

Such inactivated anaphylactic sera are strongly antitoxic. The presence of a thermo-stable antitoxin in the unheated anaphylactic serum is apparently masked by the relatively strong thermo-labile toxin-increasing or toxin-producing substance.

This thermo-stable antitoxin is present in larger amounts in the sera of rabbits sensitized or immunized by multiple injections, than in rabbits sensitized by a single injection.

Sera of partially immunized rabbits (3-5 injections) added to the perfusion fluid, usually give a non-fatal shock with normal hearts. The heart may come to a complete standstill by the end of four minutes, may remain inactive¹ for from two to four minutes, and then recover completely within two or three minutes. A heart that has passed through such a non-fatal shock will usually continue to beat strongly and regularly for an hour or more.

Sera of highly immunized rabbits (8-12 injections) added to the perfusion fluid, usually give no shock, and show only a marked antitoxic action.

99 (1163)

Autolysis of anaphylactic and immune tissues.

By **W. H. MANWARING** and **RUTH OPPENHEIMER.**

[From the Department of Bacteriology and Immunity, Leland Stanford, Jr., University.]

The post-mortem autolysis of normal, anaphylactic and immune guinea pig livers was followed by determining the changes in the relative amounts of coagulable and non-coagulable nitrogen (Kjeldahl method). The anaphylactic guinea pigs had been sensitized by a single injection of egg-white or goat serum. The sensitizing dose varied from 0.1 c.c. to 2 c.c. Analyses were made from 11 to 17 days after the injection. The immunized guinea pigs had been injected at 4-7 day intervals with from 3 to 7 doses of the same antigens. They were analyzed from 8 to 12 days after the final injection. A summary of the data so obtained is shown in the following table:

¹ The coronary perfusion is made under constant pressure, and is only partially dependent upon heart action. The perfusion of the myocardium, therefore, continues during the inactive period.

	Total N per Gram.	Percentage of Non-coagulable N.				Post Mor-tem Autolysis.
		Imme- diate.	6 Hrs.	24 Hrs.	3 Days.	
Normal.....	0.034 gr.	10.5	13.5	20	23	12.5%
Anaphylactic....	0.032 gr.	13.5	16	21.5	26	12.5%
Immune.....	0.029 gr.	14.5	16.5	22	30.5	16 %
Selected cases ..	.022-.026 gr.	16-18	18-20	25-30	40-45	26 %

The table shows a slight decrease in the average total N per gram of liver tissue in the anaphylactic animals, and a distinct decrease in the immune animals, the decrease being particularly marked in certain selected cases.

The table also shows a distinct increase in the average percentage of non-coagulable N in both anaphylactic and immune animals, confirming data recently published by Pick and Hashimoto.¹

Contrary to their findings, however, the anaphylactic livers showed no increase in the amount of post-mortem autolysis.

A distinct increase in post-mortem autolysis, however, was observed in the immune livers, the phenomenon being particularly marked in certain selected cases. The selected animals were for the most part guinea pigs in which a marked Arthus phenomenon had been produced.

100 (1164)

Hepatic bacteriolysins. (Preliminary report.)

By W. H. MANWARING and HARRY C. COE.

[From the Department of Bacteriology and Immunity, Leland Stanford, Jr., University.]

If pneumococci are deposited by perfusion methods in the liver of a normal rabbit, in the presence of normal rabbit blood, and the infected organ is now incubated at 37° C., a slight multiplication of the deposited pneumococci takes place. After 5 or 6 hours, the tissues begin to be distinctly overgrown by the microorganisms.

¹ Pick and Hashimoto, *Arch. f. exper. Path. u. Pharm.*, 76, 1914, p. 89; *Zeit. f. Immunitätsf.*, 21, 1914, p. 237. Compare also Barger and Dale, *Biochem. Jour.*, 8, 1914, p. 670.