in each case varied during the succeeding days and the general attitude varied from extreme lassitude and drowsiness on the one hand to hyperesthesia and clonic spasms on the other. The height of the clinical reaction occurred on the 7th to 9th days, retrogressing to normalcy on the 14th day with the animals remaining normal on the 20th day.

Using a very active sample of the same virus, White Leghorn cockerels (3) about 4 months of age and mature common pigeons (4) were inoculated intracerebrally while under light chloroform anesthesia. A 0.2 cc dose of approximately a 1/50 dilution of virulent guinea pig brain was used. The cockerels have remained normal for 20 days.

The four pigeons so inoculated developed general weakness, ataxia and marked tremors on the third day; dying on the third to fourth day after inoculation. The brains of these pigeons produced the typical disease in guinea pigs. Pigeons receiving normal guinea pig brain were in no way affected by the inoculation.

These inoculations, though too limited for final conclusions, indicate that calves are not entirely refractory to encephalomyelitis. A 100 per cent. "take" in the case of pigeons indicates the possible use of these birds in routine examination of tissues from field cases. The possible relationship of the calf and the pigeon to the epizootiology of the natural disease is worthy of consideration.

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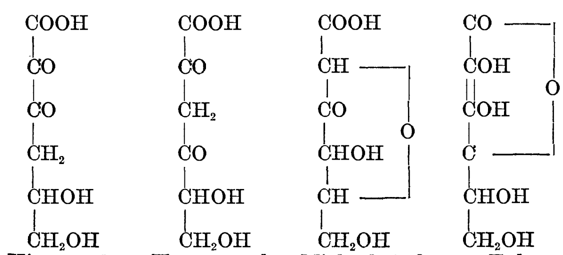
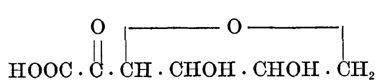
PRELIMINARY NOTE ON THE STRUCTURE OF ASCORBIC ACID (VITAMIN C)

THE following formulae have been advanced to express the structure of ascorbic acid:



Hirst et al I. Karrer et al II. Micheel et al III. v. Euler IV.

And a fifth possible one may be suggested:



V.

It should be possible to choose the correct expression for the structure of ascorbic acid on the basis of the results of hydrogenation. Structures I and II require four atoms of hydrogen for complete reduction, and the rest only two atoms. The hydrogenated products thus obtained should differ in the number of hydroxyl groups, I and II having four, III and V three, and IV five.

Structures I and II may be differentiated by the ability of the reduction product of II to form a γ lactone, while that of I can not. Likewise, the reduction products of III and V may be differentiated by the ability of that of V to form a lactone, whereas that of III should not, inasmuch as the known 2, 5-anhydrohexonic acids do not form lactones.

On the basis of these considerations, ascorbic acid was exhaustively hydrogenated. Only two atoms of hydrogen were absorbed, and the resulting acid formed a stable lactone. In order to ascertain the number of hydroxyl groups, the product was acetylated, but unfortunately, the acetyl derivative could not be crystallized. The analysis of the amorphous product did not permit a definite conclusion as to the number of hydroxyl groups, inasmuch as the various possible acetyl derivatives do not present sufficiently striking differences in elementary composition. It is hoped, however, that methylation of the hydrogenated ascorbic acid will afford accurate information as to the number of hydroxyl groups present. The experiments will be performed as soon as the necessary material is available.

The present indications would seem to favor IV or V as the probable structure of the ascorbic acid.

The material for the present experiments was generously placed at our disposal by Professor Szent-Györgyi, to whom we wish to express our great indebtedness.

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