BRIEF COMMUNICATIONS – CASE REPORTS

NEUROLEPTIC - INDUCED LARYNGEAL DYSTONIA

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Introduction

The acute dystonic reaction is usually the earliest and most dramatic kind of extrapyramidal side effect of neuroleptics and related drugs, and is characterized by abnormal tonic contractions of muscle groups resulting in a variety of physical postural manifestations. When occurring, it is a source of considerable physical distress to the patient and professional distress to the clinician.

Although neuroleptics, prescribed for psychiatric conditions, are by far the commonest drugs known to produce acute dystonia, other drugs such as prochlorperazine, metoclopramide, tetrabenazine etc., prescribed for non-psychiatric conditions, are also known to produce this side effect – the common factor is the ability of the drug to produce a central inhibition of dopaminergic neurotransmission. Less commonly, other drugs such as L-dopa, diphenylhydantoin, certain antihistaminics, certain antimalarials etc. are also known to produce acute dystonia (Rupniak et al 1986).

Acute dystonia typically occur within 48 hours of onset of treatment in 50% of cases, and within 5 days in 90% of cases (Rupniak et al 1986), the risk is extremely low after a week of therapy (Winslow et al 1986). The incidence of acute dystonia appears to vary widely from virtually nil with strongly anticholinergic neuroleptics such as thioridazine to nearly 50% with high potency neuroleptics such as haloperidol., pooled data suggest that 2-5% of patients treated with antipsychotic drugs may develop this side effect (Ayd, 1961, Sramek et al 1986, Rupniak et al 1986). A number of predisposing (e.g. younger age, male sex, positive past or family history of acute dystonia) and mitigating (e.g. lower initial dose of neuroleptic, lesser potency of neuroleptic, higher intrinsic anticholinergic property of neuroleptic, concomitant anticholinergic therapy etc.) factors have been suggested in this connection (Rupniak et al 1986, Sramek et al 1986, Winslow et al 1986, McEvoy and Simpson 1987).

There is as yet little discussion in literature on the incidences of different patterns of dystonia, but it is generally accepted that tonic spasms of the musculature of the head and neck (e.g. oculogyric crises, torticollis etc.) are among the commonest manifestations, while involvement of the limbs and trunk (e.g. opisthotonus, dystonic arm or leg postures

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etc.) are relatively uncommon (Marsden et al., 1975). Of late, there has been report of a more unusual site of dystonia, viz., the larynx, which has been suggested to be associated with sudden death (Brown and Kocsis, 1984).

In this paper we present a case of haloperidol-induced laryngeal dystonia and make certain recommendations in relation to this side effect.

**Case Report**

Dr. R., a 43 old male, anaesthetist by profession, came under treatment for Paranoia (ICD-9 297.1) of about 10 years' duration. He had received short-term treatment with neuroleptics in the past with no ill effects. At the present occasion, he was started on 10 mg of haloperidol at bedtime. Approximately 36 hours after onset of therapy he began to complain of difficulty in breathing. The staff nurse in the ward conveyed to the resident in attendance the news that the patient had become 'hysterical' and was 'hyperventilating'. At first glance it seemed that the staff nurse's impression was correct. Being a doctor and aware of the implications of diagnosis and treatment, R. had been reluctant to accept neuroleptic therapy. Furthermore, he was known to possess histrionic traits. It therefore seemed that his restlessness and laboured breathing could represent a hysterical reaction to the insult of being neuroleptized.

Within the next 10 minutes or so further respiratory deterioration occurred. R. clearly and unambiguously indicated a source of respiratory blockage in the anatomical region of his larynx. Further, his toes inexplicably took up the position of intermittent flexion. The true nature of the dystonic symptoms was recognized and R. was injected with 50 mg of promethazine intravenously. The symptoms disappeared within seconds of the injection.

Subsequently, trihexyphenidyl in a dose of 2 mg twice daily was added to the treatment schedule. The dystonia did not recur despite continuation of haloperidol.

