

## CENTRAL ANTICHOLINERGIC SYNDROME PRESENTING AS AKINETIC MUTISM

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### SUMMARY

A case of central anticholinergic syndrome due to overdosage of trihexyphenidyl hydrochloride presenting as septal akinetic mutism with unequally dilated pupils is discussed in reference to similar presentation in animals and possible clinical application.

Central anticholinergic syndrome, a toxic confusional state characterized by agitation, hallucinations, non purposive movements, convulsions, delirium, stupor and coma associated with features of heightened peripheral anticholinergic activity like xerostomiasis, anhydrosis, hyperpyrexia, mydriasis, tachycardia, retention of urine, paralytic ileus etc., is of special interest to the psychiatrists not only because overdosage of phenothiazines, tricyclic antidepressants and anticholinergic antiparkinsonian agents can produce it but also because if accurately diagnosed all the symptoms can be dramatically reversed by physostigmine (Holinger and Klawans, 1976). The present report describes an atypical presentation of central anti-cholinergic syndrome.

### Case Report :

The patient, a 26 year old woman with four previous psychiatric hospitalizations for schizophrenia was admitted at about 10 a.m. with history of having ingested twenty eight tablets of trihexyphenidyl hydrochloride (Pacitane (R) 2 mg) on the previous night following a domestic quarrel. After gastric lavage and extraction of two

pills in the casualty room, she was admitted to intensive care unit where the vital parameters revealed—B. P. 110/80 mm/Hg, Pulse—100/min, regular, Resp—22/min, deep, temperature 36.2°C (in axilla).

The patient was well hydrated. Physical examination was within normal limits except for distended bladder, bilateral basal crepitations and findings in neurological examination. The patient was lying mute and immobile with eyes open. She looked around in the room with random eye movements and gave the feeling of being alert. She responded only to the deeply painful stimuli with little non-purposive movement of both upper limbs. The pupils were dilated, non-reactive to light and unequal (Rt. pupil—6 mm., Lt. pupil 4 mm) There was generalized hypotonia of muscles. Deep tendon reflexes were symmetrically diminished. Plantar reflex was not elicitable. Laboratory data revealed normal complete blood counts, serum electrolytes, serum creatinine and urine examination. E. C. G. & E. E. G. could not be done due to some practical problems. In the next two hours, the patient had two generalized convulsions. The findings on physical examination remained the same except that

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the pulse rate rose to 136/min and the patient stopped responding even to the deeply painful stimuli. Since inequality of pupils raised some doubt in diagnosis, neostigmine (Prostigmine (R) 1 mg) was given intravenously (Physostigmine was not available) whereby pupillary size normalized and pulse rate came down to 110/min for about ten minutes without any improvement in level of consciousness. She was started on diphenylhydantoin sodium (Dilantin sodium (R) 100 mg I. M. 6 hrly. and forced diuresis with 5% glucose saline and frusemide (Lasix (R)). She was given 9 litres of fluid and passed 9.5 litres of urine in next four hours. Three hours after starting the forced diuresis, the patient again started responding to the deeply painful stimuli with fumbling movements even though the general picture of akinetic mutism persisted. Four hours after starting the forced diuresis, she was responding to verbal commands with incomprehensible words. The forced diuresis was discontinued. After an hour of discontinuation, the patient was obeying commands, some spontaneous movement of limbs returned and the eyes started blinking. She was disoriented to time and place. Four hours after this the patient was fully conscious but felt extremely exhausted. She remained physically normal thereafter. At a later date, instillation of 1% atropine solution in both eyes showed that the right pupil dilated more than the left pupil—6 & 4 mm respectively.

#### DISCUSSION

Despite unsatisfactory management of the case because of non-availability of physo-

stigmine and use of forced diuresis which is probably ineffective (Rasmussen, 1965) the case shows two interesting clinical features—

- (a) Presentation as akinetic mutism
- (b) Un-equally dilated pupils

To our knowledge, there is no other report in which central anti-cholinergic syndrome has clinically presented as akinetic mutism in human beings. Akinetic mutism, a disorder characterized by an uncanny appearance of awareness due to open eyes in a relatively mute and immobile patient, may occur due to midbrain or septal lesions. Akinetic mutism due to midbrain lesion is mainly characterized by lethargy, little voluntary movements with closed eyes for most of the time but retention of capacity to move all four limbs, produce normal short phrases and open the eyes on vigorous sensory stimulation. The septal akinetic mutism is mainly characterized by wakefulness, little voluntary movement and speech even when vigorously stimulated & presence of open eyes most of the time (Strub & Black, 1977). The clinical features of our case resembled septal akinetic mutism.

#### REFERENCES

- HOLINGER, P. C. AND KLAWANS, H. L. (1976). Reversal of Tricyclic-overdosage Induced Central Anticholinergic Syndrome by Physostigmine. *Am. J. Psychiatry*, 133, 1, 1018.
- RASMUSSEN, J. (1965). Amitriptyline and imipramine poisoning. *Lancet*, 2, 850.
- STRUB, R. L., AND BLACK, F. W. (1977). *The Mental Status Examination in Neurology*. Philadelphia: F. A. Davis Company.