LETTER TO THE EDITOR

AN ANTIHISTAMINE ANTAGONISES EMESIS DUE TO AN ANTIHISTAMINE

(Received on April 4, 1981)

Sir,

In the context of the known antiemetic efficacy of most of the antihistamines (1, 3), we planned to test cyproheptadine - an H_1-antihistamine and anti-5-hydroxytryptamine drug against morphine and reserpine-induced emesis in pigeons. To our surprise, we observed that cyproheptadine instead of combating, aggravated the emesis. This prompted us to evaluate quantal emesis response of cyproheptadine.

Fortyeight pigeons divided into 6 groups of 8 each were used after being fed grains. Cyproheptadine was injected intra-abdominally to 5 groups in the doses of 0.75, 1.25, 2.5, 5.0 and 10.0 *mg/kg* of body weight. The sixth group was injected promethazine 2 *mg/kg* intra-abdominally 30 min before injecting cyproheptadine 10 *mg/kg*.

TABLE I : Cyproheptadine-induced emesis and its antagonism by promethazine in pigeons.

S. No.	*Group Drug mg/kg*		*No. of pigeons*	*No. of pigeons showing emesis*
1.	Cyproheptadine	0.75	8	0
2.	-do-	1.25	8	2
3.	-do-	2.5	8	4
4.	-do-	5.0	8	5
5.	-do-	10.0	8	8
6.	-do- + Promethazine	10.0 2.0	8	0

From the table, it is seen that H_1 antihistamine-cyproheptadine caused dose-dependant increase in the emesis quantal response. The ED_{50} and ED_{99} of cyproheptadine for invoking emesis were 2.5 and 10 *mg/kg* respectively and this emesis was antagonised by another H_1 antihistamine-promethazine.

Emesis is observed in animals receiving histamine either systemically or intracerebrally and results from a stimulation both of H_1 and H_2 receptors at the level of the area postrema; and this emesis is prevented by H_1 and H_2 types of antihistamines (2). Promethazine and cyproheptadine are the H_1 antihistamines. As cyproheptadine caused emesis and promethazine antagonised it, it is contemplated, keeping only histaminergic mechanism for emesis in view, that cyproheptadine either exerts partial histamine agonistic activity or releases histamine in the area postrema. Histamine releasing property of the antihistamines has been reported (4).

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