

clear that the systemic anti-inflammatory properties of glucocorticoids have not affected their suppression of oedema. Further work is required to find out how the steroid molecule has acted on the neural tissue, or if its action has been on TET excretion.

In conclusion, rabbits were treated with triethyltin sulphate intraperitoneally, concurrently with dexamethasone intramuscularly. A group of rabbits received the dexamethasone solely, as controls.

The clinical condition of the animals receiving both drugs compared very favourably to rabbits intoxicated by TET alone.

The water and sodium content of white matter from simultaneously treated rabbits was considerably less than that in rabbits intoxicated by TET.

Dexamethasone alone caused no significant changes in sodium or water content.

The expected cerebral oedema was partially prevented by the use of dexamethasone.

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JUDITH M. TAYLOR
W. A. LEVY
GEORGE MCCOY
LAURE SCHEINBERG *

Saul R. Korey Department of Neurology,
and Department of Neurological Surgery,
Albert Einstein College of Medicine,
New York.

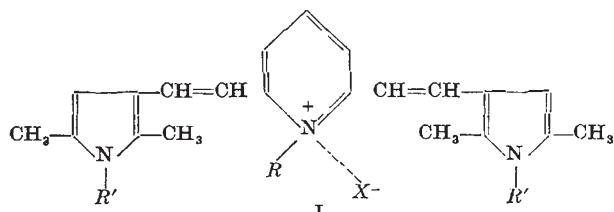
* Career Scientist, Health Research Council of the City of New York.

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Dipyrrylvinyl Pyridines as Trichuricides

WHIPWORM infections in man and dog have been, until recent years, quite difficult to eradicate. During the past decade several compounds have been found to have activity against these worms. These compounds are 'Phthalofyne' orally¹ or intravenously², dithiazanine iodide³, stilbazium iodide^{4,5}, and 'Glycobiarisol'⁶. However, most of these drugs require large doses in mg/kg or a series of doses, or they have undesirable side-effects, or the worm loss is not high enough. Among the numerous modifications of stilbazium iodide⁴ which were prepared, a number of members of the dipyrryl vinyl pyridines were found to have activity against the dog whipworm, *Trichuris vulpis*.

The compounds have the following basic structure (I):



Numerous variants of the 2,6-bis pyrrylvinyl pyridine quaternary ammonium salts, (I), have been made in which $R = \text{CH}_3, \text{C}_6\text{H}_{11}$, benzyl, etc., and R' = various alkyl, substituted alkyl, aryl, and substituted aryl groups. Details of the syntheses and activities of all these products will be published elsewhere.

In general, the most active members of this type are those in which R is C_2H_5 to C_4H_{9-n} and R' is C_2H_5 or

$\text{CH}(\text{CH}_3)_2$. These compounds, when given in single doses of 15–25 mg/kg, have eliminated whipworms from most of the dogs treated, have been quite active against the mouse pinworm, *Syphacia obvelata*, and the dog ascaris, *Toxocara canis*, but have had little or no activity against three species of dog and cat hookworms.

Four of these compounds are being used extensively in the treatment of dog whipworm and other concomitant infections, for these four proved to be among the most active and least toxic of the series. When compared with the activity of stilbazium iodide against *T. vulpis* infections⁵, these require fewer and smaller doses.

Inasmuch as rats tolerate single doses of nearly 2 g/kg and the usual dose for a dog or cat is between 15 and 25 mg/kg, there is a wide margin of safety. The compounds are tasteless, and emetic activity is slight.

A. P. PHILLIPS
R. B. BURROWS

Wellcome Research Laboratories,
Burroughs Wellcome and Co. (U.S.A.), Inc.,
Tuckahoe, New York.

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HÄMATOLOGY

A Second Example of ---/--- Blood or Rh_{null}

THE blood of a white female (Mrs. L. M.) was submitted for testing following the birth of her first infant, who was slightly anaemic at the age of 2–3 weeks. The maternal serum contained anti-e. Her red cells failed to react with 5 anti-D, 5 anti-C, 13 anti-E, 14 anti-c, 9 anti-e, 1 anti-f, 2 anti-Cw, 1 anti-Cx, 3 anti-Ce(rh_i), 1 anti-hr^s, and 1 anti-G. The red cells also failed to react with the sera of four immunized -D-/D- individuals. Her phenotype can be represented as ---/--- or as suggested by Ceppellini¹ as "Rh_{null}". The other antigens—A₁, N, s, k, Fy(a+b-), Jk(a-), Le(a-b+)—appeared to be normal.

This blood represents the second example of the phenotype ---/---. The first one was described by Vos, Vos, Kirk and Sanger² in an Australian Aborigine who had no living relatives.

Fortunately the propositus is a member of a large family and all bloods were of the probable genotypes R^1R^1 and R^1r . Available members of the family tree are given in Fig. 1, which shows that 12 out of 16 members of both sides of the family exhibited weak reactivity for Rh antigens, D, C, c and e by titration scoring values as compared with appropriate control bloods. The depressed reactivity applied also to the compound antigens ce(f) and Ce(rh_i). Only four of the 16 members gave normal Rh reactivity. These include two paternal uncles II-6, II-8, one maternal uncle II-15, and one sibling (III-1) of the propositus.

For sake of brevity the titration scoring values of the red cells of the parents, their four offspring including the propositus, her husband and their child are presented in summarized form in Table 1. Normal activity is represented by 'N' and suppressed activity by 'w'.

Table 1 shows that only one sibling III-1 and the husband gave normal reactivity. All others, excluding the propositus, exhibit weak reactions. These include the parents, who are not related to each other. The Rh_{null} propositus like her three sibs could be either R^1R^1 or R^1r . Her genotype is represented as $[R^1R^1]$ or $[R^1r]$, the brackets indicating the absence of detectable Rh antigens.