

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.

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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	

abdominal muscle by a modification of the Warburg differential method.

The accompanying table shows the values obtained in 13 of these experiments. The quantity of oxygen consumed is expressed in terms of cubic millimeters consumed during the first hour of respiration per milligram of dried tissue. Columns 5 and 6 compare the aerobic production of lactic acid by muscle of normal mice and of suprarenalectomized mice. Columns 7 and 8 compare the anaerobic production of lactic acid by muscle of normal mice and of suprarenalectomized mice. The quantity of lactic acid produced both aerobically and anaerobically is expressed in accordance with the Warburg method in terms of cubic millimeters of carbon dioxide produced during the first hour of respiration per milligram of dried tissue. At the foot of the table is given first, the means of these 6 groups of values; second, the difference of the means for the groups compared; third, the probable error of the difference of the means.

The 13 experiments show respiration values consistently greater for the suprarenalectomized mice. This difference applies only to the period starting about the 55th day and ending about the 70th day after suprarenalectomy. Before and after that period there is no difference in the respiration of the muscle of the normal and suprarenalectomized mice.

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Administration of Viosterol in Human Parathyroid Tetany.

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It has been shown by several investigators that preoperative administration of viosterol or irradiation, which presumably accomplishes the same ultimate result, will protect dogs to some extent against parathyroid tetany. Attempts to apply this method in the treatment of human postoperative tetany have not been so successful.

The successful administration of viosterol intravenously to normal dogs in this laboratory suggested the trial of this method clinically.

* The expenses of this investigation were paid in part from a grant from Mead, Johnson and Co.