THE EFFECT OF DIMEDROL* ON THE DEVELOPMENT OF TUBERCULIN REACTIONS

E. I. Rodionova

Department of Tuberculosis (Head – Prof. B. L. Mazur)
of the Kazan Medical Institute

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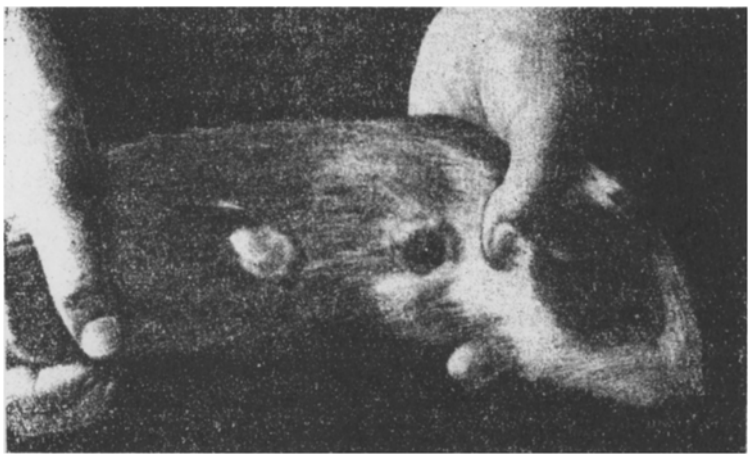
The role of histamine in the pathogenesis of anaphylactic shock was confirmed by experiments in which this type of shock was prevented by means of antihistamine drugs. Since histamine is thought to play a definite part in the pathogenesis of allergic reactions in tuberculosis, attempts were made to prevent the development of tuberculin reactions also by means of antihistamine drugs [3, 4]. The results obtained however, were not very illuminating.



Development of the tuberculin reaction in a guinea pig. From left to right: 1st area of skin – hyperemia of the skin (tuberculin + dimedrol injected); 2nd area of skin – hemorrhages in the skin (tuberculin alone injected).

EXPERIMENTAL METHOD AND RESULTS

In order to study the action of dimedrol we gave subcutaneous inoculations with 0.001 mg of a Valle culture to 30 guinea pigs, and used these animals for further investigations during the 5th week. In all, 38 experiments were performed (92 tests) on the 30 guinea pigs.

The hair was removed at two points on the lateral abdominal wall of the guinea pigs; at one of these points, 0.1 ml of tuberculin, diluted with ten times its volume of dimedrol (1:10 000), was injected into the skin, and at the other, 0.1 ml of tuberculin, diluted 1:10 with physiological saline, was injected.

* = diphenhydramine hydrochloride (Benadryl) (Translator's note)

Tuberculous guinea pigs are known to react in two ways to the intradermal injection of tuberculin: either by erythema and infiltration at the site of injection of the tuberculin or by a hemorrhagic reaction and infiltration.

It was shown that if the tuberculous guinea pigs reacted to tuberculin (in the control area) by a hemorrhagic reaction, then under the influence of dimedrol the hemorrhagic reaction in the test area was completely abolished. If the guinea pig reacted to tuberculin in the experimental area by erythema and infiltration only, then dimedrol had no effect whatsoever on this reaction.

These findings are in agreement with those which we obtained in experiments on the prevention of the Schwartzmann phenomenon by means of dimedrol [2].

In no case did dimedrol abolish the tuberculin reactions completely, but it prevented the development of hemorrhagic reactions in the skin.

SUMMARY

Two types of reactions are produced in testing the sensitivity of tuberculous guinea pigs to tuberculin — either erythematous or hemorrhagic.

Dimedrol removes only the hemorrhagic component.

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*Original Russian pagination. See C. B. Translation.