

developed NMS and further complications due to the usage of diazepam in the early stages of NMS.

Case report. This 67-year-old man was admitted to a general hospital for management of NMS. He carried a diagnosis of chronic schizophrenia as well as glaucoma and non-insulin-dependent diabetes.

The patient had originally presented to a local general hospital with agitation and rambling speech, and the emergency services transferred him to the catchment area psychiatric hospital where he received two doses of haloperidol 2.5 mg i.m. for aggressive behaviour in addition to alprazolam 0.25 mg t.i.d. and trifluoperazine 10 mg p.o. q.h.s. Because of an increasing CPK (3205 IU/C), fever (38° C) and confusion within 48 hours, he was transferred to the local general hospital due to suspicion of NMS. The patient was investigated for possible cardiac cause of his elevated CPK and the tests were negative. The patient was then placed on diazepam 10 mg i.m. q.4.h. p.r.n. and chlordiazepoxide 25 mg p.o. i.m. q.4.h. p.r.n. for control of agitation. He received diazepam 5–10 mg i.m. on six occasions within a time frame of 24–72 hours as well as chlordiazepoxide 25 mg i.m. on one occasion. The patient received this for very agitated behaviour, trying to remove shackles, restlessness, yelling, and at times expressing paranoid ideas. He would respond by getting drowsy, sleeping for long periods and waking with further agitation. He gradually became comatose and was transferred to a teaching hospital for management of suspected NMS.

On arrival, the patient had a blood pressure of 100/10, respiratory rate of 30 and heart rate of 100. Examination of the head and neck revealed neck stiffness and increased tone in the extremities. Pupils were slightly reactive and fundi were difficult to assess. Gag was intact. Examination of the chest, cardiovascular systems and abdomen revealed no abnormalities. Spontaneous movements of both arms were present.

The patient underwent comprehensive tests including CT of the head and lumbar puncture which were both negative. A drug screen was positive for benzodiazepines, and EEG findings were consistent with diazepam-induced encephalopathy. The patient was managed conservatively with emphasis on hydration. The patient's level of consciousness gradually improved over a period of ten days; he was then referred to the psychogeriatric service for follow-up care.

Therapy in NMS is largely supportive. This consists of stopping the offending agent, correcting fluid and electrolyte imbalances, monitoring vital signs,

fluid intake and urinary output, and reducing the core body temperature.

The use of benzodiazepine in NMS has been advocated based on their efficacy in a small number of patients (Fricchione *et al*, 1983; Lew *et al*, 1983). However, it should be remembered that they bind tightly to plasma proteins and are highly lipophilic. This means that they are hard to remove from the body, especially in the elderly. Benzodiazepines like oxazepam and lorazepam have no active metabolites, and the elimination half lives of these compounds is in the short to intermediate range (5–20 hours), but for diazepam it is 20–100 hours. The metabolism of diazepam is therefore more affected by the presence of liver disease, the extremes of age, or drug interactions. If benzodiazepines are used in the management of NMS, the longer half-life drugs, e.g. diazepam, should probably be given once a day only. Shorter half life drugs, e.g. lorazepam, oxazepam, could probably be given in divided doses two to three times a day. These dosage regimens are even more important while treating the elderly.

FINUCANE, P. & MURPHY, S. F. (1984) Neuroleptic malignant syndrome – common or rare? (Abstract). *Irish Journal of Medical Science*, 153, 156.

FRICCHIONE, G. L., CASSEM, N. H., HOOBERMAN, D. *et al* (1983) Intravenous lorazepam in neuroleptic-induced catatonia. *Journal of Clinical Psychopharmacology*, 3, 338–342.

LEW, T. Y. & TOLLEFSON (1983) Chlorpromazine-induced neuroleptic malignant syndrome and its response to diazepam. *Biological Psychiatry*, 18, 1441–1446.

SERBY, M. Neuroleptic malignant syndrome in Alzheimer's disease. *Journal of the American Geriatric Society*, 34, 895–896.

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CORRIGENDUM

Journal, November 1991, 159, 645. "A. C. Almaturo", listed as additionally involved in the preparation of the paper, should read "A. C. Altamura".

A HUNDRED YEARS AGO

"The Hypnotised Lobster"

THE following appeared in *Punch*, December 19th, 1891:

[Mr. Ernest Hart said, in a recent lecture, that snakes, frogs, and lobsters could be hypnotised like human beings.]

'Tis the voice of the lobster I hear him complain,
That hypnotic suggestion is on me again;
I was mesmerised once, and behold, since that
time,
I have yielded myself to suggestions of crime;
I have compassed the death of an innocent "dab,"
And attempted to poison an elderly crab.

You'll not wonder my tricks give my relatives
shocks,
And they're holding a meeting just now in the
rocks
To decide whether I, who was once quite a saint,
Should be put, as the doctors say, under restraint.
I intend to go there in the midst of a trance.
And, may I be boiled, but I'll lead them a dance!
It's a terrible thing, when to virtue inclined,

That some vile mesmeriser debauches your mind;
When awake I recoil from the things I have done,
Such as scrunching the poor little mussels for fun.
In these fetters hypnotic a foe holds me fast,
And you'll find that they'll hang me in seaweed at
last.

Reference

British Medical Journal, 2 January 1892, 51.

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