From Table 1 it is evident that all drugs tested are able to shorten the half-life of metyrapone. The effect was maximum for phenobarbitone and then in decreasing order for hydrocortisone, pentaerythritol tetranitrate, diphenylhydantoin, meprobamate, diazepam, diphenylbutazone and nikethamide. All these drugs are known to induce microsomal enzymes (Conney, 1967).

Although it is impossible to extrapolate these data to humans, it may be that previous therapeutic treatment could affect the metabolism of metyrapone and therefore influence the functional significance of this test.

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## Corticosteroid modification of guinea-pig anaphylaxis

It is well established that a wide variety of experimental allergic reactions may be modified by prior administration of cortisone or related compounds (Rose, 1954, 1959). One notable exception is the anaphylactic reaction in the guinea-pig, for which a mass of contradictory evidence has been published.

The most inconsistent evidence has resulted from experiments on anaphylaxis induced by intravenous administration of antigen; the severity of the reaction being evaluated by subjective scoring, or mortality methods. A protective influence of corticosteroids was observed by Hajos (1926), Wolfram & Zwemer (1935), Simonsen (1950), Humphrey (1951), Zelenka, Zitka & Jirasek (1957) and Jaques (1961). Using similar methods no significant protective effects were observed in experiments described by Stoerck (1950), Dworetsky, Code & others (1950), Friedlander & Friedlander (1950), Malkiel (1951), Dews & Code (1951), Arbesman, Neter & Bertram (1951), Landau, Nelson & Gay (1951), Germuth, Ottinger & Oyama (1952), Criep, Weigler & Meyer (1952), Marcus, Carlquist & others (1952), Bertola (1958) and Csaba & Kassay (1966). Literature concerning the protective effects of corticotrophin against guinea-pig anaphylaxis may similarly be divided into two conflicting groups.

In contrast, much more consistent evidence has been produced, employing antigen-aerosol induced reactions accompanied by evaluation of anaphylactic dyspnoea. Certain corticosteroids were shown to depress the severity of the reactions, particularly when administered at an optimal 18 h before induction of anaphylaxis and in conjunction with antihistamine treatment (Herxheimer & Rosa, 1952; Feinberg & Malkiel, 1952; Feinberg, Malkiel & McIntire, 1953; Winter & Flataker, 1955; Mendes, 1957; Goadby & Smith, 1964; Hicks, 1968). Even with these experiments significant protective effects were established only for the more potent and water-soluble corticosteroids.

In view of the widespread use of guinea-pig anaphylaxis as a model for evaluation of anti-asthmatic compounds, it is of considerable importance that the effectiveness of corticosteroids should be clearly established. This survey indicates that the adequacy of the earlier experimental methods must be questioned, but suggests also that the sensitivity of the guinea-pig to anti-anaphylactic steroids is low. This insensitivity may be due to the very high resting blood concentrations of corticosteroids in this species (Done, Ely & others, 1952).

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