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## The Influence of L- and dl-Tryptophane and Kynurenic Acid Administration on Bile Volume and Composition

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GROWTH ON HISTIDINE AND LYSINE INJECTED  
SUBCUTANEOUSLY OR INTRAPERITONEALLY

RALPH M. CONRAD AND CLARENCE P. BERG

Recently a controversy has arisen in the literature as to whether or not tryptophane can be utilized for growth when administered subcutaneously. The evidence, is divided, but favors the affirmative somewhat.

The fundamental question involved embraces also other amino acids, especially the essential ones. We have therefore tested the growth-promoting abilities of histidine and lysine when subcutaneously or intraperitoneally administered to rats fed diets deficient in histidine or lysine respectively, but otherwise adequate. In every case growth resulted.

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THE INFLUENCE OF *l*- AND *dl*-TRYPTOPHANE AND  
KYNURENIC ACID ADMINISTRATION ON BILE  
VOLUME AND COMPOSITION

JOHN T. CORRELL, CLARENCE P. BERG, AND DONALD W. COWAN

We have undertaken to determine whether kynurenic acid production or excretion in the bile (as reported by Kotake and Ichihara) might be responsible, at least in part, for the choleric effect of tryptophane. We have also studied the influence of optical configuration of tryptophane on bile volume and on bile salt output, both of which Whipple and Smith found were increased by *l*-tryptophane administration.

The observations of the workers mentioned have been confirmed. *dl*-Tryptophane, which produced less kynurenic acid than did an equal amount of *l*-tryptophane, was also less effective in increasing bile volume. Although kynurenic acid was excreted to some extent in the bile after its administration, it did not affect bile volume appreciably. The data obtained seem to indicate that, if kynurenic acid production is responsible for the choleric effect of tryptophane, it is probably associated with its formation by the liver rather than with its excretion in the bile.

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