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DAYS FOLLOWING TREATMENT

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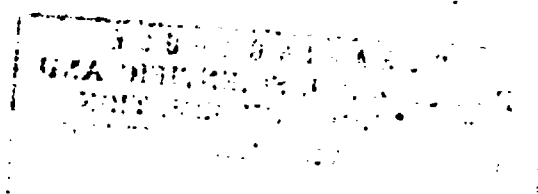
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BACTERIOLOGICAL DIAGNOSIS OF ANTHRAX (IN AN EXPERIMENT) IN THE FIRST DAYS FOLLOWING TREATMENT

[Following is the translation of an article by I. A. Dukalov and M. F. Akulova, Rostov-on-the-Don Antiplague Institute, published in the Russian-language periodical Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii (Journal of Microbiology, Epidemiology and Immunobiology) No. 8, 1964, pages 139-140. It was submitted on 11 Nov 1963. Translation performed by Sp/7 Charles T. Ostertag]

The authors undertook the task of experimentally verifying how rapidly under the influence of medical treatment the organism is free of the anthrax causative agent. Rabbits were infected subcutaneously with an 0.01 ml broth culture of B. anthracis, and after 24 and 48 hours a medicinal preparation was administered to them. Immune serum, streptomycin and penicillin in various proportions were administered for treatment. For the expanse of 12 hours following each administration of preparation (after each 2 hours) the animals were subjected to a bacteriological investigation. ~~Material was taken from the site of infection~~ with the help of a hypodermic needle. From this, smears were prepared for bacterioscopy and inoculations were made in meat-peptone broth and on meat-peptone agar in Petri dishes.

Twelve rabbits were used in the test. Out of these, two were a control: They were infected and left without treatment. Both rabbits died, which testified to the expressed virulence of the strain with which the animals were infected. In three of the test animals anthrax proceeded in a very acute form and they died. Observations of the remaining seven rabbits showed that, as a rule, it was possible to detect the anthrax causative agents following the first seeding, and then positive results of seedings were noted in 46, 52, 54, 66, 70 and 72 hours following the beginning of treatment. Consequently, treatment, including specific treatment, was not an obstacle for bacteriological diagnosis. Bacterioscopy turned out to be little suitable for exposing the anthrax causative agents, since in the smears morphologically similar bacilli were detected and their further identification was necessary.

The observation showed that the most expressed medicinal effect was conditioned by streptomycin. Penicillin only retarded the development of the infectious process, but did not dispose of it completely (the death of rabbits treated with penicillin began 7--8 days later than the control).