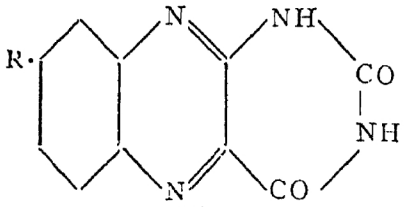
Further Synthesis of N^1-Substituted Heterocyclic Derivatives of Sulphanilamide

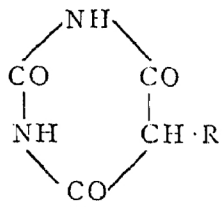
It has been pointed out previously[1] that compounds more polyvalent in therapeutic action than sulphanilamide should be looked for amongst its derivatives wherein the amino group is free and the sulphonamide radical carries a suitable heterocyclic substituent. In the choice of the heterocyclic rings for the synthesis of such a class of compounds, we were mainly guided by the ring systems present in the reputed antiseptics, chemotherapeuticals of established value in the protozoal infections and, of recently, the products with vital biochemical functions, *e.g.*, the vitamins, coenzymes, nucleic acids, etc. Working with this programme, in addition to those reported previously,[1] some more sulphanilamido derivatives of the typical ring systems have been synthesised to serve as model compounds for future search.

7-Aminoalloxazine,[2] uramil (obtained by reducing violuric acid with sodium bisulphite) and 4-aminouracil[3] have been converted into the corresponding sulphanilamido derivatives of formula (I), (II) and (III) by condensing with p-acetaminobenzene sulphochloride and hydrolysing the products obtained in the usual ways,[1]

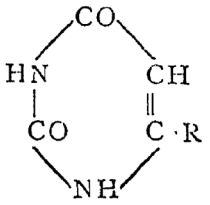
Similarly, 2-sulphanilamido-pyrimidine (IV, R′ = R″ = H), the corresponding 4-methyl (IV, R′ = Me, R″ = H) and 4 : 6-dimethyl derivatives have been synthesised by three different methods. Adenine and 4 : 5-diaminouracil have also yielded the sulphanilamido derivatives with one molecule of the sulphochloride); but in these cases, a decision between the two possible structures has not been made.



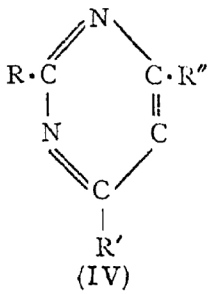
(I)



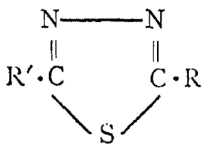
(II)



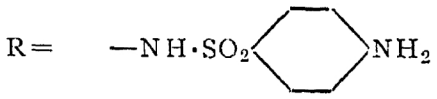
(III)



(IV)



(V)



2-Amino 1 : 3 : 4-thiodiazole and 2-amino-5-methyl 1 : 3 : 4-thiodiazole have similarly yielded 2-N^1-sulphanilamido-1 : 3 : 4-thiodiazole (m.p. 216–18°) (IV, R = H) and 2-N^1-sulphanilamido-5-methyl thiodiazole (m.p. 180–82°) (IV, R = CH_3) respectively.

Similar derivatives of the above and related structures are being synthesised.

Full details will shortly be published.

These compounds are being tested in the usual experimental bacterial infections.

K. GANAPATHI.

Haffkine Institute,
Parel, Bombay,
October 1, 1940.

---

[1] Ganapathi, K., *Proc. Ind. Acad. Sci.*, 1940, **11**, 298; **12**, 274; *Ind. Jour. Med. Res.*, 1940, **27**, 971; *Curr. Sci.*, 1940, **9**, 314.

[2] *J. Ind. Chem. Soc.*, 1938, **15**, 77.

[3] *Ibid.*, 1937, **14**, 627.