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Comparison of the Toxicity of Hypoglycin from *Blighia sapida* and of its Lower Homologue Methylenecyclopropylglycine from *Litchi Chinensis*

MCPG is the lower homologue of the better known hypoglycæmic amino acid hypoglycin. Both aminoacids are supposed to be degraded *in vivo* to the CoA esters methylenecyclopropylacetyl-CoA (MCPA-CoA) and methylenecyclopropylformyl-CoA (MCPF-CoA). These, in turn, are the toxic metabolites responsible for the observed effects[1,2]. MCPA-CoA has been shown to inactivate acyl-CoA dehydrogenases (EC-1.3.99), *via* covalent modification of the flavin coenzyme in a so

called "suicide" reaction[3]. The observed hypoglycæmia, hyperketonemia and a pronounced dicarboxylic aciduria are thus the consequence of inhibition of ß-oxidation in hypoglycin treated rodents[1].

In the case of MCPG intoxication, the enzymes found to be affected in their activity were acetoacetyl-CoA thiolase (EC-2.3.1.9) and 3-oxo-acyl-CoA thiolase (EC-2.3.1.16). The metabolic profiles observed upon MCPG intoxication compared to those observed upon administration of hypoglycin exhibit marked differences. In the case of MCPG we observe a pronounced hypoketonomia which is interpreted as reflecting inhibition of ß-oxidation at the state of long-chain fatty acids and the inhibition of ketone body metabolism at the state of the two chain-length specific thiolases. In the case of hypoglycin ketone bodies are markedly increased. The effects of MCPG are thus comparable to those induced by other inhibitors of the degradation of long-chain fatty acids, such as e.g. the phenylalkyloxirane-carboxylic-acids(Etomoxir)[4].

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