animal illustrates several points: 1. Repeated intravenous injections of the same antigen did not appear to desensitize the animals. 2. Repeated injections at short intervals reduced the degree of severity of the reaction while increasing the interval tended to restore the vigor of the response. 3. The skin over the scalp which was apparently accidentally sensitized during the injection into the brain acted as a graphic indicator of what was taking place in the cerebrum following the intravenous injection.

7401 C

Effect of Splenectomy on Natural Resistance of Albino Rats and Mice to Histamine Poisoning.

DAVID PERLA.

From Division of Laboratories, Montefiore Hospital, New York.

In order to determine whether the drop in natural resistance following the removal of the spleen is of a general character or is specific for certain types of infections and toxemias, the effect of the removal of the spleen in rats and mice on their resistance to histamine was observed. In these studies rats free of *Bartonella muris* infection and mice free of *Bartonella muris, Eperythrozoon coccoides* and *Klossiella muris* were used.[1] These latent infections are adversely influenced by splenectomy.[1]

Ten splenectomized rats of Wistar stock received ergotamine acid phosphate one week after operation in amounts ranging from 700 to 1200 mg. per kg. of body weight. Those receiving 1000 to 1200 mg. per kg. died; the rest survived. Of 10 control rats the M.L.D. was found to lie between 1000 and 1200 mg. per kg. of body weight.

A similar number of splenectomized mice free of latent infections likewise survived as large an amount of ergotamine acid phosphate as the control mice. The M.L.D. of histamine in the mice of this strain was 1700 to 2000 mg. per kg. of body weight.

Splenectomy in rats and mice free of latent infections does not alter the resistance of these animals to histamine poisoning. In view of the fact that the removal of the spleen depresses the natural resistance to many infections, it is interesting that the resistance to a chemical poison such as histamine is unaffected.

[1] Marmorston, Jessie, in press.

Bilateral suprarenalectomy, on the other hand, lowers the natural resistance of rats to all toxemias, infections and poisons. In contrast to suprarenalectomy, splenectomy specifically affects the resistance to certain types of infections and toxemias, but the drop in natural resistance is not of a general character.[2]

7402 C

Compensatory Changes Following Splenectomy in Bartonella Free Rats.

DAVID PERLA.

From Division of Laboratories, Montefiore Hospital, New York.

In rats that were carriers of *Bartonella muris*, certain changes were observed, following splenectomy and recovery from the anemia, in the hemocytoblastic tissue and in the reticular and endothelial elements. These changes appeared 3 to 5 months after splenectomy and were associated with immunity to further infection with *Bartonella muris*. The changes consisted primarily of hyperplasia of hemolymph tissue, hyperplasia of reticular and endothelial elements of lymph nodes, the formation of lymphoblastic foci periportally in the liver and peribronchially and perivascularly in the lung, regeneration of all elements of the thymus and marked hyperplasia of all elements of bone marrow (increased hematopoiesis).[1]

In view of the presence of coincident latent infection in the rat, the compensatory changes described following splenectomy in rats of Bartonella carrier stock were difficult to evaluate. What was due to the absence of the spleen and what to previous *Bartonella muris* anemia remained uncertain. Studies were therefore made in rats in which the exacerbations of latent infections following splenectomy could be excluded. Six Bartonella-free rats, 3 months of age, of Wistar stock, were splenectomized and killed 6 months later. Six unsplenectomized rats of the same age and stock were killed at the same time. The presence of Bartonella infection was excluded by red blood cell counts and smears of peripheral blood at frequent intervals.

The anatomical changes observed were similar to those found in splenectomized Bartonella-carrier rats but less extensive. The liver

[2] Perla, David, and Marmorston, Jessie, *Arch. Path.*, 1933, **16**, 379.

[1] Marmorston-Gottesman, J., and Perla, David, *J. Exp. Med.*, 1931, **53**, 877.