Letters to the Editor

The effect of heparin on gastric secretion stimulated by histamine or ametazole hydrochloride.

SIR,—Recently it was found that parenterally administered degraded carrageenan markedly inhibits the gastric secretory response of the guinea-pig to histamine but not to 3-(2-aminoethyl)pyrazole dihydrochloride (ametazole hydrochloride; Histalog) (Watt, Eagleton & Marcus, 1966). It was of interest to determine whether the related sulphated polysaccharide, heparin, had a similar action.

Two groups of fasted adult male guinea-pigs were used. One group received heparin subcutaneously (400 mg/kg); the other group served as control. Nine hr after heparin administration both groups received an intramuscular injection of aqueous histamine acid phosphate (1 mg/kg); 1 hr later the gastric secretion was removed by intubation. Immediately thereafter the secretory test in the heparin-treated group was repeated using ametazole hydrochloride (100 mg/kg) instead of histamine. Results are presented in Table 1.

TABLE 1. EFFECT OF HEPARIN ON HISTAMINE- AND AMETAZOLE HYDROCHLORIDE-STIMULATED GASTRIC SECRETION (MEANS ±1 S.D.)

Treatment and no. of animals	Gastric secretion	
	Volume (ml)	Total acid conc. (m-equiv/litre)
Group 1		
Histamine only (10)	8·9 ± 2·2	128·6 ± 8·2
	$P < 0.001$	$P < 0.01$
Group 2		
Heparin + histamine (8)	2·8 ± 1·4	110·9 ± 12·7
	$P < 0.001$	$P > 0.70$
Subsequent Ametazole HCl	11·9 ± 2·8	113·1 ± 23·1

Heparin markedly inhibits the gastric secretory response to histamine. Nevertheless, the stomach remains capable of responding well to ametazole hydrochloride. In spite of repeated intubation within so short a period, a factor which we have found to affect gastric secretion adversely, the volume of juice recovered in response to ametazole hydrochloride exceeded even that in the group of animals which had not received heparin.

This inhibitory effect of heparin on histamine-stimulated gastric secretion is similar to that previously noted in man and in the dog by Thompson, Lerner, Vakil & Tramontana (1963). Whether heparin works its effect by binding with histamine as these authors postulate, it is apparent that, as with degraded carrageenan, heparin does not block the acid secretory mechanism.

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