Kurtin, Bierman and Yontef (1) reported on the prevention of ultraviolet erythema by iontophoresis of a solution of Pyribenzamine (N-pyridyl-N-benzyl-N-dimethylethylene diamine hydrochloride) into the skin prior to exposure to a hot quartz ultraviolet lamp. They attributed this effect to the "antihistaminic" action of Pyribenzamine in the tissues.

We were able to confirm the findings of Kurtin et al. as regards the prevention of ultraviolet erythema by preceding iontophoresis of Pyribenzamine by means of a 5% aqueous solution. However, our own investigations indicate that this effect is due to the capacity of Pyribenzamine to absorb, i.e. filter out, those wavelengths of the ultraviolet spectrum which are known to cause erythema (2800 to 3100 A units, and to a lesser degree 2537 A units) rather than to its "antihistaminic" action.

Our interpretation of these effects of Pyribenzamine is based on the following data: 1) the absorption curve of Pyribenzamine shows a high extinction peak in the zones producing ultraviolet erythema; as expected on the basis of this curve, ultraviolet erythema is prevented by Pyribenzamine 5% solution when this solution, in a quartz cup, is interposed between the skin and the source of ultraviolet radiation, i.e., when the possibility of antihistaminic effect is excluded: 2) the absorption curve of Benadryl (beta-dimethylaminoethyl benzohydryl ether hydrochloride), a compound which also possesses a high "antihistaminic" activity, shows no extinction at 2800 to 3100 A units but a moderately high extinction at 2537 A units; as expected on the basis of this curve, only a slight diminution of ultraviolet erythema is achieved by Benadryl 5% solution, both by iontophoresis into the skin preceding exposure to ultraviolet radiation and by interposing the solution in a quartz cup between the skin and the source of ultraviolet radiation. The details of these studies will be published in a subsequent report.

Reference


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