**Discussion**

Being an extremely unusual side effect, the incidence of laryngeal dystonic with neuroleptics is unknown. Rare though it is, this side effect has drawn attention as a possible cause of sudden death with neuroleptics (Garver et al. 1976, Flaherty and Lahmeyer 1978), while young men have been suggested to be more at risk, the true incidence of this side effect may be underrecognized (Brown and Kocsis 1984). Granted the lethal potential of laryngeal dystonia, we make certain recommendations; these are briefly discussed below.

At an educational level, postgraduate trainees in psychiatry must be routinely instructed about the possible occurrence of such a side effect during the early course of neuroleptic therapy, and about the identification of high risk situations. Students and staff nurses must also be educated about this side effect, the symptom of respiratory distress should never be mistaken for hyperventilation or hysterical overlay. Nurses should be aware of the emergency management (with intravenous promethazine) should such a side effect occur. It may also be worthwhile to target such education at medical undergraduates and postgraduate students, and at nursing staff and students in non-psychiatric disciplines, as acute dystonia is known to occur with a variety of non-psychiatric drugs as well. Last, but not least, in continuing medical education programmes and in other training programmes where...
psychiatric expertise is imparted in a 'crash course' to non-specialists in the field, the occurrence and management of this side effect needs mention.

At the patient level, as part of the general instruction about the nature, effects and adverse reactions of neuroleptics, the patient and/or his guardian should be informed about the possible occurrence of dystonia. A prescription for intravenous promethazine may also be routinely given, to be filled in at the nearest available medical service in case of emergency.

At the preventive level, it may not always be practical to initially administer either less potent or low doses of the neuroleptic, however, routine cover with anticholinergic drugs in the first two weeks of therapy may be of prophylactic value especially in high risk situations (Winslow et al 1986, Sramek et al 1986).

In conclusion, given the low incidence of the symptom, the above recommendations may seem alarmistic, however, these recommendations would certainly go a long way in the prevention of dystonia, or in its early recognition and treatment. Thus, patient (and physician!) distress would be effectively curtailed. During the course of such a process, should even a single case of laryngeal dystonia be averted or successfully recognized and treated, the effort would have been worth the while.

References
AYD, F.J. (1961). A survey of drug-induced extrapyramidal reactions. Journal of the American Medical Association, 175, 1054-1056.
BROWN, R.P. and KOCSIS, J.H. (1984). Sudden death and anti-psychotic drugs. Hospital and Community Psychiatry, 35, 486-491.
FLAHERTY, J.A. and LAHMEYER, H.W. (1978). Laryngeal-pharyngeal dystonia as a possible cause of asphyxia with haloperidol treatment. American Journal of Psychiatry, 135, 1414-1415.
GARVER, D.L., DAVIS, J.M., DEKIRMENJIAN, H., ERIKSEN, S., GOSENELD, L. and HARASZTI, J. (1976). Dystonic reactions following neuroleptics: time course and proposed mechanisms. Psychopharmacology, 47, 199-210.
MARSSEN, C.D., TARSY, D. and BALDESSARINI, R.J. (1975). Spontaneous and drug-induced movement disorders in psychotic patients. In: Benson, D.F. & Blumer, D. (eds.). Psychiatric Aspects of Neurologic Disease, New York: Grune and Stratton, 219-266.
McEVOY, J.P. and SIMPSON, G.M. (1987). Dystonia, neuroleptic dose and anticholinergic drugs. American Journal of Psychiatry, 144, 393.
RUPNIAK, M.J., JENNER, P. and MARSSEN, C.D. (1986). Acute dystonia induced by neuroleptic drugs. Psychopharmacology, 88, 403-419.
Sramek, J.J., SIMPSON, G.M., MORRISON, R.L. and HEISER, J.F. (1986). Anticholinergic agents for prophylaxis of neuroleptic-induced dystonic reactions: a prospective study. Journal of Clinical Psychiatry, 47, 305-309.
WINSLOW, R.S., STILLNER, V., COONS, D.J. and ROBINSON, M.W. (1986). Prevention of acute dystonic reactions in patients beginning high potency neuroleptics. American Journal of Psychiatry, 143, 706-710.