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REFLEX SYNCOPE IN CHILDREN AND ADOLESCENTS

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This article will address the epidemiology of reflex syncope in children and adolescents, its clinical characteristics and syndromes, the approach to diagnosis, and finally treatment.

EPIDEMIOLOGY

Syncope can be defined as a temporary loss of consciousness and postural tone secondary to a lack of adequate cerebral blood perfusion. The incidence of syncope coming to medical attention appears to be clearly increased in two age groups—that is, in the young and in the old (fig 1).[1] An incidence peak occurs around the age of 15 years, with females having more than twice the incidence of males.[1 2] Syncope is an infrequent occurrence in adults. The incidence of syncope progressively increases over the age of about 40 years to become high in the older age groups. A lower peak occurs in older infants and toddlers, most commonly referred to as "breath-holding spells".[3]

The incidence of syncope in young subjects coming to medical attention varies from approximately 0.5 to 3 cases per 1000 (0.05–0.3%).[2] Syncopal events which do not reach medical attention occur much more frequently. In fact, the recently published results of a survey of students averaging 20 years of age demonstrated that about 20% of males and 50% of females report to have experienced at least one syncopal episode.[4] By comparison, the prevalence of seizures in a similar age group is about 5 per 1000 (0.5%)[5] and cardiac syncope (that is, cardiac arrhythmias or structural heart disease) is even far less common. By far the most common cause of syncope in young subjects is a reflex syncopal event and in particular a vasovagal faint[1–4] This disorder is the focus of the present review.

CLINICAL CHARACTERISTICS OF REFLEX SYNCOPE

The term "reflex syncope" is used to label a heterogeneous group of functional disturbances characterised by episodic vasodilation and/or bradycardia resulting in transient failure of blood pressure control.[6] The circumstances surrounding reflex syncopal events often include a recent change in posture, but may be associated with a wide variety of common situations (table 1). Not only reflex mediated effects, but also physical factors inducing systemic hypotension like straining are involved. Often a combination of reflex and physical factors is present.[1 4] Following are descriptions of the more common forms of reflex syncope seen in young subjects.

Vasovagal syncope

A combination of peripheral arterial and venous vasodilation followed closely by a relative bradycardia is the most common physiological scenario observed during spontaneous or induced syncopal events in young subjects.[6] A variety of terms have been used to describe such events, including simple faint, vasovagal, vasodepressor, and neurocardiogenic syncope. Vasovagal faint is most commonly used. Two clinical scenarios in particular are known to provoke vasovagal faints. First and foremost are the situations that increase pooling of venous blood below the heart, such as long periods of standing motionless, particularly in combination with elevated ambient temperatures. Young subjects often experience prodromal signs and symptoms when a spontaneous vasovagal syncope is imminent (table 2). These prodromes are reported to be more intense than those in elderly subjects, and are perhaps related to more robust autonomic control. However, some young subjects have little or no prodromal symptoms, and the collapse occurs without warning. The second scenario is syncope at the time of distressing emotional situations or pain, which appears also to be more common in the young. A typical example is an event during blood drawing. Other emotional triggers reported in young subjects include having their hair cut or brushed, eye examinations or manipulation, dental procedures, or watching television programmes about medical matters or animal biology.[7]

The clinical presentation of vasovagal syncope may vary widely both within and among young patients. The trigger may be emotional for one event, and postural for another. Further, vasovagal episodes may occur without an identifiable trigger, even in patients who are sitting. Apparently

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