

so that the caudal square of leather is held snugly against the wide end of the tube. The stem is then clamped at an angle (see illustration) which facilitates work upon the exposed tail. A mouse is thus securely but comfortably confined, hence the operator's undivided attention may be given to securing a satisfactory sample of blood.

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Arrest of Experimental Convulsions by Acetylcholine in the Cat.*

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Following a control series of experiments (15 cats) in which (1) the minimal convulsive dose of camphor monobromide,¹ (2) the total number of such dosages, (3) the total number of convulsions which could be elicited before the animal succumbed, and (4) the total amount of the drug which could be intravenously administered with 15-minute intervals between the dosages, had been established, a series of 25 cats was studied in which after establishing the minimal convulsive dose of camphor monobromide, varying dosages of acetylcholine (anhydrous solution, Chevreton-Lematte) ranging from $1:1 \times 10^{-7}$ to $1:1 \times 10^{-3}$ gm. per kilo weight were injected intravenously just before the administration of the camphor monobromide, to determine how, if at all, the convulsions would be affected.

Results. It was found: 1. That a concentration of 1×10^{-6} gm./kg. was the smallest dose of acetylcholine which would arrest the clonic convulsion following a minimal dose of camphor monobromide. 2. That while the *first* dosage at such a concentration would arrest clonic convulsions, a repetition of the same dosage after an interval of 15 to 30 minutes would only delay the onset of the clonic convulsions, for an interval of from 30 seconds to 10 minutes, and it was necessary to employ a greater concentration of acetylcholine before a complete arrest of clonic convulsions was again obtained. 3. A concentration of acetylcholine of 1×10^{-4} to

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¹ Wortis, S. B., Coombs, H. C., and Pike, F. H., *Arch. Neurol. and Psychiat.*, 1931, **26**, 156.

1×10^{-3} gm./kg. would always arrest a convulsion, sometimes proving lethal. (We have found the control lethal dose of this preparation of acetylcholine in the cat ranges between 0.01 and 0.09 gm./kg.²) 4. While acetylcholine blocks the clonic element in such convulsions, it does not affect the element of tonic extension.³

From these experiments, it becomes apparent that acetylcholine has an action upon the same cells of the central nervous system as those upon which camphor monobromide acts to produce clonic convulsions.³

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Significance of Loss of Serum Protein in Therapy of Severe Burns.

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That large amounts of blood plasma are lost into burned areas has long been known; its measurement, experimentally, has shown that it may be very extensive. It is also generally realized that it is the prime, if not the only factor in the blood concentration of burned patients. But its significance in therapy has not been sufficiently emphasized.

In a series of 40 patients with severe burns, many of them fatal, the degree of blood concentration was roughly estimated by the erythrocyte count. It was found that very rapidly, often within an hour or two, the red cells increased with few exceptions to values of over 6,000,000 and in 2 cases to over 8,000,000 per cmm. Comparison of venous and capillary counts in many instances revealed significant differences only in the severe cases; in them, moreover, the counts often had to be made in venous blood because capillary blood was unobtainable. The blood was often so viscid that aspiration of a sufficient amount for chemical study even from a large vein was difficult or impossible. Nevertheless the serum protein of such blood when examined soon after admission was usually normal or low; in only one instance was

² Coombs, H. C., and Cope, O. M., *Am. J. Physiol.*, 1936, **116**, in press.

³ Coombs, H. C., and Pike, F. H., *Am. J. Physiol.*, 1931, **97**, 92.