AD-780 338

MATERIALS FROM CLINICAL STUDY OF THE BIOLOGICAL ACTIVITY OF TSUVERKALOV DYSENTERIN

V. A. Fradkin, et al

Foreign Technology Division
Wright-Patterson Air Force Base, Ohio

24 May 1974

UNCLASSIFIED
Security Classification

AD780 338

DOCUMENT CONTROL DATA - R & D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1. ORIGINATING ACTIVITY (Corporate author)
Foreign Technology Division
Air Force Systems Command
U. S. Air Force

2a. REPORT SECURITY CLASSIFICATION
UNCLASSIFIED

2b. GROUP

3. REPORT TITLE
MATERIALS FROM CLINICAL STUDY OF THE BIOLOGICAL ACTIVITY OF TSUVERKALOV DYSENTERIN

4. DESCRIPTIVE NOTES (Type of report and inclusive dates)
Translation

5. AUTHOR(S) (First name, middle initial, last name)
V. A. Fradkin, L. M. Lodinova, et al

6. REPORT DATE	7a. TOTAL NO. OF PAGES	7b. NO. OF REFS
August 1970	8	0

8a. CONTRACT OR GRANT NO.	9a. ORIGINATOR'S REPORT NUMBER(S)
b. PROJECT NO.	FTD-HT-23-1264-74
c.	9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report)
d.	

10. DISTRIBUTION STATEMENT
Approved for public release; distribution unlimited.

11. SUPPLEMENTARY NOTES	12. SPONSORING MILITARY ACTIVITY
	Foreign Technology Division Wright-Patterson AFB, Ohio

13. ABSTRACT
06

DD FORM 1 NOV 68 1473

UNCLASSIFIED
Security Classification

FTD-HT- 23-1264-74

EDITED TRANSLATION

FTD-HT-23-1264-74 24 May 1974

MATERIALS FROM CLINICAL STUDY OF THE BIOLOGICAL ACTIVITY OF TSUVERKALOV DYSENTERIN

By: V. A. Fradkin, L. M. Lodinova, et al

English pages: 5

Source: Vrachebnoye Delo, Nr. 8, August 1970, pp. 142-144

Country of Origin: USSR
Translated by: Dean F. W. Koolbeck
Requester: FTD/PDTR
Approved for public release; distribution unlimited.

PREPARED BY:

TRANSLATION DIVISION
FOREIGN TECHNOLOGY DIVISION
WP-AFB, OHIO.

MATERIALS FROM CLINICAL STUDY OF THE BIOLOGICAL ACTIVITY OF TSUVERKALOV DYSENTERIN

V. A. Fradkin, L. M. Lodinova,
S. A. Khotsyanova, O. A. Sakharova,
and V. I. Lepushinskaya

(Moscow)

L. A. Tarasevich State Inspection
Institute for Medical Biologicals

The allergin dysenterin, proposed by D. A. Tsuverkalov for diagnosis of dysentery, is classed among the inadequately studied biologicals. A systematic check of the chemical composition of commercial lots of the allergen showed them to be highly saturated with protein - 75-100 mcg per 0.1 ml. In order to evaluate the sensitizing activity of this dose of protein during intracutaneous administration we set up special experiments on guinea pigs (A. T. Kravchenko, V. A. Fradkin, et al., 1968). It was established that intracutaneous administration of one diagnostic dose of dysenterin causes an expressed allergic adjustment in normal guinea pigs. This alteration was manifested in some of the animals in response to only the second administration of the allergen. Positive reactions were observed in the majority of the animals in response to a third intracutaneous test. In dilution of 1:10 (0.1 ml) dysenterin possessed a less expressed allergizing activity, while in dilution of 1:100 it caused only weak skin reactions.

under conditons of clinical allergodiagnosis the diagnostic administration of Tsuverkalov dysenterin causes specific sensitization of the organism in a part of the cases.

The degree to which such a substantial concentration of dysenteric protein is required for diagnostic purposes remained unclear. The answer to this question was obtained in the course of studies during which patients were subjected to intracutaneous tests with full-strength and diluted dysenterin. Reactions in which erythema and the papule reached sizes of 10 to 20 mm in diameter after 24 hours were considered positive (+). With erythema and a papule of 21-35 mm the reaction was evaluated as ++. With simultaneous application of two tests on different hands with a dilution of 1:10 and full-strength allergen the frequency of positive reactions in 35 mature patients located in the diagnostic dysentery department turned out to be ambiguous.

