

Positive serum potentials were obtained in 9 of 26 serums from patients suffering from spasmodic torticollis, in 7 of 30 serums from patients with encephalitis, in 2 of 6 serums from patients with chronic infectious arthritis, in one of 2 serums from patients with chronic ulcerative colitis, in one of 2 serums from patients with corneal ulcer, and in one of 4 serums from patients with localized gastritis or gastric ulcer. In most instances in which positive serum potentials were obtained, agglutination also was obtained. In one serum from a patient with Parkinson's disease following encephalitis whose condition improved remarkably following removal of foci of infection and prolonged use of an autogenous vaccine and serum, the agglutination was marked for neurotropic streptococci in dilutions as high as 1:1000.

No positive serum potentials were obtained with strains from cases of arthritis or from other sources, when the potential difference (μ /sec) was other than 10.0 to 11.0, usually 10.6 (μ /sec). Likewise when organisms obtained from cases of spasmodic torticollis, multiple sclerosis and encephalitis were used, no positive serum potentials were observed with strains other than those with mobilities 7.8 to 8.4, usually 8.0 (μ /sec). This may account, in part, for many of our negative results. As the work progressed, we succeeded in eliminating some, but not all, of the disturbing factors and positive results were obtained more frequently.

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Streptococci in the Lesions of Experimental Poliomyelitis in Monkeys.

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Thorough search for bacteria has been made in stained sections of the central nervous system of 60 monkeys in which symptoms and lesions of varying degree, typical of poliomyelitis, had devel-

¹ Mellon, R. R., and Grenquist, Ernst, *J. Immunol.*, 1926, xi, 161.

² Rosenow, E. C., *J. Am. Med. Assn.*, 1921, lxxvi, 1745.

³ Rosenow, E. C., *J. Infect. Dis.*, 1924, xxxiv, 329.

⁴ Rosenow, E. C., Towne, E. B., and Wheeler, G. W., *J. Am. Med. Assn.*, 1916, lxxvii, 1202.

⁵ Shibley, G. S., *J. Exp. Med.*, 1924, xl, 453; 1926, xlv, 667.

oped following inoculation of virus. Unmistakable Gram-staining cocci and diplococci of varying size, shape and grouping, were found in or adjacent to lesions in 54 of the 60 monkeys. The lesions in the 6 in which diplococci were not demonstrable in the sections available were relatively slight. Three of these 6 died, 12, 18, and 21 days, respectively, after onset of paralysis; the remaining 3 had mild attacks of poliomyelitis and were despatched by anesthesia, respectively on the tenth, eleventh and fourteenth day after the onset of the disease. Of the 54 monkeys in which diplococci were found, 31 were despatched by anesthesia and 23 died from paralysis.

A similar search was made for bacteria in sections of the central nervous system of 60 monkeys in which there were no active lesions of poliomyelitis. These 60 animals were used as controls; 32 were despatched by anesthesia and 28 died from various causes other than poliomyelitis. In none of the sections from the 60 monkeys used as controls were diplococci demonstrable.

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The Determination of Surface Area of Living Children.

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Three major methods for obtaining surface area have been applied to both the living body and the cadaver. The first is the geometric. The second is to cover the body with pieces of paper of known area or with a thin sheet of pliable but non-elastic substance which is later measured with a planimeter, by direct weighing or by weighing pieces of paper of the same area as the coating. The third method is the application of the surface integrator.

A variation of the coating method has been devised and applied to plaster of Paris casts of living children.¹ This use of the intermediate stage of a model permits a check on the reliability of the coating method through *seriatim* measurements.

The casts were obtained as follows: The child, after having his body coated with stearine and his hair covered with a close-fitting silk stocking top, was placed on his back in a thick layer of semisolid,

¹ Boyd, E., and Scammon, R. E., *Anat. Record*, 1927, xxxv, 5.