EFFECT OF RESECTION OF THE REGIONAL LYMPH GLANDS OF ANTIBODY PRODUCTION IN RABBITS VACCINATED AND REVACCINATED WITH BRUCELLAR VACCINE

(BRIEF COMMUNICATION)

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UDC 616.981.42-092.9-085.371-059:616.428-089.87]07.612.981.42-097.3

To study the role of the regional lymph glands in immunogenesis, several workers have successfully used the method of resection of the glands after injection of soluble antigens.

In the present investigation the effect of resection of the regional lymph glands was studied in rabbits immunized with a living brucellar vaccine.

EXPERIMENTAL METHOD

Experiments were conducted on 84 rabbits. The vaccine, prepared from strain No. 19, was injected subcutaneously into the lower third of the right leg in a dose of 100 million bacterial cells per kg body weight in 0.1 ml of 0.85% sodium chloride solution. The regional (right popliteal) lymph glands were excised in the experimental animals and the left popliteal glands in the controls.

EXPERIMENTAL RESULTS

Extirpation of the regional lymph glands 24 h after vaccination caused a significant ($P = 0.005$) depression of immunogenesis during the first week. In the experimental animals a significant ($P = 0.025$) decrease in antibody formation was found in the distant lymph glands, in which they were detected on the 6th day after vaccination. After 13 days the titers of antibodies in the blood of the experimental and control rabbits were equalized.

Removal of the regional lymph glands on the 3rd day after vaccination was accompanied by a significant inhibition of antibody production for a period of 85 days (the whole period of observation). The antibody titer on the 6th and 13th days in the experimental rabbits was one-seventh and one-third its value in the animals from which the contralateral lymph glands had been removed.

Removal of the regional lymph glands on the 6th day after immunization led to a substantial inhibition of antibody accumulation in the blood. However, the statistical analysis of the results showed that the difference was not significant ($P = 0.05$).

Resection of the regional lymph glands 24 and 72 h after revaccination significantly ($P = 0.25$ and 0.01) inhibited agglutinin formation. The antibody titer in the experimental animals was lower than in the controls (on the 5th day, 1/3-1/8 as high, on the 10th day, 2/5-1/7 as high). Resection of the regional glands 24 h after revaccination thus inhibited antibody formation less than removal 72 h after revaccination.

Extirpation of the distant lymph glands 3, 6, and 10 days after vaccination, and of the regional glands 10 days after primary vaccination, and extirpation of the regional glands on the 3rd day of revaccination had no appreciable effect on the accumulation of antibodies in the blood serum.

SUMMARY

In the process of immunogenesis in rabbits vaccinated and revaccinated with a live brucellosis vaccine the regional lymph glands, whose resection 1-3 days after injecting an antigen inhibits the accumulation of antibodies in the blood serum, are very important.

Semipalatinsk Zooveterinary Institute (Presented by Active Member of the Academy of Medical Sciences of the USSR V. V. Parin). Translated from Byulleten' Éksperimental'noi Biologii i Meditsiny, Vol. 62, No. 10, p. 82, October, 1966. Original article submitted March 12, 1965.

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All abbreviations of periodicals in the above bibliography are letter-by-letter transliterations of the abbreviations as given in the original Russian journal. *Some or all of this periodical literature may well be available in English translation.* A complete list of the cover-to-cover English translations appears at the back of the first issue of this year.
