

LETTERS TO THE EDITOR

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New Oral Hypoglycaemic Agents

SIR,—The clinical and experimental aspects of oral hypoglycaemic agents have recently been reviewed by Creutzfeldt and Söling (1961). It would appear that two classes of compounds, the sulphonyl-ureas (tolbutamide and related substances) and the guanidines (biguanide derivatives, such as Phenformin) have supplemented insulin therapy in diabetes mellitus to some extent. However, these compounds have their own limitations and generally insulin has to be administered with them. Consequently, efforts are continuing either to suitably modify these compounds or to arrive at newer compounds, which may replace insulin. Lightbody and Reid (1960) have reported the hypoglycaemic effect of ortho-cresotinic acid.

We have prepared six congeners of salicylic acid and tested their hypoglycaemic effect on albino rabbits. The compounds were fed to normal healthy rabbits, not less than 1.5 kg., by a stomach tube, in a dose of 15 mg./kg., the solution being made in water with the aid of an equivalent amount of sodium bicarbonate. The effect of each drug on the blood-sugar level of the animals was observed for 5 hr., blood sugar being estimated by the method of Folin and Wu (King, 1951). Preliminary results obtained on these compounds are given in the Table.

TABLE
 HYPOGLYCAEMIC EFFECT OF NEW SALICYLIC ACID DERIVATIVES IN
 NORMAL RABBITS

Compound	Maximum fall in blood sugar per cent. Mean of 3 animals	Mean time of maximum fall (hr.)
2-Hydroxy-4-methylbenzoic acid ..	24.4	2.6
2-Hydroxy-3-ethylbenzoic acid ..	27.8	1.66
2-Hydroxy-5-propylbenzoic acid ..	24.0	3.3
2-Hydroxy-3-propylbenzoic acid ..	33.24	1.33
β-Resorcylic acid	9.6	3.3
2,4-Diacetylresorcylic acid ..	18.9	4.5

The maximum hypoglycaemic percentage fall is more pronounced with 2-hydroxy-3-propylbenzoic acid, while diacetylresorcylic acid gives a more prolonged action. The series appears to be promising.

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