CHAPTER 32

Sleep and Antipsychotic Drugs in Schizophrenia Patients

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Abstract

Insomnia is a common feature in schizophrenia. The sleep disturbance of either never-medicated or previously treated schizophrenia patients is characterized by an increase of stage 2 sleep latency and wake time after sleep onset, and a reduction of total sleep time and sleep efficiency. In addition, stage 4 sleep, slow wave sleep, and REM latency are consistently decreased. The limited number of studies directed at disclosing the effects of typical (haloperidol, thiothixene, flupentixol) and atypical antipsychotics (olanzapine, clozapine, risperidone) on sleep in schizophrenia patients tend to indicate that they improve sleep induction and/or sleep maintenance.

Introduction

Insomnia is a common feature of schizophrenia. To be considered as a symptom related to schizophrenia, the sleep disturbance must last for at least one month and be associated with daytime fatigue or impaired daytime functioning. Although the sleep disturbances in schizophrenia could be sufficiently severe to warrant independent clinical attention, they seldom are the predominant complaint. Nevertheless, severe insomnia is often seen during exacerbations of schizophrenia, and may actually precede the appearance of other symptoms of relapse. Less frequently, severe sleep disorders may complicate schizophrenia to the degree that patients can become suicidal.

Polysomnographic Sleep in Schizophrenia Patients

The all-night polysomnographic sleep of never-medicated or previously treated schizophrenia patients has been compared with that of normal controls in several studies. In these studies sleep variables were grouped into sleep initiation and maintenance, Non-REM (NREM) sleep structure, and REM sleep features. Sleep continuity measures included wake time after sleep onset, number of awakenings, total sleep time, and sleep efficiency. NREM sleep structure comprised the minutes or percentage spent in each sleep stage. REM sleep was expressed in minutes or percentage of total sleep time; REM latency was the time from the first epoch of stage 2 to the first REM period.

Never-Medicated Schizophrenia Patients

A total of 75 patients and 61 normal controls were included in five studies. Their age ranged from 21.0 to 71.1 years. Two studies included only chronic patients, whereas in the other three studies acute, subacute, and/or subchronic schizophrenics were also included. In four studies sleep was assessed in a sleep laboratory during one night, which was preceded by one adaptation night, whereas in one study two consecutive nights of polysomnography were conducted, and averaged data from both nights were reported for all variables. Values corresponding to some variables were omitted in two studies. Compared with controls stage 2 sleep latency, wake time after sleep and the number of nocturnal awakenings were increased whereas total sleep time and sleep efficiency were reduced. Stage 2 sleep was found to be reduced. Stage 4 sleep amounted to very low values in both the schizophrenia patients and the controls. The relatively low values of stage 4 sleep in the controls tend to indicate incomplete adaptation to the sleep environment. REM latency and REM sleep in minutes were decreased in three out of the five studies (Fig. 1). Values corresponding to stage 2 sleep were found to be reduced. Stage 4 sleep amounted to very low values in both the schizophrenia patients and the controls. The relatively low values of stage 4 sleep in the controls tend to indicate incomplete adaptation to the sleep environment. REM latency and REM sleep in minutes were decreased in three out of the five studies (Fig. 1). The values corresponding to sleep variables tended to change in the same direction irrespective of the phase of illness. Nevertheless, REM latency amounted to much lower values in studies where only chronic patients were included.

Schizophrenia Patients Previously Treated with Neuroleptics

Studies That Included a Control Group

A total of 200 young patients aged 18.0-35.0 years and 190 normal controls aged 20.0-31.3 years were included in thirteen studies. A whole patients had not been taking neuroleptics prior to the study for periods ranging from 1-2 days to 1-2 years. Concerning the phase of illness, seven studies included only chronic patients, whereas in the other six studies acute, subacute, subchronic and chronic schizophrenia patients were included. In two studies sleep was assessed in a sleep laboratory during one night, which was preceded by one adaptation night, whereas in eleven studies 2-5 consecutive nights of polysomnography were conducted, and averaged data from the recording nights were reported for all variables. Values corresponding to some variables were omitted in seven studies. Compared with controls, in schizophrenia patients stage 2 sleep latency and wake time after sleep...
onset were increased, whereas total sleep time and sleep efficiency were reduced (Fig. 2). In addition, stage 2 and stage 4 NREM sleep, and REM latency in minutes were decreased in almost all studies (Fig. 2). Thus, available data tend to indicate that sleep onset and sleep maintenance were disrupted in the schizophrenia patients irrespective of the length of the drug-free period prior to