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LECITHIN CAN SUPPRESS TARDIVE DYSKINESIA

To the Editor: Choline is the physiologic precursor of the neurotransmitter acetylcholine[1]; its administration increases blood choline, brain choline and brain acetylcholine levels in rats[2] and blood and cerebrospinal-fluid choline levels in human beings.[3] In a double-blind crossover study[4] we confirmed initial reports[5] that choline administration suppressed buccal-lingual-masticatory movements in nine of 20 patients with tardive dyskinesia. Lecithin is the naturally occurring source of dietary choline; its administration also increases brain acetylcholine levels in rats,[6] and elevates blood choline levels in human subjects to a greater extent than an equimolar dose of choline chloride.[7] To test the therapeutic potential of lecithin for treating tardive dyskinesia, we gave lecithin granules (Sigma Chemical Company, St. Louis, Missouri) to two patients whose movements had previously decreased during choline chloride ingestion, and partially purified lecithin (Phospholipon, generously provided by Joseph Eichberg, American Lecithin Corporation, Atlanta, Georgia) to one patient who had not previously taken choline chloride. The first two patients continued neuroleptic medication but had discontinued choline for at least two weeks before lecithin ingestion; the third patient was not taking any medication before the lecithin trial.

Table 1. Clinical Effects of Lecithin Ingestion on Buccal-Lingual-Masticatory Movements in Three Patients with Tardive Dyskinesia.

Case No.	Lecithin Dose	Choline Content	Movement	Mean No. of Movements/30 Sec	
				Before	During*
	g/day				
1	60	2.4	Jaw tremor	Continual	3
2	80	3.2	Facial grimace	8	2
3	40	6.4	Tongue twitch	7	1

*Counts made 2 mo (Cases 1 & 2) & 2 weeks (Case 3) after beginning lecithin.

The mean number of movements decreased in all patients during lecithin ingestion (Table 1), and serum choline levels rose from a mean ± S.D. of 10.0±2.2 to 22.8±5.1 nmol per milliliter ($P<0.01$). Lecithin was as effective as choline chloride: the number of buccal-lingual-masticatory movements decreased as they had during choline administration. In addition, lecithin may be more acceptable to patients, since it does not have the bitter tase or fishy body odor associated with choline ingestion. These data suggest that lecithin may constitute an effective mode of neurotransmitter precursor therapy for conditions in which physicians wish to increase cholinergic tone.

John H. Growdon, M.D.
Tufts–New England Medical Center Hospital
Boston, MA 02111

Alan J. Gelenberg, M.D.
Joanne Doller, R.N.
Massachusetts General Hospital
Boston, MA 02114

Madelyn J. Hirsch
Richard J. Wurtman, M.D.
Massachusetts Institute of Technology
Cambridge, MA 02139

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