THE ASSOCIATION OF L-FORMS OF GROUP A STREPTOCOCCI WITH MAMMALIAN CELLS CULTURED *IN VITRO*

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GENERAL SUMMARY

There has been a considerable interest in the role of L-forms of beta-haemolytic streptococci in disease processes, for example, rheumatic fever. Central to any role in pathogenicity is, however, the ability of the L-forms to persist *in vivo*.

It was decided to investigate the possibility of cell-associated survival and/or persistence in an *in vitro* model system. The L-form strains used in this study were those that met the basic requirement of ready growth in broth culture. Attempted infection of a number of cell types was carried out under a variety of experimental conditions. The interactions of L-forms with cells were monitored by various techniques, including acridine orange fluorescence, fluorescent antibody staining, electron microscopy, quantitative adsorption studies and autoradiography.

The results pointed to a low frequency interaction of the L-forms with the cells but there was no evidence of cell-associated survival. Autoradiographic and other studies indicated that the L-forms were less readily taken up by macrophages than were the parent streptococci.

Overall, the results in this study did not fully support the concept that L-forms can survive in association with cells.