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The Effect of Sodium Fluoride on the Actions of Succinylcholine, Parathion and Demeton in Rats.

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From the Food and Drug Laboratories, Department of National
Health and Welfare, Ottawa, Canada

**The Effect of Sodium Fluoride on the Actions of Succinylcholine,
Parathion and Demeton in Rats.**

By

W. B. Rice and F. C. Lu

(Received November 24, 1962)

The toxicity of fluoride has been extensively studied in domestic and laboratory animals, but its effects on the nervous system have received relatively little consideration. LU *et al.* (1961) reported that rats treated with sodium fluoride became more sensitive to convulsant agents, pentobarbital and diphenylhydantoin. Cholinesterase inhibition was considered to be a possible mechanism of action; in an attempt to gain some information on this matter, the experiments to be described were done.

Methods

Two series of experiments were done on female rats of a Wistar strain. In the first series the rats were fed for 16 weeks on a diet of ground fox chow containing sodium fluoride in a quantity sufficient to provide 70 p.p.m. of elemental fluoride.

In the second series two groups of rats were given fluoride as sodium fluoride at 1.68 or 3.36 mg/100 g body weight. This was given by stomach tube daily for 30 days. At the end of the fluoride treatment periods, the determinations recorded below were made.

Paralytic effect of succinylcholine. The method described by ALLMARK

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