

Drug Induced Parkinsonian Syndrome in a Case of Tranquillizer Poisoning

By F. J. LICHTIGFELD

INTRODUCTION

Extra-pyramidal reactions following on the administration of the major tranquillizers have been frequently reported on (May and Voegelé, 1956; Druckman, Seelinger and Thulin, 1962; Freyhan, 1957).

The resemblance between some of the drug-induced paroxysmal dystonias and extra-pyramidal seizures occurring in some organic disorders of the nervous system has been noted (Paulson, 1959). The clinical picture of drug-induced Parkinsonism can suggest serious neurological disorders, such as tetanus, meningitis or encephalitis (Hudson and Cornman, 1961; Montgomery and Sutherland, 1959) as well as calling to mind hysterical states (Bickerstaff and Jacoby, 1960).

CASE REPORT

The following case report illustrates some difficulties in the diagnosis of a drug-induced Parkinsonian syndrome, and includes a note on the treatment of this condition.

The patient, an unmarried woman of 22 years of age, appears to have taken 6 Doriden tablets, 20 50 mg. Largactil tablets and 20 5 mg. Stelazine tablets in a suicidal attempt. She slept for 24 hours at home, recovered spontaneously, and only after 48 hours did drug-induced symptoms commence with intermittent dystonic contractions of her neck muscles. A diagnosis of hysteria was made at a casualty department. Her own doctor gave her an injection of morphine which induced a good night's sleep and this appeared to confirm the diagnosis of hysteria. She was admitted to hospital 72 hours after she had taken the overdose, as her hysterical behaviour was becoming worse. A diagnosis of a delayed drug-induced Parkinsonian reaction was made, and 4 mg. benztropine given orally.

However, the intermittent agonizing attacks of opisthotonus associated with oculogyric crises and generalized hypertonus persisted, as did her incoherent screaming during these paroxysms. The latter also became more

frequent. Later the patient stated that during the attacks she found it very difficult to breathe because of the tightness of her throat muscles, and this increased her feeling of terror. Autonomic disturbances were also present. Her blood pressure was raised from previously normal levels, she was pyrexial, tachycardic, her face was flushed, sialorrhoea was marked and she was perspiring profusely. In view of her clinical state she was given Procyclidine hydrochloride 10 mg. intravenously. She was relieved completely within 10 minutes of the injection and the drug reaction did not recur.

DISCUSSION

This case illustrates how easily the condition described can be thought of as an hysterical manifestation. The latter diagnosis can be suggested by the previous history of the patient, the intermittent nature of the symptoms, and the screaming and groaning that may eventually supervene. An hysterical overlay may also mislead one in making the diagnosis. One cannot, of course, entirely exclude other organic causes, but a satisfactory response to adequate treatment with anti-Parkinsonian agents and no subsequent neurological abnormality should dispel doubts on this score. It has been stated that in the intervals between the symptoms, neurological examination is normal (Hudson and Cornman, 1961).

Another point to be noted is the latent period that can intervene between the overdose and the onset of the drug reaction. In two previous cases where overdoses of tranquillizers were taken, both patients slept soundly and a dystonic reaction began twelve and twenty-one hours after the overdose had been taken (Hare, 1958; Bickerstaff and Jacoby, 1960). In the case described here, the latent period was particularly prolonged although no other drugs had been taken after the overdose. A possible explanation is that an anti-Parkinsonian action

of the glutethamide (Doriden) delayed the onset of the drug-induced syndrome. It could have acted by means of its sedative and hypnotic action, or by a more specific pathway as phenylglutarimide, which is used in the treatment of Parkinsonism, contains a glutarimide nucleus, as does glutethamide. Any agent producing sleep would also tend to relieve the syndrome, and the morphine given in this case illustrates the point.

Procyclidine has been noted as being very effective in the treatment of drug-induced Parkinsonian syndromes (Boardman, Fullerton, Bethell and Conway, 1962; Gross and Langner, 1962). Other drugs used successfully in treating this condition include barbiturates (Ayd, 1959), diphenhydramine (Fout and Kirk, 1961), benzotropine (Goldman, 1958), trihexyphenidyl (Waugh and Metts, 1960), caffeine sodium benzoate (Freyhan, 1958) and pethidine (Montgomery and Sutherland, 1959). Presumably they all counter-balance the action of the phenothiazines on the basal ganglia, probably by different means in each case (Hudson and Cornman, 1961). Intravenous administration is indicated when rapid relief of the symptomatology is required.

The drug-induced syndrome reported in this paper bears some resemblance to the breath-holding, sweating and oculogyric crises occurring in post-encephalitic Parkinsonism (Onuaguluchi, 1961). Some of the post-encephalitic patients also made inarticulate loud noises during the crises, and were reported to be in a state of fear at the time. The patient described in this paper was also afraid during the paroxysms, her fear being accentuated by her feeling of choking. Her vocalizations could therefore be regarded as a possible cry of terror and plea for help. However, it is probable that the inarticulate noises made by the patient during the paroxysms had as much of an involuntary origin as the other signs occurring at the time. Relevant to this interpretation is the fact that electrical stimulation of the supplementary motor area in conscious man can produce autonomic and motor responses as well as vocalization, typified by a sus-

tained or interrupted cry (Roberts, 1961). A further elaboration of the involuntary vocal responses by the patient is a necessary factor to fully account for individual differences noted.

SUMMARY

A case of drug-induced Parkinsonian crisis due to a suicidal overdose and characterized by delayed onset has been described.

Some diagnostic pitfalls have been discussed and various treatments for this condition enumerated.

Intravenous procyclidine hydrochloride has been confirmed as being an effective antidote in this disorder.

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F. J. Lichtigfeld, B.Sc., M.B., B.Ch., Registrar, Whipps Cross Hospital; present address: 22 Oxford Road, Parktown, Johannesburg, South Africa