The epidemiology of patients with dizziness in an emergency department

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Objectives: The aims of this prospective study were (1) to describe the patterns of presentation, causes and disposition of patients with dizziness in an emergency department (ED) and (2) to identify the factors that predict central vestibular disorder. Methods: All adult patients (≥18 years) attending our ED with a chief complaint of dizziness were included. Demographic characteristics, presenting complaint, symptoms, past medical illnesses, physical findings, provisional diagnosis and disposition were recorded in a data collection sheet by the medical officers. Results: A total of 104 consecutive dizzy patients were recruited from 12th to 19th December 2003. The incidence of adult patients with dizziness was 4.0% (104/2594). There were 34 (32.7%) male and 70 (67.3%) female patients; 64 (61.5%) patients were below 65 and 40 (38.5%) were above 65. Lightheadedness (61.5%), vertigo (31.7%) and disequilibrium (4.8%) were the most frequent complaints. Nausea and/or vomiting (32.7%) and raised blood pressure on arrival (23.1%) were the most common associated symptoms and physical finding respectively. Hypertension (38.5%) was the most common pre-existing medical illness. Of all patients, 63.5% had non-vestibular disorder, 31.7% had peripheral vestibular disorder and 4.8% had central vestibular disorder. A clinical diagnosis could be made in 52.9% of our dizzy patients and about 20 different diagnoses were made. The majority (82.7%) of the patients were discharged from the ED. A presenting complaint of lightheadedness, altered mental state, focal neurological signs, raised blood pressure and history of stroke were predictors of central vestibular disorder (p<0.05). Conclusions: Lightheadedness and vertigo were the two commonest presentations of dizzy patients. Most dizzy patients had benign causes and could be discharged from the ED. Lightheadedness, focal neurological symptoms and signs, altered mental state, hypertension and previous stroke were factors that would help to diagnose central vestibular disorder. (Hong Kong j.emerg.med. 2006;13:133-139)
Introduction

Dizziness is a commonly encountered complaint in the emergency department (ED). It is difficult to define, challenging to diagnose and troublesome to treat. Dizziness can be caused by a wide range of benign and serious conditions. As emergency physicians, we have to identify those serious and life-threatening cases in a timely fashion and manage them accordingly, in order to minimise morbidity and mortality.

"Dizziness" refers to various abnormal sensations relating to the perception of the body's relationship to space. In a classic paper, Drachman and Hart described four subtypes: vertigo, lightheadedness, disequilibrium, and other dizziness. Vertigo is a false sensation that the body or the environment is moving (usually spinning). It suggests a disturbance of the vestibular system, either central or peripheral. Lightheadedness is a sensation of an impending faint. It usually results from diffuse temporary cerebral ischaemia. Disequilibrium is a sense of imbalance (postural instability) that is generally described as involving the legs and trunk without a sensation in the head. Other dizziness is typically described as vague or floating, or the patient may have difficulty in describing the sensation.

In this prospective study, we described the patterns of presentation, causes and disposition of patients with dizziness in an ED and identified the associating factors with central vestibular disorder.

Methods

This prospective observational study was performed in the ED of the Prince of Wales Hospital in Shatin, Hong Kong—a 24-hour emergency facility with a daily attendance of around 500 patients during the study period. Within the ED, there was a 16-bed observation ward staffed by emergency physicians. Consecutive patients presenting to the ED over a one-week period (12th to 19th December 2003) with a chief complaint of dizziness were recruited.

The exclusion criteria included those under the age of 18 years, and resuscitation room cases. The triage nurse identified suitable study subjects and attached a single page A4 size data collection sheet to the patient's clinical record. After assessing the patient, the attending emergency physician completed the data collection sheet (Appendix 1).

Data collected for each dizzy patient included demographic characteristics, presenting complaint, associated symptoms, past medical illnesses, drug history, physical findings, provisional and specific diagnosis and disposition.

Dizzy patients admitted to the ED observation ward or medical or neurosurgical wards were followed up using the computerised Clinical Management System (CMS). Those with central causes according to their CT/MRI results were identified. We then used univariate analysis and chi-square test (using...