CONVULSIONS FOLLOWING ABRUPT WITHDRAWAL OF BARBITURATE: CLINICAL AND ELECTROENCEPHALOGRAPHIC STUDIES

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INTRODUCTION

There are frequent references in the literature to the occurrence of convulsive seizures following abrupt withdrawal of sedative medication in individuals who have taken large doses for prolonged periods of time and who have no previous history of convulsive phenomena. H. S. Dunning, in 1940, summarized the literature and added six cases of his own in which convulsions followed abrupt withdrawal of sedative medication. Kalinowsky has more recently reported a number of nonepileptic, chronically disturbed patients at Pilgrim State Hospital who were treated with large doses of sodium barbital for years, and who—several days after withdrawal of the medication—had convulsions; for three years subsequent to these attacks, no further seizures occurred. The writers are reporting a case of barbiturate habituation in which a convulsion occurred on the third or fourth day each time the drug was withdrawn. In addition to the clinical studies, electroencephalographic studies were carried out, which, to the writers' knowledge, have not been reported previously in the literature in similar cases.

CASE HISTORY

J. D., a 49-year-old white woman, was admitted to the Psychiatric Institute, July 16, 1941, with a history of barbiturate habituation since 1929 and the occurrence of convulsive seizures for the first time in her life following the abrupt withdrawal of the drug in 1940.

She began to take sedative medication shortly after the death of her husband, a physician, who died as a result of a fall in 1928. Shortly thereafter, she contracted pneumonia and was confined to a hospital for several months. Six months later, she underwent a cholecystotomy. Following her return home, she was unable to sleep, and morphine was given for a period of three weeks. She then took allonal, in doses up to 12 tablets daily (36 gr.), to over-
come insomnia due to anxieties arising out of a fear of darkness and of smothering. She continued to use allonal in large dosages until 1939, when she replaced it by nembutal. She began with small amounts, at first 3 to 6 gr., but gradually increased it to daily dosages of 27 grains. Before retiring she would take 9 to 12 gr., but even then she would sleep for only two or three hours. In the spring of 1940, she stopped taking nembutal because she could no longer afford it. Four days later she had a generalized epileptiform convulsion, with foaming, cyanosis, tonic and clonic convulsions and amnesia for the event. She resumed the medication soon after this attack and continued with it until the fall of 1940 when she again stopped. As before, she had a generalized epileptiform seizure four days following withdrawal. Following this seizure, however, she did not take sedatives for three months. In November, 1940, because of pain in the gall bladder region, she was advised to take some nembutal. She did so, but after a few months, made several attempts to discontinue the medication. Each time she ceased abruptly to take the nembutal, a generalized convulsion occurred three to four days later. Because of the occurrence of the convulsions, hospitalization was suggested; and she entered the hospital, approximately one week after her last seizure, immediately following which she had again resumed nembutal sedation.

According to her son, a definite personality change occurred about three years prior to admission. She began to neglect her household, became asocial, and felt that her judgment was poor. There was no obvious memory loss, but she spoke frequently about her past life and was prone to exaggerate or distort a number of incidents which had occurred years ago.

**PHYSICAL EXAMINATION**

Physical examination revealed a tall, well-nourished, gray-haired, attractive, white, middle-aged woman. There was no dyspnoea or cyanosis. There were several healing lacerations of the face at the outer angle of the left orbit as the result of injuries suffered during one of her convulsions. The heart was not enlarged, sounds were regular and of good quality. Lungs were clear; blood pressure 120/80. Abdominal examination, including a pelvic ex-