ance is the same in the normal rat gland, although they do not definitely state that they ran controls on the rat studies. They believed that fragmentation of the Golgi apparatus was indicative of hypersecretion. The present study makes it difficult to accept this interpretation since in the controls, neither the appearance of the epithelium, nor the condition of the mitochondria in the cells, presented the characteristics usually associated with intensified activity.

Efforts were made to determine a possible cause of the fragmented appearance of the Golgi apparatus in the controls. The maintenance conditions and the technique employed in preservation and staining the material were carefully checked and additional animals, from different sources, were sacrificed. In all cases the Golgi material presented essentially the same appearance as that seen in the original controls.

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A Microörganism which Decomposes the Specific Carbohydrate of Pneumococcus Type VIII.

GRACE M. SICKLES AND MYRTLE SHAW.

From the Division of Laboratories and Research, New York State Department of Health, Albany.

From samples of uncultivated soil obtained in several localities, a microörganism has been isolated in pure culture, by methods previously described,[1] which decomposes the specific carbohydrate of pneumococcus type VIII. Although marked cross precipitation is obtained with pneumococcus type-VIII specific carbohydrate in type-III antiserum[2] and, conversely, with type-III carbohydrate in type-VIII antiserum, strains of soil bacteria *(B. palustris)*[1] which decompose the carbohydrate of pneumococcus type III do not act on that of type VIII.

The two microörganisms correspond closely in morphology, cultural characters, and in the production of a soluble enzyme; and the new culture should also be classified as *B. palustris*. The vegetative cells are Gram-negative motile rods with peritrichal flagella, usually 6 in number. They vary in width from 0.6 to 0.8μ and in length from 2.5 to 3μ. Oval spores wider than the vegetative cells are

[1] Sickles, G. M., and Shaw, Myrtle, *J. Bact.*, 1934, **28**, 415.

[2] Brown, Rachel, to be published.

formed. Colonies on blood agar are from 1 to 2 mm. in diameter, smooth, moist with somewhat raised crenated edges. The colonies are of 2 types—one, white and opaque; the other, gray and semi-translucent.

Other cultural characters are also very similar to those displayed by the microörganism which utilizes the carbohydrate of pneumococcus type III. Growth was obtained in mineral medium containing 1% of dextrose, saccharose, maltose, dextrin, salicin, xylose, and galactose, but change in the reaction of the medium was negligible. No growth was present in mineral medium containing lactose, inulin, and mannite. The optimal temperature for growth appeared to be about 29°C., but it took place up to 40°C. Maximum growth and enzyme action were obtained at from pH 7.0 to 7.5, although both were present over a wide range. It was possible to concentrate the soluble enzyme by ultrafiltration through a 9½% acetic-acid nitrocellulose membrane.[3]

The criterion for destruction of the carbohydrate was absence of precipitation with the specific immune serum. No activity of the microörganism on the specific carbohydrates of pneumococcus type I, II, or III could be demonstrated. The cross reaction of the type-VIII carbohydrate in type-III antiserum disappeared at the same time as did the specific precipitation with type-VIII serum. The type-VIII carbohydrate, after decomposition by this culture, failed to induce purpura in mice,[2] even in the presence of immune horse serum, which usually has the effect of increasing the purpura.

Mice were protected against 1000 M.F.D. of a fully virulent strain of type VIII by 2 units[4] of the cell-free enzyme and against 10,000 M.F.D. by 4 units. Ten units did not protect mice against 10 M.F.D. of pneumococcus type III.

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[3] Quigley, J. J., *Am. J. Hyg.*, 1934, **20**, 218.

[4] Dubos, René, *J. Exp. Med.*, 1932, **55**, 377.