Introduction

INTRODUCTION

Sleep is an important physiological process with profound impact on the body. Sleep undergoes normal developmental changes and common sleep problems are seen in general pediatric practice
(Carino et al, 2003).

Excess sleepiness, abnormal patterns, non-restorative sleep, and fatigue are becoming increasingly pervasive in modern society. Identifying substances and mechanisms that modulate sleep and vigilance during health and disease is a critical prelude to eventual development of interventions to prevent or alleviate these disabling problems. A unified interdisciplinary approach that includes neurophysiology, neuroanatomy, neurochemistry, and molecular biology will promote elucidation of the complex biology of sleep. Integration of basic sleep physiology with modern genetic techniques will eventually lead to identification of specific genes and substances involved in regulation of various facets of sleep (Toth & Jhaveri, 2003).

Sleep is not a static state. During the sleep period, physiologic changes occur throughout the body and brain. This complex, dynamic process can, at times, result in episodes of unusual or undesirable behaviors. These phenomena are called parasomnias. The accurate diagnosis of this group of treatable disorders is important, because they can have a negative impact on sleep, health, and social function. In addition, some of the parasomnias may provide clues to the presence of other underlying pathologic conditions.(Brooks & Kushida,2002).

Sleep disorders are very prevalent in the general population and are associated with significant medical, psychological, and social disturbances. Insomnia is the most common. When chronic, it usually reflects psychological/behavioral disturbances. Most insomniacs can be evaluated in an office setting, and a multidimensional approach is recommended, including sleep hygiene measures, psychotherapy, and medication. The parasomnias, including sleepwalking, night terrors, and nightmares, have benign implications in childhood but often reflect psychopathology or significant stress in adolescents and adults and organicity in the elderly. Excessive daytime sleepiness is typically the most frequent complaint and often reflects organic dysfunction. Narcolepsy and idiopathic hypersomnia are chronic brain disorders with an onset at a young age, whereas sleep apnea is more common in middle age and is associated with obesity and cardiovascular problems.(Vgontzas & Kales ,1999).

Several studies in the last ten years have been directed towards a better understanding of sleep disorders in childhood. Defining sleep disorders in this age is difficult in dependence of relevant differences in sleep patterns at subsequent developmental stages. In new-borns total sleep time is fairly equal during night and day. Normally, day-time sleep gradually decreases over the first three years of life, such that night-time sleep progressively increases till the age of four, and similar to adult sleep-time

by adolescence. The most frequent sleep disorders observed in childhood are parasomnias, that, thought to be a CNS sign of immaturity, tend to be quite predictable, recurring in the same families and not even influenced by environmental stimuli. These disorders included: a) arousal disorders, that generally emerge from delta sleep or relate to arousals occurring during NREM sleep, very common in childhood and fairly common in adulthood; b) somnambulism and somniloquy, that have many common characteristics: first of all, they have the potential to generate a great sense of discomfort and fear in parents watching a child who suddenly sits up in bed eyes-opened but 'unseeing'; c) nocturnal enuresis, that is substantially not a problem of depth of sleep, despite many parents believe. Although narcolepsy is more common in adolescence, many studies have demonstrated that narcoleptic symptoms may begin in childhood. Narcoleptic symptoms in children are similar in their appearance to those predominant in adults, but their expression may be different because of CNS maturational factors (Mazza .,et al,2002).

Parasomnias are undesirable physical events which occur during sleep, usually presenting as motor phenomena associated with arousal. They are common in childhood and adolescence, and may result in significant distress to the victim and/or family members, and occasionally result in violent and injurious behavior. Extensive study of these conditions has identified a wide variety of underlying conditions, and has permitted the development of a classification system, with indications for evaluation and treatment(Mahowald , Rosen ,1990).

Parasomnias are defined as unpleasant or undesirable behavioral or experiential phenomena that occur predominately or exclusively during the sleep period. Initially thought to represent a unitary phenomenon, often attributed to psychiatric disease, it is now clear that parasomnias are not a unitary phenomenon but rather are the manifestation of a wide variety of completely different conditions, most of which are diagnosable and treatable. The parasomnias may be conveniently categorized as "primary sleep parasomnias" (disorders of the sleep states per se) and "secondary sleep parasomnias" (disorders of other organ systems, which manifest themselves during sleep). The primary sleep parasomnias can be classified according to the sleep state of origin: rapid eye movement (REM) sleep, non-REM (NREM) sleep, or miscellaneous (i.e., those not respecting sleep state). The secondary sleep parasomnias can be further classified by the organ system involved. The underlying pathophysiology of many parasomnias is state dissociation-the brain is partially awake and partially asleep. The result of this mixed state of being is that the brain is awake enough to perform very complex and often protracted motor and/or verbal behaviors but asleep enough not to have conscious awareness of, or responsibility for, these behaviors.(Mahowald , Bornemann & Schenck ,2004).

Parasomnias are common disturbances of sleep that may significantly affect the patient's quality of life and that of the bed partner. Most parasomnias can be diagnosed with careful history taking and polysomnography, and management is usually safe and effective.(Giglio , Undevia & Spire,2005).

Pediatric parasomnias comprise a wide variety of often confusing behaviors during sleep.(**Sheldon** ,2004).

The study of sleep and wakefulness disorders is clearly a branch of medicine due to the high prevalence of these disorders in the general population, their morbidity and their negative consequences in social and working life, especially as a cause of road and workplace accidents.(**Peraita-Adrados ,2005**).

The pathophysiological mechanisms of parasomnias are unknown, explaining why there is rarely a specific treatment precipitating. Management depends on the patient's age, the frequency and intensity of the episodes, the familial structure, the presence of precipitating and risk factors, psychological disorders and the parasomnia itself. Different therapeutic approaches are described including (1), explanation and reassurance, (2) counselling to avoid precipitating factors such as irregular sleep patterns, alcohol or drug intake (3) strategies to avoid injury (4) psychological approaches such as behavioral therapies in some parasomnias such as nightmares or arousal disorders. However, very few controlled studies have been done making it difficult to provide recommendations based on controlled clinical trials. Pharmacologic treatments are rarely necessary except in REM sleep behavior disorders; they are most often needed for short term (Vecchierini , 2001).