

Virulence, Toxigenic and Fibrinolytic Properties of Streptococci Isolated from Cases of Recurrent Tropical Lymphangitis.

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While studying the biological characteristics of streptococci isolated in the tropics, we have been able to observe a number of strains isolated from cases of recurrent tropical lymphangitis. Fifteen strains from this condition were studied. In determining the fibrinolytic activity of these streptococci the method employed was that recommended by Tillet, Edwards and Garner.¹ The reducible streptolysin was determined by Todd's method as modified by Hodge and Swift,² and the toxicity of the strains was studied by intradermic injection in white skinned goats. We also determined hemolysis in the test tube and virulence for mice by the usual laboratory procedures.

The determinations were made immediately after isolation of the organisms and repeated after the organisms had been grown for at least 2 years on 3% rabbit blood agar pH 7.2 and kept in the ice box at 4°C. Two known strains, one isolated from erysipelas and another for scarlet fever, were carried as controls.

None of the strains isolated from lymphangitis produced a reducible streptolysin. All except 2 strains (L₁₃ and L₂₁) produced fibrinolysin. All except 2 (L₁₃ and L₂₁) were toxigenic. These 2 strains (L₁₃ and L₂₁) never produced complete hemolysis in the test tube, did not produce fibrinolysin, and were avirulent for mice. On isolation, 13 out of the 15 cultures were fatal for mice in doses of 0.1 of cc. 18-hour broth culture. Two years after isolation and growth in artificial media, 11 cultures had lost their virulence for mice, yet still produced fibrinolysin, and were toxigenic.

Summary. Fifteen strains of streptococci isolated from cases of recurrent tropical lymphangitis have been studied. Thirteen strains were hemolytic, producing a powerful fibrinolysin and were toxigenic and virulent for mice.

¹ Tillet, W. S., Edwards, L. B., and Garner, R. L., *J. Clin. Invest.*, 1934, **12**, 47.

² Hodge, B. E., and Swift, H. F., *J. Exp. Med.*, 1933, **58**, 277.