

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.

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A woman, age 57, underwent a thyroidectomy and developed severe tetany within 2 days. During the next 6 months, the only treatment which consistently kept her free from tetany was calcium lactate by mouth with parathormone 2 or 3 times a week. Of the first she required approximately 115 gm. daily. Even this treatment, while maintaining her free from tetany did not render her normal. Full details of her clinical condition will be reported later.

After preliminary observations, viosterol was injected intravenously in 0.5 cc. amounts of 8000 D preparation in oil. No injurious effects were noted as a result of oil emboli. (Several hundred such injections have been made by Reed and Thacker<sup>1</sup> in dogs.)

TABLE I.

	Ca	Phos.	K.	B. M. R.	
Nov. 18	6.38	3.92			
" 20				35	
" 21				15	0.5 cc. viosterol i.v.
" 22	7.76	4.08	17.21		
" 23-25 inc.					20 gm. Ca lactate
" 25	3.98				0.5 cc. viosterol
" 26	8.69		15.19	16	0.5 cc. "
" 28	12.24	6.56	25.50		0.5 cc. "
" 29				7	0.5 cc. "
Dec. 1	10.08		20.88		
" 5	7.41*	5.03		3	
" 8	9.97	5.19			
" 9					1 cc. viosterol <i>per orum</i> , fasting
" 10					1 cc. viosterol <i>per orum</i> , 0.5 cc. i.v.
" 11					1 cc. viosterol <i>per orum</i>
" 12	8.88	6.92			1 cc. viosterol <i>per orum</i>

\* Questionable determination.

We recognize the limitations in drawing conclusions from one case but the fact remains that for a period of 15 days the patient was kept free from tetany by the administration of a total of 2.5 cc. of 8000 D viosterol plus 20 gm. Ca lactate. Her general improvement is very striking. It is suggested that the failure of others to accomplish results clinically is due to the use of too small amounts of viosterol. The results of oral administration will be reported in full with other details.

<sup>1</sup> Reed, C. I., and Thacker, E. A., *PROC. SOC. EXP. BIOL. AND MED.*, 1929, **27**, 187; *Am. J. Physiol.*, in press.