



ORIGINAL ARTICLE

Syncope unit: Experience of a center using diagnostic flowcharts for syncope of uncertain etiology after initial assessment[☆]

Pedro Sousa^{*}, Nuno Marques, Ricardo Faria, Joana Trigo, Joana Chin, José Amado, Salomé Pereira, Rui Candeias, Ilídio de Jesus

Serviço de Cardiologia, Hospital de Faro, E.P.E., Faro, Portugal

Received 10 June 2012; accepted 31 October 2012

Available online 1 October 2013

KEYWORDS

Syncope;
Uncertain;
Cardiogenic;
Neurogenic;
Unit;
Flowcharts

Abstract

Introduction and Objectives: Syncope is a common symptom that leads to 1% of admissions to hospital emergency departments, and is associated with high costs to the health system. The cardiology department of Faro Hospital has had a syncope unit since July 2007. The aim of this study is to analyze its results in terms of etiological diagnosis and treatment of syncope, using diagnostic flowcharts based on European Society of Cardiology (ESC) guidelines.

Methods: We conducted a retrospective study of all patients referred to the syncope unit of Faro Hospital between July 2007 and August 2011. We analyzed demographic data, characteristics of syncopal episodes, diagnostic methods, etiology of syncope and treatment. The percentages of syncope of cardiac and uncertain etiology were compared with data from other international syncope units. Statistical analysis was performed using SPSS version 13.0.

Results: Of the 304 patients referred to the syncope unit for loss of consciousness, 245 (80.7%) had syncope. Most had reflex syncope (52.2%), 20% had cardiac syncope, 15.6% had orthostatic hypotension, and in 12% of cases etiology remained undetermined. The percentages of cardiac and undetermined etiology were similar to data published by other syncope units.

Conclusions: The Faro Hospital syncope unit obtained similar results to those published by other international syncope units through application of diagnostic flowcharts for etiological diagnosis of syncope. The flowcharts presented can be of value for the proper application of ESC guidelines on syncope.

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[☆] Please cite this article as: Sousa P, Marques N, Faria R, et al. Unidade de Síncope – Experiência de um centro com base em organigramas de decisão para síncope de etiologia incerta após a avaliação inicial. Rev Port Cardiol. 2013;32:581–591.

^{*} Corresponding author.

E-mail address: Peter_senado2002@yahoo.com (P. Sousa).

PALAVRAS-CHAVE

Síncope;
Incerta;
Cardiogénica;
Neurogénica;
Unidade;
Organigramas

Unidade de Síncope – Experiência de um centro com base em organigramas de decisão para síncope de etiologia incerta após a avaliação inicial

Resumo

Introdução e objetivos: A síncope é um sintoma frequente, que motiva 1% das admissões no Serviço de Urgência de um Hospital, estando associada a custos elevados para o Sistema de Saúde. O Serviço de Cardiologia do Hospital de Faro dispõe de uma Unidade de Síncope desde julho de 2007. Pretende-se analisar os resultados obtidos no diagnóstico etiológico e tratamento da síncope, utilizando organigramas de decisão baseados nas *Guidelines* da *European Society of Cardiology* (ESC).

Material e métodos: Foi realizado um estudo retrospectivo de todos os pacientes referenciados à Unidade de Síncope do Hospital de Faro entre julho de 2007 e agosto de 2011. Foram avaliados os dados demográficos, as características dos episódios de síncope, os meios complementares de diagnóstico utilizados, a etiologia da síncope e o respetivo tratamento. Foi também comparada a percentagem de síncope de etiologia cardíaca e indeterminada com dados de outras Unidades de Síncope Internacionais. Para análise estatística, foi utilizado o SPSS 13.0.

Resultados: Dos 304 pacientes referenciados por perda de conhecimento à Unidade de Síncope, 245 (80,7%) apresentaram síncope. A maioria dos pacientes apresentou síncope reflexa (52,2%), 20% apresentou síncope cardíaca, 15,6% hipotensão ortostática e, em 12% dos casos, a síncope permaneceu indeterminada. As percentagens de etiologia de síncope cardíaca e indeterminada são sobreponíveis aos dados publicados por outras Unidades de Síncope.

Conclusões: A Unidade de Síncope do Hospital de Faro através da aplicação de organigramas na investigação etiológica de síncope, obteve resultados equivalentes aos publicados por outras Unidades de Síncope Internacionais. Os organigramas apresentados poderão ser uma mais-valia para a correta aplicação das *Guidelines* da ESC.

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Introduction and Objectives

Syncope is defined as loss of consciousness due to transient global cerebral hypoperfusion characterized by rapid onset, short duration, and spontaneous complete recovery.¹

The estimated incidence of syncope in the Framingham study was 6.2 per 1000 person-years,² but lifetime prevalence can reach 50% in certain populations.^{3,4} However, only a small proportion of these individuals go to a hospital emergency department (ED). In the United States, 1-6% of ED patients have suffered syncope,⁴⁻⁸ while in the Netherlands this figure is 0.7% according to Ganzeboom et al.⁹ It is estimated that around 1% of ED admissions in Europe are for syncope,¹ and of these, 40% of patients are hospitalized¹⁰⁻¹³; mean hospital stay is 5.5 days (interquartile range 3-9 days),¹⁴ entailing high costs.¹⁵ Establishing the etiology of syncope also has important prognostic implications, and the diagnostic process should therefore be rapid and accurate.

The European Society of Cardiology (ESC) first published guidelines on management (diagnosis and treatment) of syncope in 2001,³ and an updated version was issued in 2009.¹ The latter contains a diagnostic flowchart for initial assessment of a patient with loss of consciousness for differential diagnosis of syncope with other situations with which it may be confused (Figure 1).

It is estimated that initial assessment based on clinical history, physical examination and electrocardiography (Table 1) can determine the etiology of syncope in 23-50% of cases.^{12,16}

Table 1 Factors associated with probable etiology of syncope on initial evaluation.

Cardiovascular	Presence of structural heart disease Family history of unexplained sudden death or channelopathy During exertion, or supine Abnormal ECG Sudden onset palpitation followed by syncope ECG findings suggesting arrhythmic syncope
Neurogenic	Absence of structural heart disease Long history of recurrent syncope After sudden unpleasant sight, sound, smell or pain Prolonged standing or crowded, hot places Nausea, vomiting associated with syncope During a meal or post-prandial With head rotation or pressure on carotid sinus After exertion
Orthostatic hypotension	After standing up After changes in hypotensive medication

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