

5718

Staining *Treponema Pallidum* With Alcoholic Silver Nitrate.

R. T. BOTHE AND H. A. DAVENPORT.

From the Department of Anatomy, Northwestern University Medical School.

An alcoholic solution of silver nitrate has been found to be an efficient stain for nerve fibers in celloidin sections (Davenport¹). The results obtained on nerves suggested the possibility of staining *Treponema pallidum*, since the methods of Jahnelt and of Levaditi² employed aqueous silver solutions.

Lymph taken from primary and secondary syphilitic lesions was the material chosen for experimentation. With the exception of one instance in which the lesion occurred on the lower lip, all material was obtained from lesions on the external genitalia.

The lesion was cleaned with gauze and cotton. The exuding lymph was placed on a slide by means of a sterile wire loop and allowed to dry in air at room temperature. The staining procedure was essentially that previously reported (Davenport³). The slides were coated with a 2% solution of celloidin, dried for about 2 minutes, and put into a 10% solution of silver nitrate in 85% alcohol for 5½ hours at 37°C. The preparations were reduced in an alcoholic solution containing 3% pyrogalllic acid and 5% formalin, and were subsequently gold toned.

Of 10 cases examined, preparations from 4 showed many deeply stained spiral forms having the morphology characteristic of *Treponema pallidum*. These also showed *Treponema pallidum* upon dark field examination and blood taken from the 4 patients gave positive Wasserman and Kahn reactions. No such characteristic forms could be found in smears from the 6 remaining cases, nor could *Treponema pallidum* be observed in dark field examinations.

Our results lead us to believe that alcoholic silver nitrate is an efficient, rapid and simple method of staining *Treponema pallidum* in smears.

¹ Davenport, H. A., *Anat. Rec.*, 1929, **44**, 79.

² Cited from Spielmeyer, W., *Technik der Untersuchung des Nervensystems*, Berlin, 1930, 154.

³ Davenport, H. A., *Arch. Neurol. and Psychiatry*, 1930, **24**, 690.