While positive reactions to the full-strength dysenterin were recorded in 19 people (+ in 14, ++ in 5) allergy was manifested to the diluted preparation in only 12 (+ in 10, ++ in 2). The inadequate concentration of the dysenterin forced us to reduce the degree of its dilution. Adequate coincidence of results was recorded with the use of full-strength and 1:3 dilution of the allergen. With these dilutions immediate diagnosis was carried in 48 dysentery patients (13 adults, 35 childern). Out of the 48 tests with full-strength dysenterin the number of positive reactions reached 42 (11 adults and 31 childern); with dysenterin diluted to 1:3 reactions were obtained in 40 (10 adults and 30 children). It is significant that when allergen diluted three times was used no increase was noted in the frequently of questionable reactions.

To eliminate the objection that the simultaneous testing with full-strength and dilute allergen might have a potentionalizing effect on the degree of reaction with the dilute preparation,

Since the instruction for application of dysenterin provided for repeated establishment of tests in patients, study of the question was transferred to the clinic. The materials obtained in the clinic are presented in this report.

Groups of apparently healthy people and patients with diseases of nondysenteric etiology (a total of 177 persons) were selected for evaluation of the allergizing properties of adiagnostic dose of dysenterin. Repeated allergodiagnosis procedure was conducted only with those individuals in which the reaction to the first administration of the allergen was clearly negative. Repeated tests were set up for 145 persons after a lapse of 5-10 days, as provided in the instructions. During this period medical observation was established over all of the groups. Among the mature patients in the infirmary for treatment of intestinal diseases of nondysenteric etiology, cases of food poisoning predominated (47 persons). Of these 25 were diagnosed as suffering from salmonellosis, and 13 as having gastritis, colicystitis and nonspecific colitis. In a similar group of children 1[illegible] were found to have colienteritis, 24 were diagnosed as having acute respiratory diseases with the intestinal syndrome, and 2 had subtoxic dyspepsia.

Both among the apparently healthy individuals and among adults and children with diseases of nondysenteric etiology the percentage of reactors to a repeated administration of allergen (after a lapse of 5-10 days) was 38-44%. Allergy to dysenterin was observed even more frequently among patients with ulcerous diseases of the stomach; this is apparently connected with the sharp alterations in reactivity of the organism in this process (L. T. Malaya, 1954, and others). During repeated tests set up for the apparently healthy individuals after a lapse of 150-180 days there was a certain reduction in the frequency of positive reactions: reactions occurred in 9 out of 32 persons. In sum, the materials from the observations permit us to consider that

observations were carried out using only 1:3 dilutions of dysenterin. The tests were made on childern with bacteriologically confirmed diagnosis of dysentery, which corresponded to the characteristics of the preceding group of children, to whom the full-strength and dilute allergen had been administred simultaneously. The fact that the degree and frequency of positive reactions in the child patients of both groups coincided (86% and 85.6%) permits us to consider that the conclusions made during the simultaneous tests with the two strengths are reliable. This circumstance made it possible to carry out a comparison on a number of clinical criteria with results of allergodiagnosis, with both groups united (78 childern). The frequency and degree of expression of the reaction to dysenterin was examined as a function of the severity of the process (mild form of dysentery, 62 childern; moderately severe, 16), time from the beginning of the illness (7-36 days), and the age of the children (1-14 years). Not a single one of the enumerated indications of significant dependence on the frequency of positive reactions to the allergen was noted. Such a conclusion does not contradict data found in the literature, since in the patients observed there were no severe forms of dysentery, evaluation of sensitization to dysenterin was determined in the majority within the course of the first two weeks of the disease and, finally, all children were more than 1 year of age.

Consequently, intracutaneous administration of a diagnostic dose of dysenterin to apparently healthy persons or to patients with diseases of a nondysenteric etiology will cause in some of them a specific allergic alteration after the lapse of 5-10 days. The possibility of a threefold reduction in the Tsuverkalov dysenterin was also established. Tests with allergin diluted by 1:3 ensured equally valuable diagnostic results as compared with the full-strength preparation.