Letters to the Editor

5-HYDROXYTRYPTAMINE CONTENT OF THE DOG MYOCARDIUM AFTER CHRONIC ELECTROCONVULSIVE THERAPY

5-hydroxytryptamine level of the atrium and ventricle is increased during ventricular ectopic tachycardia following 2-stage ligation of the anterior descending branch of the left coronary artery (7) and during experimental atrial arrhythmias (6). The most common cause of death in electroconvulsive therapy (E.C.T.) is cardiovascular abnormalities (1, 2, 4, 5). Hence it was of interest to study 5-hydroxytryptamine level of the heart of dog after electroconvulsions.

Adult healthy dogs of either sex weighing 10-12 *kg* were employed. Ten dogs served as controls. Electroconvulsions (grandmal type) were produced in 30 dogs by applying 120 volts current at the dog's temples for 0.2 sec. A Techno electroconvulsiometer was used for this purpose. It was followed in accordance with "Glissando" technique of Tietz (8). Electroshocks were given once daily for fifteen days. Lead II of electrocardiogram was recorded to determine the presence or absence of cardiac abnormalities. On the sixteenth day, the animals were sacrificed and the apex of the heart was utilized for estimation of 5-hydroxytryptamine content of the myocardium. The myocardial tissue extract was prepared by the method of Barlet (3) and 5-hydroxytryptamine content was estimated with the rat fundus preparation (9).

TABLE I: *Effect of electroconvulsions on the 5-hydroxytryptamine content of dog myocardium*

Procedure	*Number of dogs*	*Mean 5HT content (ng/g) ± S.E.*	*P-Value*
Controls	10	12.5 ± 1.0	—
Animals treated with electroconvulsions once daily for 15 days :			
a. Animals with cardiac abnormalities	19	42.2 ± 2.2	<0.001
b. Animals without cardiac abnormalities	11	13.2 ± 1.0	>0.05

In 63% experiments, the electrocardiographs recorded after the convulsions could be classified as abnormal and suggestive of myocardial damage. This included Rs-T abnormalities in 43% experiments and ventricular ectopic beats in 20% experiments. The 5-hydroxytrypta-

mine content of the dog myocardium showing electrical abnormalities, was significantly ($P<0001$) raised (Table I). These observations considered together with the findings of others (6, 7) suggest that the 5-hydroxtryptamine content of the heart may have some role in the occurrence of cardiac abnormalities.

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