cleus. Several of the compounds that had no effect on adult *T. spiralis* are more effective inhibitors of glycolysis of *S. mansoni* than 2-methyl-1,4-naphthoquinone.[2] On the other hand, the anti-glycolytic activity of 2-hydroxy - 3 - piperidinomethyl - 1,4-naphthoquinone against glycolysis of schistosomes was a hundred times lower than that of 2-methyl-1,4-naphthoquinone.[1] Apparently, two different mechanisms are involved in the effect of naphthoquinones against adult trichinae and on glycolysis of schistosomes, since compounds that possess high anti-glycolytic activity did not reduce the number of trichinellae and the reverse was true for the 2-hydroxy-3-piperidinomethyl derivative.

No indication was obtained as to whether 2-methyl-1,4-naphthoquinone inhibits any specific metabolic reaction of adult trichinellae. The metabolism at the adult stage of this parasite differs markedly from that of the larvae. Unlike the latter,[3] adult trichinellae have an extremely low rate of oxygen uptake and do not contain any significant amount of glycogen. Furthermore, it was found that the adult worms do not utilize glucose present in the medium and do not produce any significant amounts of lactic acid or other acids when incubated in a salt medium containing glucose.

Summary. The oral administration of 2-methyl-1,4-naphthoquinone and 2-hydroxy-3 - piperidinomethyl - 1,4-naphthoquinone to rats infected with *Trichinella spiralis* produced a significant reduction in the number of intestinal adult trichinellae. Nine other structurally related naphthoquinones had no such effect.

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Activity of Pantothenol as Pantothenic Acid in Promoting Chick Growth.*

D. MARK HEGSTED. (Introduced by F. J. Stare.)

From the Department of Nutrition, Harvard School of Public Health, and the Department of Biological Chemistry, Harvard Medical School, Boston.

The activity of pantothenol as pantothenic acid in various species has been recently reviewed.[1] It is of interest that this compound interferes with the utilization of pantothenic acid by certain microorganisms[2] whereas in rats[3] and human beings[4,5] it is converted into pantothenic acid and appears to be as active as pantothenic acid itself in these two species. From the results presented in this paper, it is concluded that on an equivalent basis, molecule for molecule, pantothenol is 86% as active as pantothenic acid in promoting chick growth.

Nine groups of white leghorn cockerels one week of age were fed the low pantothenic acid diet previously described.[6] After 4 days of depletion, graded doses of calcium pantothenate ranging from 16 to 160 μg per chick per day were administered to 6 of the groups by pipette placed directly in the crop. The remaining 3 groups received pantothenol in the same manner at 40, 65, and 100 μg per

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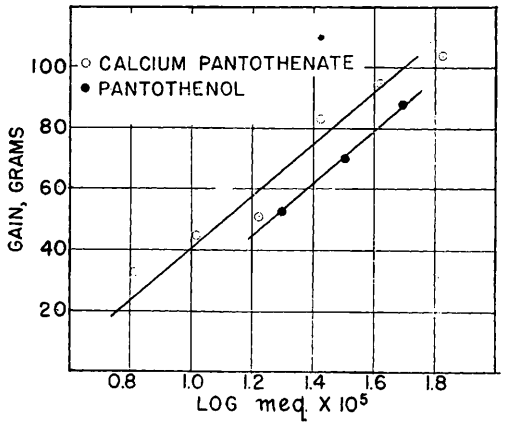

FIG. 1.

A comparison of the gain produced by pantothenic acid and pantothenol in chicks. The equation for the regression line for pantothenic acid is $Y = 86.80X - 59.17$, where Y is gain and X is log dose in milliequivalents $\times 10^5$.

day. The chicks were weighed every other day for 16 days.

The mean gain of each group of 6 chicks is shown in Fig. 1 where the dosage is given as the log of the milliequivalents administered in order to compare the two materials upon a reasonable basis. It is apparent that the log dose-response curve is essentially linear (calculated from the individual gain of each chick) and that the line representing the standard calcium pantothenate is parallel to that for the pantothenol. The potency ratio may therefore be calculated as with other biological assays of this type.[7,8] The distance between the lines in the X direction is 1.932, the antilog of which is 0.857. Thus pantothenol appears to yield 86% of the activity of pantothenic acid when compared upon an equivalent basis. Converting these figures into weights, pantothenol would appear to be about 91% as active as pantothenic acid, and equally as active as calcium pantothenate.

The relative accuracy of this assay compared to other biological assays of this type may be seen by comparing the standard deviation of the dose, s/b, with those tabulated by Bliss and Cattell,[9] where s is the standard deviation about the line and b is the slope. For the calcium pantothenate line these values are 17.14 and 85.18, respectively, and the ratio is 0.201. This value is reasonably small as compared to other vitamin assays.

Summary. The chick assay for pantothenic acid, with the supplement administered daily by pipette, yields a reasonably straight log dose-response curve.

Pantothenol was found to have 86% of the activity of pantothenic acid compared milliequivalent for milliequivalent. Gram for gram it was 91% as active.

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