-training) in patients with previous recurrent vasovagal syncope and positive passive head-up tilt test.

MATERIALS AND METHODS

A study group consists of otherwise healthy patients with a history of recurrent vasovagal syncope and positive passive standalone head-up tilt test.

The diagnosis of vasovagal syncope was made on the basis of typical features (premonitory period with warning symptoms and prompt, spontaneous recovery). The susceptibility to vasovagal syncope was proven by passive standalone head-up tilt testing. Head-up tilt test was uniformly performed in each patient using modified Westminster protocol with 20 minutes of supine position and 40 minutes of passive standing at angle of 60 degrees. Test was considered as positive if syncope was reproduced, with sudden, significant bradycardia and/or arterial hypotension. Patients with negative head-up tilt test were not included in the study.
After initial tilt testing, all of the patients underwent a 4 to 6 weeks of orthostatic training (tilt-training) program with once to twice 10 to 30 minutes daily standing sessions in the presence of qualified stuff. A control passive head-up tilt test was performed afterwards with further 1-year clinical follow-up. During the follow-up we registered the presence, frequency and severity of recurrent syncopal episodes.

RESULTS
In a group of 28 patients with recurrent vasovagal syncope, aging 17-70, mean 44 years, control head-up tilt test was completely negative in 12 patients, slightly symptomatic but completed without syncope in other 12 patients and positive in the remaining 4 patients. These four patients were symptomatic during the follow-up, too, but experienced less frequent vasovagal syncope, while the rest of the patients in the study group were asymptomatic to the end of the study.

Tilt-training program was completed in all patients without significant complications.

DISCUSSION
In general, the goals of treatment of syncope are prevention of syncopal recurrences and diminution of mortality risk. Regarding the vasovagal syncope, where the risk of mortality already is extremely low, the main goal of therapy is to prevent the recurrences of syncope and, therefore, the associated injuries caused by falling. Prevention of recurrences significantly improves the overall quality of life in patients with vasovagal syncope [8].

Despite the vasovagal syncope is probably the most frequent of all causes of fainting, treatment strategies are still based on incomplete understanding of pathophysiology of syncope. Majority of patients with single vasovagal syncope require only reassurance and education regarding the nature of the disorder. However, patients should be informed about the probability of recurrent syncope and advised to avoid conditions that may precipitate vasovagal fainting [9,10].

If a more aggressive treatment is necessary, volume expanders such as increased dietary salt intake may be employed, or moderate exercise training may be effective in some patients [11].

Many drugs (beta adrenergic receptor blockers, class IA antiarrhythmic drug dysopiramide, scopolamine, clonidine, theophylline, fludrocortisone, ephedrine, etilephrine, midodrine, serotonin reuptake inhibitors etc.) have been used for the treatment of vasovagal syncope, but their efficacy has not been consistently evident [12,13,14].

According to some authors, in highly motivated patients with recurrent vasovagal syncope progressively prolonged periods of enforced upright posture (tilt-training) may reduce the frequency of recurrent vasovagal syncope [15,16].

In our study tilt-training improved the symptoms and 1-year outcome of patients with recurrent vasovagal syncope, regarding the presence and the frequency of vasovagal syncope. This is in concordance with several other authors findings. The exact mechanism by which tilt-training improves the status of patients with vasovagal syncope is not completely understood, yet. It may be that everyday repeated upright standing somehow "straightens" the responsible reflexes and the paradoxical vasovagal reaction cannot be initiated anymore.

CONCLUSIONS
According to our results, tilt-training may be useful and harmless method for the prevention of vasovagal syncope or for the reduction of frequency of syncopal attacks.

BIBLIOGRAPHY


