

NARCOLEPSY RESEARCH: PAST, PRESENT, AND FUTURE PERSPECTIVES

S. FROMHERZ AND E. MIGNOT¹

Stanford University Center for Narcolepsy Research, Palo Alto, CA 94305, USA

INTRODUCTION

In 1877, Westphal described a patient with hypersomnia and episodic muscle weakness. He did not feel that these weakness attacks could simply be explained by "epileptoid" phenomenon (43). The next year, Fischer described a similar case (9). By 1880, Gélinau decided that patients with these symptoms represented a distinct clinical entity and he called it "narcolepsy" (11). In 1902, Loewenfeld noted the importance of cataplexy in this disorder (21), and in 1934 Daniels published an important review on the topic which helped to galvanize interest in further study (6). In 1957, Yoss and Daly discussed the "clinical tetrad" which included hypersomnia, cataplexy, hypnagogic hallucinations, and sleep paralysis (45). In 1960, Vogel noted that patients with narcolepsy had early onset of REM sleep on their electroencephalograms (42). At the First International Symposium on Narcolepsy in 1975, the symptom of disturbed nocturnal sleep was added to the clinical diagnostic criteria for narcolepsy (12). For many years the etiology and mechanisms of this disease were poorly understood. It was not until the early 1970s when the exciting animal and human research first started to unravel the mysteries of the genetics and physiology of narcolepsy. This research will be discussed below.

THE CLINICAL SYNDROME

Narcolepsy is a disorder in which the ability to regulate sleep-wake states does not function properly. Patients with narcolepsy typically have daytime somnolence, cataplexy, sleep paralysis, hypnagogic hallucinations, and poor nocturnal sleep. With the exception of cataplexy, all of these symptoms can be seen in other disorders with excessive daytime sleepiness, and can even be considered an occasional part of normal human experience. Hypnagogic hallucinations are vivid, realistic visual, auditory, or tactile dreamlike sensations that occur upon falling asleep (they are called hypnopompic if they occur upon awakening). These hallucinations are often so realistic that the patient will take action when they feel that they are threatened for example calling the police when they think there is an intruder in the house. Sleep paralysis is the onset of immobilization before a patient has actually fallen asleep, or

¹ Corresponding Author: Dr. Emmanuel Mignot, Stanford University Center for Narcolepsy Research, 701-B Welch Rd., room 145 Palo Alto, CA 94304 USA. email: mignot@stanford.edu

