TABLE I.
Percent Destruction of Viable B. prodigiosus from Palmar Surface of Hand.

24-hour Broth Culture Diluted with Saline	After				
	Immediate	15 min.	30 min.	45 min.	60 min.
1:10	0	40	60	65	70
1:50	0	60	75	86	91
1:100	0	68	86	98	99
1:200	0	74	98	99	100
1:500	0	90	99	100	100

We have found that the 1:50 dilution is the best for testing the self-disinfecting power of the skin and the time extended over one hour. The reserve self-disinfecting power can be determined if this concentration is used. Palmar and dorsal surfaces of the hand show constant differences, the female's skin varies during certain periods of the menstrual cycle, pathological skin shows considerable variations by this method. These results will be reported in full in the near future.

5323

Effect of Bilateral Suprarenalectomy on Certain Constituents of the Blood of Dogs.

A. B. HASTINGS AND E. L. COMPERE.

From the Lasker Foundation for Medical Research and the Department of Medicine and the Douglas Smith Foundation for Medical Research and the Department of Surgery, University of Chicago.

A study of the changes in the blood of dogs following bilateral suprarenalectomy has been made to attempt to determine what important constituents undergo pathological changes in their concentration. Data have been previously available suggesting pathological changes, but many of the results have been conflicting and no day by day analyses have been made. Accordingly, analyses have been made before operation, after removal of one suprarenal gland, and daily observations after removal of the second gland until death occurred, from 4 to 14 days later. The constituents which have been studied on 15 dogs are: the pH and the CO_2 content of the blood serum, in order to determine whether or not there was a pathological change in the acid-base balance; sugar and lactic acid concentration of the blood serum, in order to determine whether a

change in the carbohydrate metabolism had occurred; calcium and potassium concentration of the serum, in order to determine whether these important, related, inorganic cations had changed in their concentration; the serum creatine and creatinine, because of the suspected relation between muscle activity and suprarenal insufficiency; the serum proteins and percentage of erythrocytes in the blood, in order to determine whether concentration of the blood or blood serum occurred.

Briefly, the results of this investigation may be summarized as follows: The *bicarbonate of the serum* fell progressively from a normal value of 20 mM. per liter to the low value of 9 mM. per liter at death. *pH* falls but slightly prior to the terminal stages and then becomes as low as 7.1. The *blood sugar* is usually slightly lower immediately following the removal of the second suprarenal although it has sometimes been found equally low following the removal of one suprarenal. The drop is not marked, however, the serum concentration being approximately 90 mg. per 100 cc. as compared with the normal serum value of 120 mg. per 100 cc. Contrary to other investigators' reports, there is no further drop in the serum sugar following the removal of the second suprarenal gland. In contradistinction to the lack of changes in the serum sugar, however, there is a marked and consistent drop in the serum *lactic acid* the day following the removal of the second suprarenal gland. It reaches a value of half its normal concentration and remains low until the terminal stages set in. The *serum calcium* remains practically normal rising slightly as the blood serum becomes more concentrated. It is felt that this slight increase in calcium concentration can be wholly accounted for by the increase in concentration of the serum proteins and has no direct relation to the removal of the suprarenal glands. The *serum potassium,* however, increased markedly within 48 hours after the removal of the second suprarenal gland. The rise may be as much as 50% on the second day. The rise continues until the very high value of approximately 20 mM. per liter is reached at death compared with a normal value of 3 mM. per liter. It is believed that this observation of the very high terminal concentration of potassium which has also been found to be approximately the concentration of potassium which results in the death of normal dogs when potassium chloride is injected intravenously, may be of importance in reaching an understanding of the cause of death following the functional or surgical removal of the suprarenal glands. The creatine and creatinine showed no changes until 24 hours before death when there occurred a terminal

rise due presumably to an impairment of the kidney function and the retention of urine. The percentage of red cells in the blood remained remarkably constant throughout the period from the removal of the second suprarenal gland until death. There was, however, a progressive increase in the concentration of the serum proteins reaching a maximum concentration approximately 25% higher than the normal concentration.

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I. Effect of Suprarenalectomy on Muscle Tissue Respiration.

J. E. DAVIS AND A. B. HASTINGS.

From the Lasker Foundation for Medical Research and the Department of Medicine, University of Chicago.

A series of 25 experiments were performed on as many suprarenalectomized, male mice and their normal, male litter mates in order to determine the effect of suprarenalectomy on the respiration of excised skeletal muscle. The tissue respiration was measured on

TABLE I.

Showing Comparison of the Respiration of Excised Abdominal Muscle of 13 Pairs of Normal and Suprarenalectomized Mice.

No. of Exp.	Days after operation	Cu. mm. O_2 consumed per mg. per hr.		Cu. mm. of Extra CO_2 Produced Aerobically per mg. per hr.		Cu. mm. of CO_2 Produced Anaerobically per mg. per hr.	
		Normal	Operated	Normal	Operated	Normal	Operated
1	55	4.78	5.80	2.54	2.88	5.74	7.54
2	56	4.63	6.39	2.63	3.85	6.89	9.12
3	59	5.46	7.17	2.77	3.16	4.71	6.50
4	61	3.72	7.06	2.33	3.04	3.35	8.80
5	63	4.92	6.70	2.58	3.45	4.36	7.60
6	65	4.83	6.38	3.49	3.39	3.99	5.75
7	66	3.85	6.13	1.85	2.55	3.87	6.90
8	67	4.58	5.58	2.63	2.88	6.48	7.22
9	67	4.13	5.81	1.91	2.83	4.03	6.50
10	67	6.12	6.84	3.46	3.51	4.30	6.16
11	68	3.98	5.03	3.26	3.33	3.57	5.46
12	68	5.01	7.45	2.70	3.53	3.75	8.10
13	69	4.75	7.23	2.57	3.94	4.57	7.10
Means		4.67	6.43	2.67	3.26	4.59	7.14
Difference of means		1.76		0.59		2.55	
Probable error of difference of means		0.19		0.13		0.28	