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On the Mechanism of Action of Anayodin (Yatren; 5 Iodo, 8 Oxyquinoline, 7 Sulfonic Acid).

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Makarowa and Zeiss[1] showed that in animals sensitized to serum proteins anaphylactic shock could be prevented if a serum containing 2% Germanin were used for the shock injection. Steppuhn, Zeiss and Brychonenko[2] also have reported the formation of such denatured proteins in the presence of Germanin. It appears, from the studies of Roehl,[3] that the sulfonic acid groups are involved in this reaction. Since the clinical picture following the intravenous injection of Anayodin (Yatren) resembles a non-specific protein reaction, it seems possible that a similar reaction occurs *in vivo*. The mechanism in this case would be a chemical alteration of a fraction of body proteins resulting in the production of a foreign protein.

The experiments herewith reported were conducted to ascertain the influence of this chemical substance in anaphylaxis both in sensitizing and shock injections.

One series of 6 guinea pigs were sensitized by subcutaneous injections of one cc. of 0.5% solution of crystalline egg albumin $F_2P_2B_1$.* At the same time the second series of 7 animals received the same dose of a solution of crystalline egg albumin containing 1% Anayodin. Each series was then divided into 2 groups. Of the first series sensitized with egg albumin 3 animals were shocked with egg albumin and 3 with egg albumin and Anayodin. Of the second series sensitized to egg albumin and Anayodin 3 were shocked with egg albumin and 4 with egg albumin and Anayodin. Thus cross experiments with the various combinations were obtained. The results are presented in Table I.

Summary: Allowing for individual animal variability as a factor in anaphylactic shock, as a whole it may be said that in our

[1] Makarowa and Zeiss, *Ztsch. f. Immunitatsf.*, 1923, **47**, 110.

[2] Steppuhn, Zeiss and Brychonenko, *Arch. f. Schiffs u. Tropen Hyg.*, 1923, **27**, 206.

[3] Roehl, *Arch. f. Schiffs u. Tropen Hyg.*, 1926, **30**, (Beiheft) 103.

* For the purified egg albumin we are indebted to Dr. A. G. Cole.

TABLE I.

I. SENSITIZED TO EGG ALBUMIN.

(a) Shocked with Egg Albumin.

No.	Weight	Dose	Effect
	gm.	cc.	
1	340	1	Gasping, convulsions, in 2 min. Collapse in 4 min. Dead—butterfly lungs.
2	295	0.5	After 2 min. dyspnea, 4 min. side position, 7 min. slight convulsions—recovered.
3	230	1	Immediate gaspings, convulsions, in 1 min. dead —butterfly lungs.
		(b) Shocked with Egg Albumin and Anayodin.	
4	260	1	After 4 min. dyspnea, 5 min. scratching—survived.
5	250	1	Rapid respiration, 28 min. side position, after 42 min. dead—very slight emphysema.
6	240	1	1 min. convulsions, after 5 min. dead—butterfly lungs.
		II. SENSITIZED TO EGG ALBUMIN AND ANAYODIN.	
		(a) Shocked with Egg Albumin.	
7	250	1	Immediate dyspnea, convulsions, side position. dead after 5 min.—butterfly lungs.
8	220	1	Cough, dyspnea—recovery.
9	315	1	Gasping, convulsions, after 4 min. dead—butterfly lungs.
10	215	1	Marked dyspnea, gasping, nervous, recovery.
		(b) Shocked with Egg Albumin and Anayodin.	
11	335	1	Dyspnea, convulsions, in 3 min. dead—butterfly lungs.
12	245	1	Rapid respiration, 4 min. highly dyspneic, 5 min. nervous—survived.
13	234	1	Gasping, convulsions, in 2 min. dead—butterfly lungs.

group of 13 animals Anayodin (Yatren) has no clearly demonstrable influence in preventing either sensitization or shock.

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An Improved Direct Method for Obtaining the Total White Cell Count in Avian Blood.

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Because of the normal presence of nucleated erythrocytes and thrombocytes in avian blood, it has always been difficult to count