

# LETTER TO THE EDITOR

## Antihistamine Activity in a Series of Synthetic Bis-Onium Compounds

SIR,—An analysis of the common characteristics of several series of anti-histamine substances convinced Bovet<sup>1</sup> that all possess one or more strongly saturated tertiary or quaternary amine groups.

Recently Khanna and Dhar<sup>2</sup> synthesised a number of bis-onium compounds whose myoneural junction blocking properties have already been studied<sup>3</sup> and we have been interested to find whether these compounds have also anti-histamine properties.

Both guinea-pig and rabbit ileum were used and the effect of the potential antihistamine drugs upon histamine-induced spasm in the isolated organ bath, noted. Two procedures were followed: (i) histamine was first added to the bath, followed by varying doses of the compound under study and the relaxation of the musculature noted, (ii) the compound was added first, and was followed by histamine, and any blocking of the effect of the histamine recorded. The tissue was finally washed and its response to the action of histamine noted again.

51 Polymethylene bis-onium compounds were tested for their activity. Some of these compounds showed weak antihistaminic property. Two compounds, *NN'*-bisbenzyl-bis( $\beta$ -diethylaminoethoxy) ethane dichloride and *NN'*-bisbenzyl bispiperidino diethyl ether dichloride were found to be more active than others. 5 mg. of these compounds antagonised the action of 1  $\mu$ g. of histamine on guinea-pig's ileum. The potency of these compounds in comparison to that of the already known active antihistamines was low, although both these compounds possess in their side chains a benzyl group which is often associated with the N atom of many known antihistaminine drugs. Possibilities for new and effective synthetic antihistaminics by further suitable modification and remodelling of the structure of these compounds are engaging our attention.

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### REFERENCES

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2. Khanna and Dhar, *J. Sci. Ind. Res.*, 1953, *in the press*.
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