

SECTION OF MEDICAL AND VETERINARY MICROBIOLOGY

L-Forms of Corynebacterium hominis haemolyticum.
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The formation of L-forms of *Corynebacterium hominis* (*C. haemolyticum*), strain 501 was achieved on media containing Brain Heart Infusion, Difco agar, yeast extract, 10% horse serum, 2% NaCl and 1000 units of penicillin/ml; in addition, in further passages haemin was added to the cultivation medium (3 mg/ml). The colonies possess a typical appearance and are osmotically labile. During successive passages it was found that we are dealing here with a mixture of A and B colonies

of L-forms since occasionally and in minute quantity (mostly following a series of passages on a medium without penicillin) a reversion occurred. Therefore, the amount of penicillin was increased to 2000 μ /ml and after the 30th passage to 5000 units. As long as we could see these latter passages are stable. Cultivation on liquid media using any current method has been unsuccessful. After pouring over the culture the layer of hypertonic blood agar a distinct zone of haemolysis occurs over the L-colonies which means that the L-forms produce haemolysin typical of the original corynebacterium. The dense culture of L-colonies in agar was disintegrated mechanically by repeated freezing and thawing. The fluid after centrifugation, membrane

filtration and addition of penicillin contained significant quantities of typical, dermonecrotically active toxin (phospholipase D) which is detectable both *in vivo* and *in vitro* experiments. The toxin produced by L-forms which diffuses into the agar was specifically neutralized by hyperimmune rabbit antiserum against the toxin of *Corynebacterium hominis*. Also, it turned out that diffusible exo-products, of L-forms possess an unusual effect on L-colonies of the same species and, in addition, on some other bacterial L-forms. It was attempted to elucidate this phenomenon.